

READER SURVEY

ROOT
PUBLICATIONS

Feb 2015 Catch The Buzz™
Bee Culture®

The Magazine Of American Beekeeping
www.BeeCulture.com

**Pollinator
Habitat
Mentoring
About
Winter**

**A History
Of Feeders**



**The Four Pillars
Of Bee Management**

ROOT
PUBLICATIONS \$4.99

7 35048 28163 9

Looking to Expand your Hives? Go with the Best!

Brushy Mountain Bee Farm's English Garden Hive

Brushy Mountain Bee Farm's woodenware is incomparable in the industry. Fully assembled with top quality cypress and 100% copper top, our English Garden Hive not only provides a superior dwelling for your bees but is aesthetically pleasing in any setting.



Just Starting Your **Beekeeping Experience?**

Brushy Mountain Bee Farm offers a complete beginner's kit to help you get started. Now is the time to setup your hive and order your bees.

Have you signed up to receive our 2015 Catalog?

Request Free Catalog Today and Begin Placing Your Orders

Visit: www.BrushyMountainBeeFarm.com (or) Call: 1-800-233-7929



Brushy Mountain Bee Farm

Serving Beekeepers with the Best Since 1977

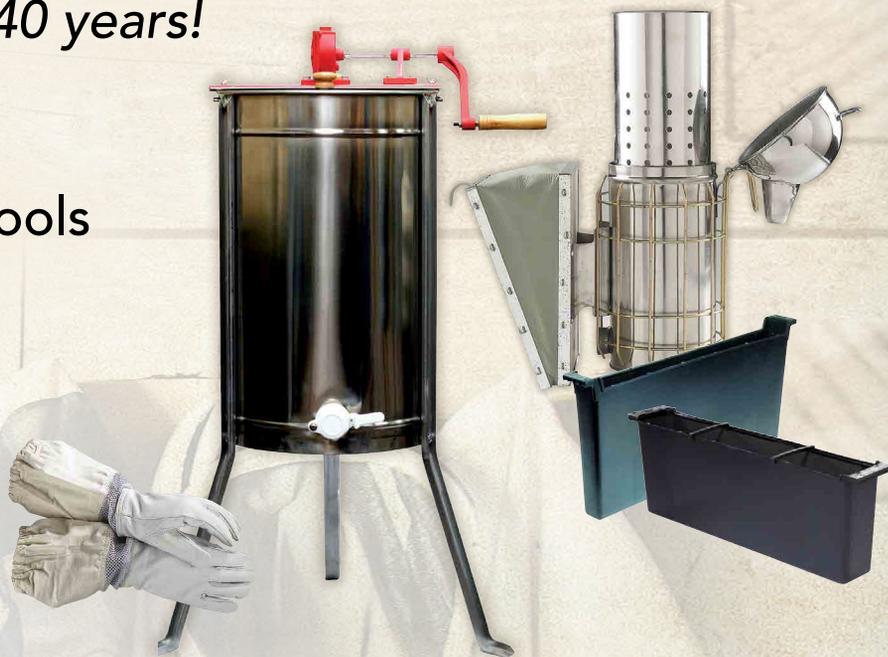
BEST QUALITY | BEST SERVICE | BEST SUPPORT



Your Preferred Partner for Beekeeping Supplies

Providing high quality products and personalized customer service for 40 years!

- Hive Components
- Hive Supplies and Tools
- Bee Suits and Gear
- **We BUY Honey**



Contact our knowledgeable and experienced staff today.

1.800.456.7923

Contact our Honey Buyer:

Nancy Burnett

Work: 541.689.0913 x132

Cell: 541.231.2178

Nancy.Burnett@GloryBee.com



Home of GloryBee® Beekeeping

GloryBee.com | Eugene, Oregon | (800) 456-7923

SAVE OUR FAVORITE
POLLINATORS!
GloryBee.com/savethebee



BEE CULTURE



9" One-Piece Frames



Snap-In Foundations



Drone Frames



6" One-Piece Frames



Call us today!

(800) 233.2662

Visit us online at

pierco.com

NEW WICWAS ESSENTIALS



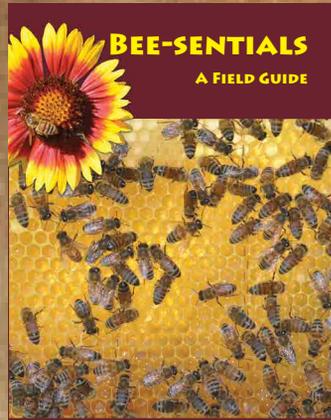
**Mating biology
of honey bees
(*Apis mellifera*)**




**Gudrun Koeniger
Nikolaus Koeniger
Jamie Ellis
Lawrence Connor**

Wicwas Press

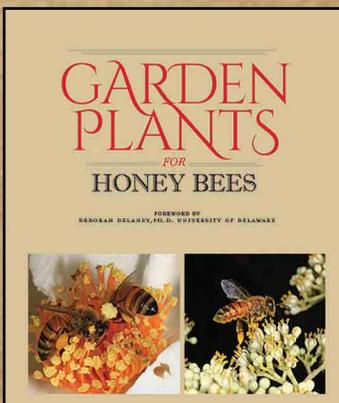
New 2014 Hardcover \$30



**BEE-SENTIALS
A FIELD GUIDE**

**LAWRENCE JOHN CONNOR
WITH ROBERT MUIR**

\$28 A WICWAS PRESS ESSENTIALS BOOK

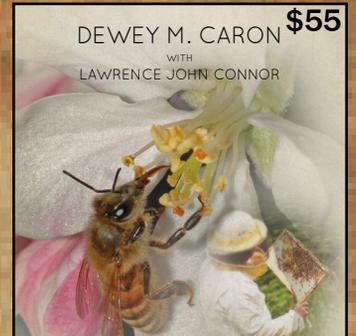


**GARDEN
PLANTS
FOR
HONEY BEES**

FOREWORD BY
SARAH DELANEY, Ph.D., UNIVERSITY OF DELAWARE

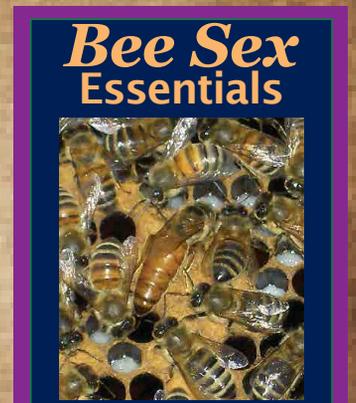
Peter Lindtner

New 2014 Hardcover \$34



DEWEY M. CARON **\$55**
WITH
LAWRENCE JOHN CONNOR

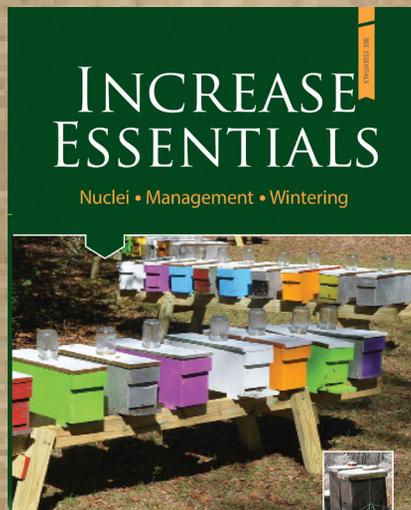
**HONEY BEE
BIOLOGY
AND BEEKEEPING**



**Bee Sex
Essentials**

Lawrence John Connor

\$25

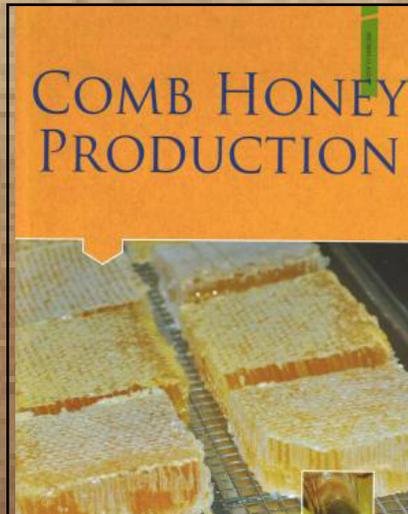


**INCREASE
ESSENTIALS**

Nuclei • Management • Wintering

LAWRENCE JOHN CONNOR
FOREWORD BY KIM FLOTTUM
SECOND EDITION

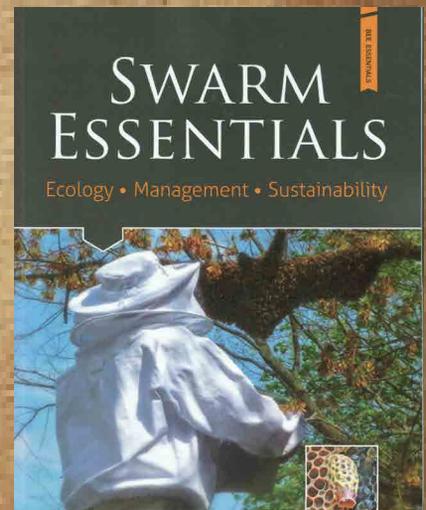
NEW SECOND EDITION \$25



**COMB HONEY
PRODUCTION**

ROGER A. MORSE

Reprint of classic \$26



**SWARM
ESSENTIALS**

Ecology • Management • Sustainability

STEPHEN J. REPASKY
WITH LAWRENCE JOHN CONNOR
FOREWORD BY THOMAS D. SEELEY

New 2014 \$23

Order on line at www.wicwas.com



MAIL ORDERS: Wicwas Press LLC, 1620 Miller Road, Kalamazoo, MI 49001

Prices include postage within the USA. Request quote for international orders.

Want to be on the Wicwas mailing list? Send 'updates' to updates@wicwas.com

When The Sun Goes Down KEEP YOUR BEES SAFE



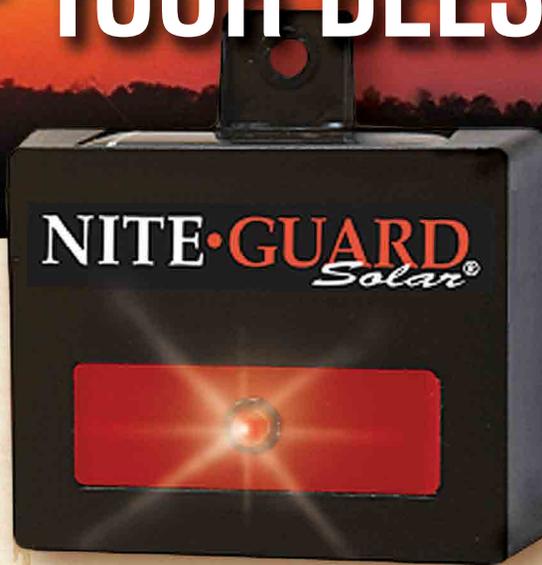
RACCOONS



BEARS



SKUNKS



Four units will give complete 360-degree coverage

Protection Against Night Time Predator Animals

Nite-Guard Solar® has been proven effective in repelling predator animals through scientific testing and proven by the company and tens of thousands of users.

Nite-Guard Solar attacks the deepest most primal fear of night animals, that of being discovered. When the sun goes down, Nite-Guard begins to flash and continues until sunrise. The simple but effective fact is that a "flash of light" is sensed as an eye and becomes an immediate threat to the most ferocious night animals and they run away.

Nite-Guard Repellent Tape

Scares animals with light and noise. Extra wide, heavy duty, iridescent foil tape works well to keep predators away.

Go to www.niteguard.com to find out more



#1

The World's Top Selling Solar Powered Security System

OVER 300,000 SOLD

DON'T BE FOOLED BY COPY CATS

SATISFACTION
GUARANTEED
or your money back!

NITE-GUARD IS FAMILY OWNED AND OPERATED SINCE 1997

\$19⁹⁵
FREE STANDARD SHIPPING
On orders of 4 lights or more.
PROMO CODE 4FREE



FOLLOW US ON FACE BOOK

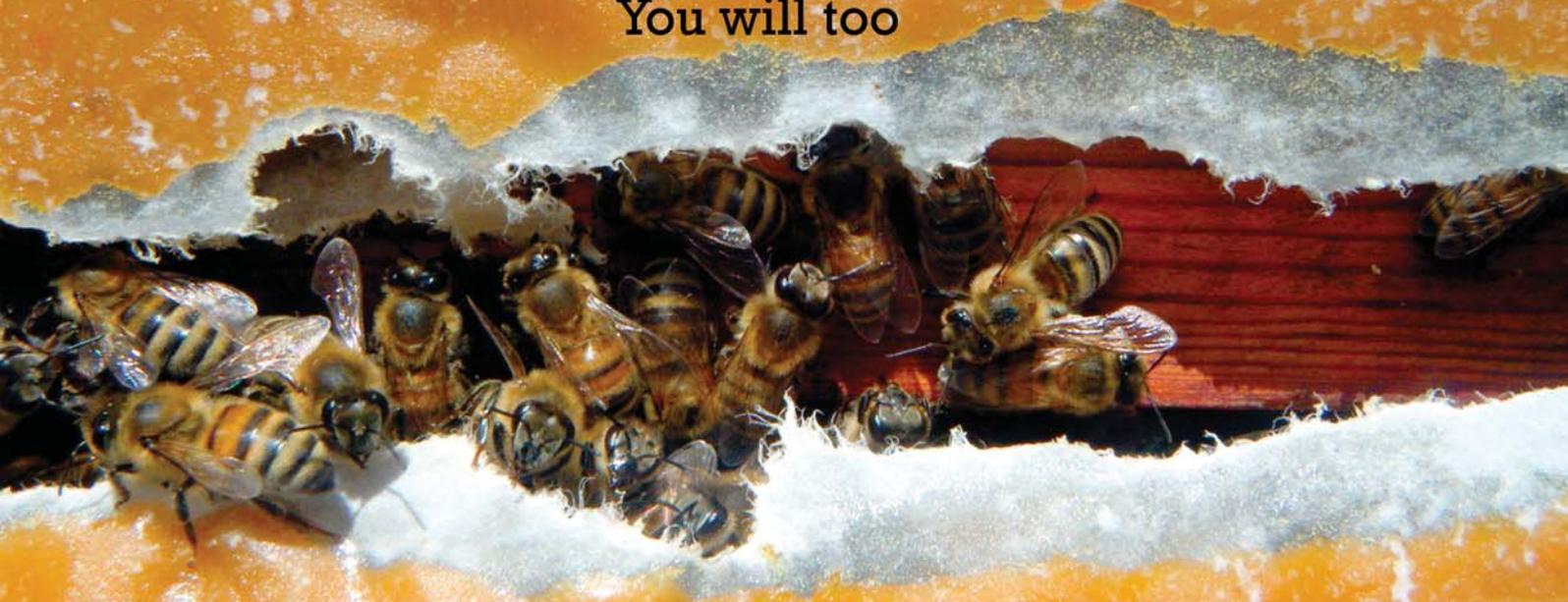
www.facebook.com/niteguardllc

THE ORIGINAL
NITE-GUARD
Solar®
niteguard.com

PO Box 274
Princeton MN 55371
1.800.328.6647

Bees Love 
Global Patties

You will too



Keep your hives strong and healthy with less effort and low cost
Reduce winter loss and see faster spring build-up
Help your bees thrive despite drought and stress from mites and disease

Two North American Factory Locations

Plus depots across the U.S. and Canada to Serve You Best

BAY 2 - 8 East Lake Way NE, Airdrie Alberta T4A 2J3

Phone: 1-403-948-6084 - Fax: 1-403-948-6901

150 Parkmont West, Butte Montana 59701

Ph: 1-406-494-4488 - Fax: 1-406-494-3511

Call Us Toll Free in North America at 1-866-948-6084

We make protein and pollen patties to your specifications
using only fresh, high quality, proven ingredients. Satisfaction guaranteed.

Be sure to visit our website

www.globalpatties.com

For our locations, news, ideas, specials, and much more...

Your bees will thank you

Hummerbee®



Visit our new website
www.hummerbee.com
to learn about all of our
other available models:

Rough Terrain Forklifts

TURBO XL XT_{2WD}

The next generation
of Hummerbee...

XRT

This is it. The ultimate beekeeping and orchard forklift. This is the next step in the evolution of the Hummerbee. The XRT is smoother, faster, more robust, and more luxurious than any other forklift on the market today.

Extreme power, advanced articulating joint design, electronic, touch-of-a-finger joystick mast controls, leather-padded operator station, and the highest lift capacity in its class are just a few of what make this the ultimate Hummerbee.

Call 800-943-8677 to order yours.
Production is currently limited.



A & O FORKLIFT

www.hummerbee.com

Call 800-943-8677 to order

Features . Culture . The Rest

CREATING POLLINATOR HABITAT 27 <i>A fantastic collaboration.</i> Michele Colopy, et al	MAILBOX 9
THE FOUR PILLARS OF HONEY	NEW PRODUCTS 13 <i>Five-frame nuc; the Frame-Up; Healthy Honey Bee App; Skep Jar; Honey Bottle Lids; Microbial Food Supplement; Matches; Ultimate Hive Cover; Ultimate In-Hive Feeder; Ultimate Hive-Top Feeder.</i>
BEE MANAGEMENT 31 <i>Plan now to come to Medina in October!</i> Bee Culture Staff	HONEY REPORT 18 <i>What do you sell?</i>
GRAFTING 38 <i>This modification makes it much easier, and faster.</i> Maryann Frazier, et al	THE INNER COVER 20 <i>Who reads this magazine? Meeting messages.</i> Kim Flottum
A HISTORY OF FEEDERS 44 <i>A look at a few of the dozens that have patents.</i> Jim Thompson	IT'S SUMMERS TIME! 23 <i>California in January and good-bye to a dear friend.</i> Kathy Summers
THE POLLINATOR STEWARDSHIP COUNCIL 51 <i>Avoid tank mixing insecticides with fungicides.</i> Michele Colopy	A CLOSER LOOK – BEE DEVELOPMENT 24 <i>Development includes a pre-capping period and a post-capping one with the cell sealed.</i> Clarence Collison
CONVERSATIONS WITH A UKRAINE BEEKEEPER 54 <i>A glimpse into a different world.</i> Tom Rearick	VOICE OF THE SOUTH 29 <i>About stings.</i> Jeff Harris
HIVE TRACKS, PART 2 58 <i>An overview of the many helpful features.</i> James Wilkes	IT'S WINTERTIME IN THE APIARY – AGAIN 33 <i>Increasingly, I am finding that I need each passing year to be longer than the previous one.</i> James E. Tew
LETTER FROM A BEEKEEPER'S WIFE 63 <i>At convention.</i> Mary	MENTORING CONCEPTS 41 <i>Setting up a mentoring program requires time and effort.</i> Larry Connor
BUILD A FEEDER JAR STAND 65 <i>Affordable and easy to make with these instructions.</i> Ed Simon	BEE KIDS' CORNER 56 <i>All the buzz . . . for the children.</i> Kim Lehman
BIGGER PICTURE 69 <i>Sweets for your honey.</i> Jessica Louque	DOWNTOWN 77 <i>Car-free beekeeping: Going green without burning gas.</i> Toni Burnham
BEEKEEPING AND TECHNOLOGY 73 <i>Are we on the verge of a new technological revolution?</i> Ross Conrad	VALENTINE'S DAY 85 <i>Make the day special with honey.</i> Ann Harman
BEE AN ARTIST! 80 <i>Beeswax for artists of all ages, and skills.</i> Alice Eckles	ASK PHIL 87 <i>Leaving honey supers on in the Winter. Queen excluders. Two queens in over-wintered hive.</i> Phil Craft
BETTER BEEKEEPING WITH BETTER RECORDS 82 <i>Every beekeeper should be keeping records.</i> Lonnie Funderburg	GLEANINGS 93 <i>All the news that fits.</i>
BEAR ATTACK! 89 <i>The saddest site to see in a beeyard.</i> Jim Grupp	CALENDAR 94 <i>Upcoming events.</i>
	BOTTOM BOARD 96 <i>Big dilemma.</i> Ed Colby



Kelley Beekeeping

SERVING THE BEEKEEPER SINCE 1924

Kentucky Special

Kentucky Special

Our popular Kentucky Special has everything needed to expand the apiary. Includes:

FEATURES

- Two deep hive bodies
- Two supers
- New style frames
- Wired foundation
 - ◊ Also available with plastic foundation and SGX Frames
- Support pins (40) - (recommended 1 each side, 2nd hole from top) with wax foundation, deep frames only.
- Ship wt: 70 lbs (2 cartons)
- Wooden inner cover
- Top cover
 - ◊ 10-frame: Plastic
 - ◊ 8-frame: Wooden
- Screened bottom board
- Entrance reducer
- Entrance feeder
- Beekeeper's hive log book
- Nails and assembly instructions



10% off our Kentucky Special when you order online using promo code: **KHIVE**

Order Today!

www.kelleybees.com



1-800-233-2899



Kelley Beekeeping
SERVING THE BEEKEEPER SINCE 1924

www.kelleybees.com

Beware Of Free Shipping

There are three bee supply companies out there offering free shipping over a certain dollar amount.

Please make sure the delivery is to your door. A little info – I have a long drive with nowhere to turn a semi truck around. Now back to the order. It was for over \$2000 and over a thousand pounds. First the delivery company wanted me to drive an hour and 15 minutes round trip to pick my free shipping delivery. Doesn't that defeat the free delivery bonus? Then the best we could come up with is, I had to leave work early to be home to take delivery at the end of my driveway. So now I burn vacation time to get the delivery which again is no longer free. Now for the delivery, it was a semi at the end of my drive on a County Road that is heavily traveled, they try to keep it below 60 mph. With a skid of bee stuff on a semi, off-loading to a pickup truck. At least there was a lift gate. So we rolled the skid of stuff on the lift gate and lowered it to the pickup with a sheet of plywood in the truck bed so the pallet jack could just roll in. The angles never matched and the pallet jack stuck when it got to the truck bed. So what do you do with a pallet of bee stuff that is stacked on a pallet then wrapped with the, want to be shrink wrap.

We tried to lay it over on its side. It looked like a good idea. Everything slide around in the

wrap, coming off the pallet, with hive parts dropping everywhere, half on the asphalt. The frame parts that are neatly banded in 100s slid out of the bands letting frame cascade loosely over the truck bed.

My suggestion would be order in smaller amounts, meet their dollar number to get the free shipping. Then order more the next day to get the supplies you need, delivered to your door in the smaller box trucks the delivery companies run everywhere.

Richard
Ohio

Tires For Hive Stands

My husband is in Tajikistan right now teaching orchard skills. I told him to keep an eye out for honey bees. Here are some pictures of an apiary he found. I haven't ever

Bee Culture

Information



623 West Liberty St.
Medina, OH 44256
mailbox@beeculture.com
www.beeculture.com

Suggestions
Comments

seen anyone using tires for beehive stands before. Happy day.

Colleen Howe-Gregory
Friday Harbor, WA



Subscribe Today!

visit us online at: www.farmingmagazine.net



A Quarterly Publication

1 year - \$18 (4 issues)
Canadian subscribers: \$24

2 years - \$32 (8 issues)
Canadian subscribers: \$45

Please mail check or Money order to:
Farming Magazine
PO Box 85
Mt. Hope, OH 44660

FARMING MAGAZINE

"The Magazine that offers hope to the small Farmer"

•••••

Package Bees In Ohio

Taking Orders For 2015

George Taylor

WALDO OHIO APIARIES

Box 122, Kilbourn, OH 43032

740.524.6241

740.815.7792

waldobee@msn.com

www.waldobees.com

•••••

OVALS



Great classic jar

Ribbed edging on both sides

Wider bottom prevents tips



1-800-380-7429

Made in America...
because it matters!






Visit us at: sailorplastics.com

Varroa destructor ?

Apivar exterminator.



> Kills up to 99% mites in 1 application¹

Apivar is the only amitraz-based apiary product that treats not just one generation of Varroa mites, but several successive generations, reducing mite populations in the hive by up to 99%¹.

www.apivar.net

1450 Broadway, 20th Floor - New York NY 10018, U.S.A. - Tel. : 1-212-930-5100 - Email: info@vetopharma.com

1 - Yves LE CONTE and Didier CRAUSER - UMR 406 INRA/UAPV Invertebrate Ecology, Laboratory of Biology and protection of the bee, INRA Avignon, France - 2006.



Do Chickens Eat Live Bees?

Hi, my name is Greg. I have been a longtime reader of the *Bee Culture* – about 15 years. I was recently asked a question as to whether free ranging chickens would eat honey bees. Having a farm background, my answer was no, but maybe dead ones around the hives. I thought of you, bees-chickens. Can you help me? I would like to give the guy the correct answer.

Greg

Editor's Response: Like you I don't think the chickens would eat live bees, but can't say for sure though



several experts agree. I've never seen them doing this and we did have a couple of hives that sat just outside the chicken pens. There didn't seem to be any interaction between the two, except when we were working the hives and then the chickens would be right there watching us. However they will eat dead ones and they absolutely love the drone larva that we give them on occasion. *KS*

However, guinea fowl will pick live bees right off the landing board if given a chance, as will peacocks. KF

B PLASTIC CONTAINERS

FOR ALL YOUR PACKAGING CONTAINERS FOR PACKING HONEY (No orders too Large or Small)
We Built Our Business On Service, Quality & Dependability.

515.266.6112 • FAX 515.266.1112
sales@blplasticiowa.com
www.blplasticiowa.com
1425 Metro East Drive, Unit 109
Des Moines, IA 50327

JAWADIS www.jawadis.us

leather, vented gloves, bee suits, jackets, hive tool, bee brush...

wholesale inquiries welcome! **KIDS & ADULTS**

Call or SMS (872) 529-2347 info@jawadis.us

Gardner's Apiaries
Spell Bee Co. LLC

510 Patterson Road • Baxley, GA 31513 • Ph: (912) 367-9352 • Fax: (912) 367-7047

Call For Package Availability (pick-up only)

Need Queens for almonds? Call us . . . we have them!

Hygienic, resistant, feral stock.

Over 100 Years of Experience • All Bees are State Inspected

800.289.7668
Executive Publisher – John Root
Associate Publisher, Senior Editor – Kim Flottum, Kim@BeeCulture.com, Ext. 3214
Assistant Editor, Design – Kathy Summers, Kathy@BeeCulture.com, Ext. 3215
Circulation – Dawn Feagan, Dawn@BeeCulture.com, Ext. 3220
Advertising Manager – Peggy Games, Peggy@BeeCulture.com, Ext. 3216
Publications Assistant – Amanda DeSimone, Amanda@BeeCulture.com, Ext. 3255

Contributors
Clarence Collison • James E. Tew • Ann Harman • Kim Lehman • Phil Craft • Larry Connor
Connie Krochmal • Jessica Louque • Jeff Harris • Toni Burnham • Ross Conrad • Jennifer Berry • Ed Colby

POSTMASTER: Send address changes to BEE CULTURE, The A.I. Root Co., 623 W. Liberty St., Medina, OH 44256

Subscription Information
U.S., one year, \$25; two years, \$48. Newsstand price: \$4.99. All other countries, (U.S. Currency only), \$15.00 per year additional for postage. Digital Edition \$15. Send remittance by money order, bank draft, express money order, or check or credit card. Bee Culture (ISSN 1071-3190), February 2015, Volume 143, Issue 2, is published monthly by The A.I. Root Co., 623 W. Liberty Street, Medina, OH 44256. Periodicals Postage Paid at Medina, OH and additional mailing offices.

Subscriptions, Book Orders – 800.289.7668, Ext. 3220 • www.BeeCulture.com • info@BeeCulture.com
Advertising – 800.289.7668, Ext. 3216; Peggy@BeeCulture.com
Published by The A.I. Root Co. Copyright© 2015. All rights reserved.



Buckwheat is one of the cover crops mentioned in this month's Inner Cover. Photo by Jessica Louque.

Rossman Apiaries

your one stop beekeeping shop!!



Try our famous
"Long-Life" Cypress
Woodenware

It's the beginning of
a new year and a
new opportunity
for you and your
bees to thrive in
2015..and Rossman
Apiaries is ready to
help!!

Visit our online
catalog at www.gabees.com for all of
your beekeeping



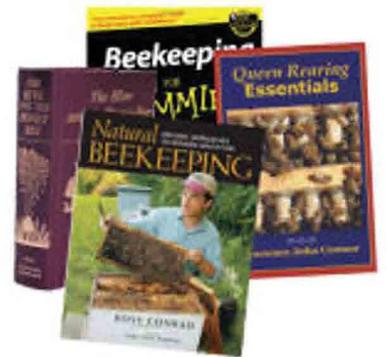
For additional info, deals and
upcoming events.



We have chemicals to
treat any pest or disease
that may invade your
hives & harm your bees.



Many styles of protective
clothing. Jackets, suits,
veils, gloves and much,
much more.



Educate yourself in any
area of honeybees &
beekeeping that you lack
knowledge...we have a
book for EVERYTHING!!!

Look What's New For 2015 –



Country Rubes is proud to announce that we are carrying a full line of NUC-sized five-frame equipment including COMBO NUC SCREENED BOTTOM BOARDS with all of the features of our Combo Deep. Comes with the original white Observation 'Sticky' Board. Will hold our new 3/4" deep metal Small Beetle Trap Tray and can be used with the Nuc Sized Mounted Beetle Baffles, both can be ordered separately.

Country Rubes are carrying a complete line of five-frame equipment including Deep and Medium Hive Bodies, Lids and Traditional Solid Bottom Boards. All of our equipment comes weatherproofed and is ready to use immediately. Our equipment is boiled in a solution of paraffin and tree rosin and will last for years and years. No other treatment is necessary. The finish darkens with age, but continues to stand up to sun and rain. They cannot be painted as the finish penetrates the wood. Check it out at www.countryrubes.com.



The Frame-Up allows you to hang your frames above the hive box. There is no need to set frames on the ground or hang them on the outside of the hive box anymore. After you inspect the frames closest to you, set them on the Frame-up and you have additional space to continue examining the hive. It's that second set of hands that allows you to closely examine and photograph frames. Stainless. Works with all size frames in eight or 10 frame equipment. \$49.95 + shipping. Email frameup7@gmail.com.

Vita's Healthy Honey Bee Web App

The first-ever smartphone web app about keeping healthy honeybees is available on www.healthybeeguide.com.

Created by Vita (Europe) Ltd, the world's largest dedicated bee health company, the web app is free and gives beekeepers easy on-the-go access to facts and photographs about honey bee disease identification and treatment.

The web app is suitable for nearly all smartphones and tablet devices. It runs on Apple or Android, on iPhones, iPads, Samsungs and the full range of smart mobiles.

The app covers disease identification, treatments and where to get them. There are photos to help you identify a range of ailments including *Varroa* mite and Small Hive Beetle infestations, foulbrood, Nosema, tracheal mites, chalkbrood, viruses and wax moth damage. You can then determine suitable treatments, find out their application and where to obtain them.

The Healthy Honey bee smartphone web app: www.healthybeeguide.com

Vita's website: www.vita-europe.com

Vodafone RO 3G 22:38 25%



Distinctly One of a Kind
Handmade Sterling Silver Jewelry
CasualGal.com

Updated & Informative:
Call today
for a 2015 catalog!

Gear Up For Spring!

with these products...

- The Nectar Detector! Weigh your hives to help determine nectar flow.
- Frame wiring kit— everything you need to wire 100 frames.
- New electric fencing line



Beginner Beekeeping Kits
(a perfect way to start
...and customizable!)



Complete Supers & Deeps with Frames
(Choose Plastic Frames, Wood Frames with Plastic Foundation, or Wood Frames with Wax Foundation)

FEBRUARY CHECKLIST

- ✓ Check food stores on a warm sunny day
- ✓ Feed winter patties for those colonies critically low on stores
- ✓ Start feeding pollen patties when appropriate for your season
- ✓ Order or make any needed equipment
- ✓ Finalize locations for new hives

We have new products from

LYSON

Also Available:

- Honey Creamers
- Uncapping Machines
- Large Capacity Extractors



Lyson Heated Bottling Tank
(2 sizes: 160 lbs. & 220 lbs.)



Lyson Honey Bottler
Pour Liquid & Creamed Honey
Fast!

Check Out Our
NEWLY DESIGNED WEBSITE!
(www.betterbee.com)

- easy to navigate
- customize your kit
- lots of great information

Betterbee

Beekeepers Serving Beekeepers

WWW.BETTERBEE.COM • 1-800-632-3379 • GREENWICH, NY



More New For 2015 –



The 12 oz. Glass Skep jar will be available early January from Agralogix, LLC under their retropak.com brand. Blue Sky Bee Supply (blueskybeesupply.com) will be the master distributor. Feel free to contact Blue Sky Bee Supply directly for pallet and case sales. Other bee supply companies will carry the item, but the list is not finalized at time of publication. Jars come in cases of 12, have two scuff-free label panels and use a 58mm lug caps.



Eight new colors of caps (in standard 38mm flip-top and two oz. Bear sizes) will be available early January from Agralogix, LLC. Blue Sky Bee Supply (blueskybeesupply.com) will be the master distributor. Feel free to contact Blue Sky Bee Supply directly. Colors are pink, powder blue, dark blue, bright green, dark green, orange, brown and purple. These are in addition to existing colors, such as red, bright yellow, black, white, golden yellow and metallic gold.



In 2011 I needed another way to build durable beehives, I hated warping, painting and repairs! The result was the Eco Bee Box brackets and related hardware. Utilizes local available lumber.

Deluxe (wrapping top and bottom) aluminum or copper (set of 4) in-stock items include:

Shallow Case price: 100 pieces \$400
Medium Case price: 100 pieces \$425
Deep Case price: 100 pieces \$600

Aluminum Rabbits 10 pieces \$20. Case price: 500 pieces \$500
This is a universal replacement of the wood rabbit for traditional daddo boxes. Custom sizes upon request.

Stainless steel locking clips
Case price: 1000 pieces \$500

Insulated Telescoping Top 10 Frame (drip edge) \$45 (Solid Copper \$120)

Insulated Telescoping Top Mini Hive (drip edge) \$25 (Solid Copper \$50)

Carvings:

Shallow, medium or deep mini cedar panel: (sunflower, bee, butterfly) Or, side filigree, bee, butterfly, or sunflower)

www.ecobeebox.com (or .net)

Phone: 801-654-9700 (cell) or 801-263-6666 (office)



Strong Microbials

Lactic Acid Bacteria (LAB) are symbiotic bacteria that naturally reside in the intestines honey bees. They serve a multitude of functions and are considered beneficial and completely harmless. LAB's are involved in protection of honey from other bacteria, yeasts and molds, fermentation of beebread and provide strong hive immunity against pathogens. In nature, pathogens are always present. A significant number of them gain entry into the hive via pollen and nectar, however most pathogens are either dead or in spore form. When LAB's sense pathogen presence; either live, dead or as dormant spores, secretion of antimicrobial substances is initiated as defense. This results in a reduction of pathogens, as well as inhibiting some of the dormant pathogenic spores from germinating.

- Establish Beneficial Microflora
- Helps Increase Bee Colony Health
- May help inhibit chalkbrood (*Ascosphaera apis*)
- Microflora have a positive effect on Vitellogenin (fat body) formation (The health of honey bee colony is dependent upon vitellogenin reserves of the nurse bees)
- Yeasts help synthesize B-vitamins needed for bee health
- Quick and easy to use
- Sold in heat sealed and moisture proof pack

Try a 100g or 1kg package. 10g treats one colony one time. For more information, brochures and fact sheet visit www.strongmicrobials.com.



And Even More New For 2015 –

Improved Ultimate Hive Cover

We have completed modification on our cover that will now accommodate eight frame and 10 frame equipment. This improved cover has an extended ventilation rim/bee excluder and screw guides for easy to install pegs that center the cover on eight frame boxes. At the current time we will supply the first 100 sets of conversion hardware at no charge; in the future there will be a minimal charge (\$50.00/100 sets).



Improved Ultimate In-Hive Feeder

Tooling for our new and improved cap has is ready now. This new cap incorporates an expanded top flange, side alignment guards and improved jail bars to mitigate dead bees and to prevent bees from getting into the tank. We have also improved the flow and added side guards to protect the valve pin.



The Beekeeper's Matchbook – 50 4-inch long matches made especially for lighting your smoker. Made and sold by The Savannah Bee Company for \$6.35/box.

To purchase visit www.savannahbee.com or call 912.629.0908.

NEW Ultimate Hive Top Feeder

This is probably the hottest new feeder item in a long time, now 1 feeder can be used on almost any hive; eight frame, 10 frame and nuc. It uses the one gallon tank from our In Hive Feeder with our new flanged cap with 1" nipple that fits a 1" hole drilled in the cover. The flange offers stability and includes a spring loaded twist lock clip to keep the feeder securely attached to the cover to prevent blowing off. The 1" nipple has holes that allow for easy access when positioned above the center hole of the inner cover; we include a plug to put in the hole when not feeding. Using this feeder is quick and easy, and units can be swapped out in seconds without having to wear protective gear. Our Ultimate Hive Cover includes both a centering drill guide and screw guides for installing the hold downs; a template will be provided for customers using other covers. Pricing is the same as for the In Hive Feeder.

For more information on these products contact BeeSmart Designs at 800.600.7446 or visit www.beesmartdesigns.com.



We now have Bears!

Plastics Packaging Concepts, Inc.
A full line of honey containers to get your product noticed! Bears in 12oz and 16oz, Angels in 12oz capacity with John 3:16 engraved on the back, skep bottles, and more!
Caps and custom printed labels available with bottle orders.
Call (816)862-8295 or visit www.ppc3.com to see our full line.

For Your Queen Needs Call
Queen Cells Available – Shipped By UPS
MIKSA HONEY FARMS
David & Linda Miksa
13404 Honeycomb Rd. • Groveland, FL 34736
Ph. 352-429-3447
Email miksahf@aol.com

SIMPSON'S BEE SUPPLY
"Order Now"
2015 April Packages (Pick Up Only)
Classic Glass & Plastic Jars
4.9mm Plastic Drawn Comb Frames
4, 8, 16 oz. Muth Jars With Corks
Honey Filled Candy \$65/case

15642 Tiger Valley Road
Danville, OH 43014
740.599.7914
cwsimpson@embarqmail.com
www.simpsonsbeesupply.com

Well Mated California Queens For Sale.
Available April Thru September.

KingBee Apiarys
760.417.1810 or
kingbee63@rocketmail.com

Mite Away[®] Quick Strips

Formic acid gel strips for the treatment and control of Varroaosis caused by *Varroa destructor* in honeybees



HOW MITES MULTIPLY



Under the brood cap, doubling the population every 22 days



1 mite becomes 15 in 4 months Just takes 1 female



In 12 weeks, the number of mites in a western honey bee hive can multiply by (roughly) 12



Mite Away Quick Strips[®] can be purchased through most bee supply outlets across the USA. A full distributor list can be found on our website.

Mite Away Quick Strips[®] should be used as part of an integrated Pest Management Program (IPM). The strip's innovation is that the treatment successfully penetrates the brood cap, targeting mites where they reproduce, arresting the transmission of viruses. High mite loads throughout the beekeeping season can result in higher winter losses.

Typically treatments are needed in the spring, to protect the summer bees, and again in the autumn, to protect the bees that will make up the winter cluster.

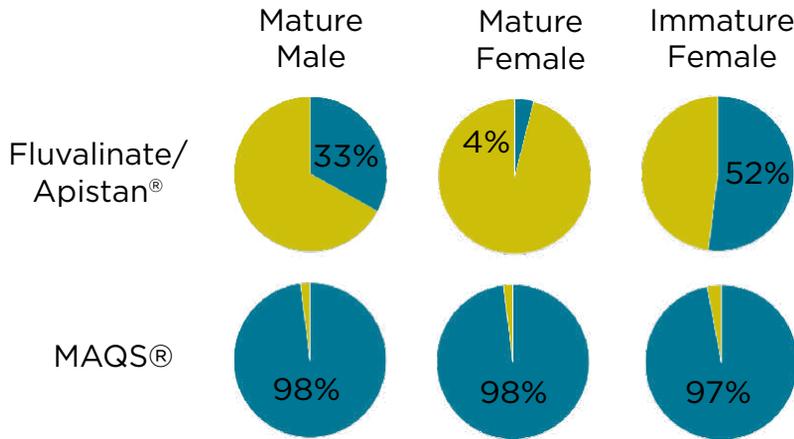
MAQS[®] can be applied on single or double brood-chamber standard Langstroth equipment or equivalent. The colony cluster should cover a minimum of 6 frames. Having entrances fully open during the 7 day treatment is essential.



LABEL CHANGES: As of April 2014, our label no longer requires use of respirators for application and the 1/2 Dose treatment is legally approved.

EFFECTIVENESS MAQS vs. FLUVALINATE ON MITES PRESENT IN THE BROOD

(% OF MITES KILLED)



This result is incredibly promising for an effective Varroa treatment. Impressively, the treatment was effective at killing 97% to 98% of the Varroa in the capped brood within the first three days of treatment.²

1. S. Wendling, Varroa destructor (Anderson et Trueman, 2000), a ectoparasite mites de l'Abeille TAME Apis mellifera Linnaeus, 1758 REVUE bibliographique ET CONTRIBUTION TO L'Etude SA Reproduction. THESE Pour le Doctorat Veterinaire, 2012
2. Winter Colony Health Assessment After Using Mite Away[®] Quick Strip (MAQS[®]) as a Control for Varroa Mites in the Fall of 2009 Alison Van Alten, Janet Tam and Melanie Kempers -



To learn more visit www.NODGLOBAL.com or call 866 483 2929
HEALTHY BEES. HEALTHY PLANET.

Bee Love Campaign

NOD Apiary Products believes in the effort to save the Honey bee; we started the "Bee Love Campaign" to help fund-raise for Honey bee health.

You can help! Buy any item from our Bee Love Clothing Line and a portion of your purchase will go to an organization dedicated to Honey bee health.

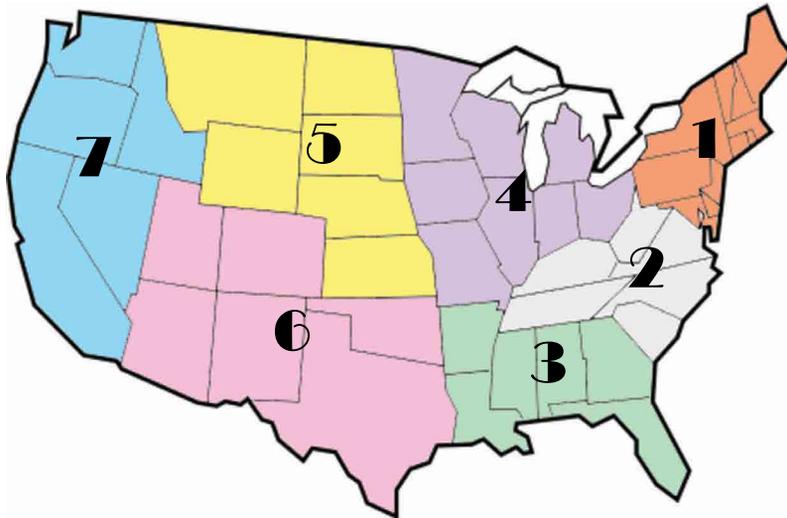
Bee Love Shirts, any style, size or colour \$20.00 each

Bee Love Eco Bags, \$15.00 each

To order visit our online shop: www.NODGLOBAL.com



FEBRUARY - REGIONAL HONEY PRICE REPORT



creams takes a commodity product and doubles or triples its value. Specialty honeys...creamed, comb and the like sell for more than honey in a jar, so consider those, too when producing your product.

The sideline jobs...producing queens, packages, nucs, pollination, selling supplies of all kinds, and even buying product from other beekeepers and reselling, something like honey stix, isn't a bad idea.

There's more than one way to get the buzz out of your bees, and you don't have to squeeze so hard it hurts the bees in the process.

There are other products, of course. Our reporters were asked - what else? Royal jelly, honeyed popcorn, honey sweetened apple butter, honey candy, candle supplies, bee removal, flavored creamed honey, honey butter, honey mustard and flavored honey.

Everything but the Buzz, and even that if we could figure out how to harvest, process and sell it... that's the feeling of a lot of beekeepers who keep bees for both fun and profit. But how to make money keeping bees when it seems that all you do is put money into that box, and don't seem to get nearly as much out?

Our reporters seem to be making it work, and they're doing it by making and selling everything and anything they can glean from the bees, and the beehive. Our chart lists most of the harvestable products from bees that beekeepers can make, use and sell. And the numbers show the

percent of our reporters who are doing just that. We now have four years worth of data and you can see already the slight changes our reporters are making. (We missed this in 2013.)

There's no doubt that producing and selling value added products is one way to go, and for a small scale producer it's probably the best way to go. Using beeswax for candles, ornaments, lotions, potions and

	Candles	Ornaments	Wax Blocks	Honey Stix	Pollen	Propolis	Bee Supplies	Packages	Queens	Bulk Wax	Lotions	Soap	Creame Honey	Liquid Honey	Comb Honey	Chunk Honey	Nucs	Pollination	Bee Feed	Other
% Reporters Selling																				
2010	28	17	54	28	28	13	20	9	15	48	20	10	35	90	66	38	28	-	-	-
2011	39	20	53	39	35	21	21	10	15	42	19	11	35	90	67	40	26	37	10	18
2012	35	21	53	37	32	15	53	10	22	44	18	13	21	94	62	34	23	32	7	48
2014	32	12	51	30	31	21	55	17	27	42	25	10	29	93	54	42	29	34	8	11
2015	30	14	56	28	32	17	40	15	27	40	17	5	30	90	62	38	32	33	11	6

REPORTING REGIONS								SUMMARY			History	
	1	2	3	4	5	6	7	Range	Avg.	\$/lb	Last Month	Last Year
EXTRACTED HONEY PRICES SOLD BULK TO PACKERS OR PROCESSORS												
55 Gal. Drum, Light	2.25	2.00	2.38	2.51	2.20	2.23	2.40	1.80-3.30	2.31	2.31	2.24	2.19
55 Gal. Drum, Ambr	2.00	1.98	2.09	2.47	2.37	2.12	2.30	1.78-3.30	2.19	2.19	2.15	2.03
60# Light (retail)	196.50	192.50	182.00	190.69	171.00	181.25	225.00	118.80-300.00	191.11	3.19	199.96	182.59
60# Amber (retail)	202.00	187.83	180.00	191.63	180.00	182.33	210.00	150.00-270.00	190.45	3.17	198.83	177.52
WHOLESALE PRICES SOLD TO STORES OR DISTRIBUTORS IN CASE LOTS												
1/2# 24/case	80.83	76.76	60.00	62.48	51.84	86.40	100.00	48.00-104.40	76.30	6.36	80.25	72.67
1# 24/case	121.24	98.80	119.83	98.67	106.32	110.16	118.80	78.00-172.80	111.99	4.67	116.53	110.18
2# 12/case	104.66	87.67	96.54	90.50	97.44	95.60	112.00	72.00-144.00	98.08	4.09	103.48	95.68
12.oz. Plas. 24/cs	98.18	80.67	88.80	80.03	74.40	91.20	103.60	48.00-144.00	89.61	4.98	93.77	84.83
5# 6/case	124.87	98.75	128.00	105.76	102.30	105.20	130.00	84.00-180.00	113.95	3.80	118.02	106.42
Quarts 12/case	193.36	120.23	119.41	131.85	125.64	117.15	143.50	60.00-284.00	132.95	3.69	134.84	124.69
Pints 12/case	104.79	81.88	70.71	80.62	85.53	65.10	96.00	36.00-142.00	82.06	4.56	85.08	80.39
RETAIL SHELF PRICES												
1/2#	4.57	4.04	3.50	3.22	3.02	4.24	6.00	2.19-7.25	4.06	8.12	4.16	3.97
12 oz. Plastic	5.56	4.73	4.92	4.76	4.01	5.25	7.05	3.00-8.99	5.15	6.87	5.45	4.98
1# Glass/Plastic	6.92	6.61	6.96	5.64	6.52	6.56	9.66	3.00-10.99	6.70	6.70	6.91	6.34
2# Glass/Plastic	11.75	10.04	10.79	10.41	10.43	10.66	16.00	6.00-18.00	11.08	5.54	11.60	10.44
Pint	11.69	9.04	7.49	9.67	8.25	7.78	12.13	4.00-21.00	9.05	6.03	9.51	8.23
Quart	18.40	15.02	12.78	15.53	14.95	12.98	17.60	7.00-30.00	14.92	4.97	15.24	14.32
5# Glass/Plastic	26.22	23.17	29.00	23.58	21.95	22.59	30.00	14.89-38.00	24.54	4.91	24.68	23.47
1# Cream	8.32	7.44	9.00	5.79	10.14	7.73	9.50	3.97-16.00	7.92	7.92	8.61	7.61
1# Cut Comb	10.32	8.33	7.67	9.21	8.50	9.50	14.50	4.50-16.00	9.62	9.62	9.47	9.54
Ross Round	9.02	6.65	8.00	8.23	8.62	9.25	8.62	6.00-12.00	8.25	11.00	8.25	8.36
Wholesale Wax (Lt)	7.75	4.65	5.02	5.63	6.00	4.42	5.13	3.25-11.00	5.79	-	5.81	5.39
Wholesale Wax (Dk)	6.42	4.39	4.34	5.29	5.00	2.92	4.75	2.00-8.00	5.01	-	5.03	4.75
Pollination Fee/Col.	94.11	63.25	66.83	63.33	80.00	83.00	117.50	30.00-185.00	78.59	-	81.78	80.19

ANNOUNCING THE 2015 SCHEDULE!

ASHEVILLE ★ N.C.

APRIL 11-12

NEW!
ALBANY ★ ORE.

JUNE 6-7

NEW!
WEST BEND ★ WIS.

AUG. 8-9

SEVEN SPRINGS ★ PA.

SEPT. 18-20

TOPEKA ★ KAN.

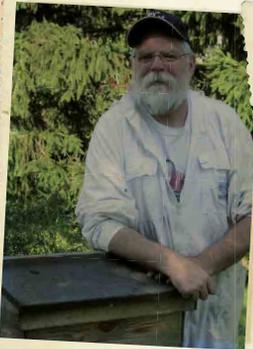
OCT. 24-25



MOTHER EARTH NEWS

FAIR

FUN-FILLED, HANDS-ON SUSTAINABLE LIFESTYLE EVENTS



Kim Flottum



Tons of great advice for self-reliant living



Ed Begley Jr.



Joel Salatin & Pat Foreman



Dan Chiras & Bryan Welch

Experience more than 200 practical workshops presented by the nation's leading experts at each unique event!

**RENEWABLE ENERGY ★ SMALL-SCALE AGRICULTURE ★ DIY ★ GARDENING ★ GREEN BUILDING
ECO-FRIENDLY MARKETPLACE ★ CHILDREN'S ACTIVITIES ★ 17 & UNDER GET IN FREE!**

www.MotherEarthNewsFair.com

Pre-order your tickets now and save!

Sign up for the free MOTHER EARTH NEWS FAIR weekly newsletter

Find discount lodging ★ Get up-to-date program information

Check out our exhibitors ★ Learn about our sponsors ★ Enter to win special FAIR giveaways

SIGN UP TO HELP OUT
785-274-4307

Help@MotherEarthNewsFair.com

APPLY TO EXHIBIT
785-274-4439

Exhibit@MotherEarthNewsFair.com

SPONSORSHIP INQUIRIES
828-298-2139

Sponsor@MotherEarthNewsFair.com



A tip of the hat to the Ohio State Beekeepers Association

INNER COVER

We recently conducted a reader survey. You may have been one of those contacted by the people we asked to take the survey. If you subscribe to our CATCH THE BUZZ you were on the list of folks to talk to. All told, we reached out to just over 3% of our readers for your thoughts on a variety of issues and topics relative to the magazine you receive each month.

Things have changed since our first major survey years ago, and even since the several we have conducted

since then. We have far more women reading the magazine now than even a few years ago – 30 years ago it was only 5% female, but now it's grown to 24%. That's quite a leap, but reflects what we've been seeing in new beekeepers lately. That's a good thing, and it shows we're reaching this group.

40% of you have four or fewer hives which is fewer than the last time we counted, while 45% have between five and 25, the rest having more than 25, and of those, 2% have over 500 colonies. That five - 25 group has grown by about half actually, which is encouraging. All these numbers reflect almost exactly what our other surveys recently have shown in the numbers of colonies kept by beekeepers generally, and our readers specifically.

Interestingly, we recently had the chance to talk to the NASS folks who conduct that annual survey we use each Spring on number of colonies, amount of honey and the like (see last year's here <http://usda.manlib.cornell.edu/usda/current/Hone/Hone-03-21-2014.pdf>). They are ramping up the number of questions, the number of times they send out their survey(s), and the kinds of information they are looking for going forward. They were clever enough to ask us for some ideas, and they bounced off some of their new thoughts on this. This next year is going to be good for gathering data, and I think the picture we have of this industry will improve immensely. This is in part because of the increased funding they got, and the folks who do that are really dedicated to getting the best information they can and sharing it with the people who can use it. One thing I did find out was that the survey is sent to only about 11,000 beekeepers, about 10% or so of all the beekeepers in the US. (that number is a debate all its own though – how many people are keeping bees, today, in the US, really?). Nevertheless, they get back about 80+% of what they send out – an incredible return if you are in the survey business – and they base their data on that. Of course they don't send to those beekeepers who have five or fewer colonies, which, it would seem is a fairly large number – 90% by my guesstimate, maybe more by others. That is one of the things they want to change however, so the picture may be a bit clearer in the future.

Meanwhile, back to our little survey. 54% of you live in what you describe as a rural environment, which is down a lot from our past surveys, and that's because 30% now live in a major city, or the suburb of a major city – and that's way, way up from where we were a few years back (20 years ago it was less than 10%). Of course just under 20% live in a smallish town, which has been about the same for quite a while.

And you're getting younger. Really. Fully a third of you are under the age of 45, which is a major change because it used to be only about 20% were under that age. Still, that means more than half are older than that, but it's definitely a move toward younger readers, and the beekeeper population in general.

Almost exactly half of the homes we send our magazine to have more than one person reading the issue each month, which tells us that beekeeping is really a family affair. That figure, 10 years ago, was less than 25%, so that's good for us, and for those who write for us because they are reaching twice as many folks as they thought they were. That should also be a good word to those who are selling products to our readers too. (hint, hint).

Technology has caught up with you, and that's no surprise. 95% of

you have a desktop or laptop computer, 37% have an iPad or other tablet, and 51% have a smartphone (me included). By comparison, Pew Research shows that for the overall population of the U.S., 58% of American adults have a smartphone, and 42% of American adults own a tablet computer. So for those who are doing some kind of remote note taking or data collection, beekeepers, or at least our readers, are right about average.

What gets read each month? That's the question everybody that works here wants answered, so we asked. Without too much detail the two most popular sections of the magazine each month are still the two most popular sections and have been for the 29 years I've been here . . . The Mailbox, and New Products. If there's something you want to get read, write us a letter or send us information on your new product because every month, more than 96% or our readers regularly tune into those pages.

We asked some open ended questions too, to give folks a chance to sound off or to express an opinion that wasn't covered elsewhere. One of these was what one thing would you add to the magazine each month? Pleasantly, for us anyway, nearly 20% wouldn't change a thing. After that, there were not many things folks would change. Seasonal and regional information are always being looked for, and we shoot for that kind of information with some of our writers. But it's a difficult task when you cover all of North America, Europe and parts of South America and Asia. And of course, how-to articles are always popular, and folks always want more of those. So do we, actually.

Those how-to's you want cover disease ID and treatment, both more and less technical information (not sure how to address that) and of course more advanced and more beginner articles (not sure how to do that, either, but we're looking into it). When asked about what you would

Reader Survey. Meeting Messages.

remove, almost 60% said nothing. That's encouraging. But, certainly we do reach out to a lot of our readers (more than 80%) who want information on topics not directly related to bees – like gardens, urban situations, bee club information, and yes, chickens, that they are also interested in. So we'll keep covering some of those topics for the vast majority who want them.

And finally, one of the most interesting questions was the Universal Satisfaction Score. Our survey people asked, on a scale of 1 – 6, overall, how satisfied you were with the magazine – 1 being not at all, 6 being as good as it gets. When the numbers were in you gave us a 5.1 overall satisfaction score. Now, the folks who did this survey do this for a living. That's all they do and they have hundreds and hundreds of clients so they know what they are doing, and they are good at it. This is what they told me about this Satisfaction Score – it was the highest they have ever gotten on any magazine reader survey. EVER!

So, there you are. That's who you are and that's what you think. We're not perfect but we're still trying and we thank you very, very much for your vote of approval of what we do here.

•

November and January were mostly on the Road. Trips to the Oregon Beekeepers and California Beekeepers in November, home for the Holidays in December but then the two National meetings in the Los Angeles area in January have kept me backed up a lot, but listening to a whole world of new stuff I'll try and share. Sometimes I write so fast I can't read it later, so please excuse any shortness of detail.

After many years, Bruce Boynton has stepped down as the CEO of the National Honey Board. Bruce served during some of the rocky periods of this commodity board and oversaw the change from a producer sponsored board to a packer sponsored board, plus a hefty increase in assessments that will enable the board to do even more in terms of both promotion, market and industry research. I imagine their contribution to honey bee health research will surpass the over \$200,000 donated last year, plus all the promotional material they have and the honey locator web page they sponsor. The resources offered to beekeepers from the National Honey

Board are impressive, and if you haven't explored their offerings on their numerous web pages start at www.honey.org and see for yourself. Meanwhile, the Honey Board of Directors searched and found a new CEO, Margaret Lombard, whom we hope to talk to soon about her plans for the future. Bruce, you did a bang up job and your even handedness and easy manner will be missed. Enjoy the slopes.

I got to listen to Dennis van Engelsdorp at all of these meetings which was good because he has so much information from his BIP program to offer it's tough to get it all in one sitting. He starts off with Winter losses, but quickly adds in Summer losses, something they just started measuring. On average, beekeepers – commercial and small lose about 20% of their hives over Summer. Commercial lose about 20% over Winter, while hobby folks lose around 40%. And it makes a difference where you live – all beekeeping is local you know – where those in the north drop more than those in the south, and commercial overall drop the least per cent.

Why? Well, among other reasons, *Varroa*. No surprise there, right? When asked about *Varroa* losses and number of treatments, interestingly, those beekeepers that treated four times/year did the best – better than less, and better than more. And the number of different products used makes a difference. 0 products used generally had about a 38% loss, two to five products used had about a 30% loss, and six products had even less. I know, the numbers don't quite add up, but this is survey data, not research data and sometimes that's what you get.

Speaking of *Varroa* – three mites/100 bees in an alcohol wash is the new reality. When you hit that mark it's decision time. If you hit six or more your colony is already dead but hasn't told you yet. The lesson is, test, and do something before it gets to 3/100.

BIP was looking for a similar situation when it comes to treating diseased livestock and what they found was treating mange in cattle. The practice there is to get as many animals in a herd together as possible and treat them all at the same time. That way everybody was cured, and everybody was protected. Comparing that to all the bees that are in California right about now seems almost too easy, doesn't it?

If you're in the market for using BIP's tech transfer team you'll

find that if you use their information carefully you'll have about a 20% decrease in colony losses. That's significant, but it still isn't sustainable. Still, for that \$80 you'll spend if you run 2500 colonies, you'll lose 150 fewer next Winter.

Here's an interesting, and new observation regarding *Nosema cerena*. Spore numbers spike in May, June and July, unlike the *apis* variety which shows up in Winter, BUT, they are finding that it's NOT the number of spores they find/bee, but rather, how many bees have spores that is determining how well the colony is dealing with the disease. So, when taking samples to examine yourself keep that in mind. I think Beltsville grinds them all up together so individual counts might not work there. Can't hurt to ask though.

Speaking of Beltsville, Jeff Pettis (the AHPAs Friend of Beekeeping award winner this year – a very good choice I might add) has some interesting information on current issues with queens and colony losses. By his reckoning beekeepers are losing about 50% of their colonies every year, a bit higher than the BIP numbers, but maybe a bit closer to what's happening I think. Jeff isn't surveying, he's counting and there in lies the difference I think.

He's looking at queen issues, specifically are pesticides in colonies, and/or in colony wax causing problems, are low sperm levels leading to early queen replacement (and what's leading to low sperm levels?), and are post office or UPS shipping problems (specifically temperature spikes and valleys) leading to some of these issues?

One thing he's found is that in colonies you would consider unhealthy, the queen's sperm counts are low, and just the opposite... healthy colonies have queens with high sperm counts. Why...well, when looking at what these queens are exposed to, he found that colonies exposed to Amitraz, or imidicloprid residues led to failing colonies. Yet, sperm counts were unaffected.

Continued on Page 91

Correction

In the December 2014 issue of *Bee Culture* on page 29 the photo credit should have read Anand Varma and the photo credit on page 30 should have read M.E.A. McNeil. We apologize for this error.

goodbye WINTER

Free Shipping*



Be ready this spring with our **Growing Apiary Kit**. It's an easy and effortless way to expand your operation this spring! Your new bees will have all of the space and equipment they need to get them started off right.

Traditional 10 frame Complete Hive Kit Contains:

- (2) 9 5/8" Assembled Hive Bodies
- (20) 9 1/8" Wood Frames with Waxed Rite Cell® Foundation
- (2) 6 5/8" Assembled Supers
- (20) 6 1/4" Wood Frames with Waxed Rite Cell® Foundation
- (1) Assembled & Painted Telescoping Cover
- (1) Assembled Inner Cover
- (1) Assembled & Painted Bottom Board
- (1) Entrance Reducer

The Complete Hive Kit provides you with everything your new colony will need. This kit comes completely assembled and painted: just add the bees!



Traditional 10 frame Complete Hive Kit Contains:

- (1) 9 5/8" Assembled Hive Body
- (10) 9 1/8" Wood Frames With Waxed Rite Cell® Foundation
- (1) Assembled & Painted Telescoping Cover
- (1) Assembled Inner Cover
- (1) Assembled & Painted Bottom Board
- (1) Entrance Reducer

Sign up for our
**INTERNET ONLY
BEE BUCKS BLAST
SPECIALS**

at www.mannlakeltd.com!



hello
SPRING!

MANN LAKE
WE KNOW BEES
An Employee Owned Company

www.mannlakeltd.com

800-880-7694

Free shipping applies to most orders over \$100 shipped within the lower 48 states. Shipping offer is subject to change at any time.

It's Summers Time –

CA In January, And Good-bye To A Dear Friend

We spent most of a week in southern California attending the two big meetings in January. The first part of the week was spent in Manhattan Beach at the American Honey Producer's Association meeting and then over to Anaheim to the Disneyland Hotel for the American Beekeeping Federation conference.

This was one of those rare occasions for Kim and I in that we had no responsibilities – no talks to give, no books to sell – so we actually got to sit in on some of the talks. The two locations were only about 30 miles apart, so several of the speakers jumped back and forth giving talks. Of course, even 30 miles in Los Angeles traffic can be a challenge. We chose not to tackle that obstacle and hitched a ride from one to the other.

It's always good to get to these meetings and see folks you haven't seen for awhile. And we get to see things that usually doesn't show up at the smaller meetings. Cowen was there with all of their big (very big) equipment. They took up one entire hallway – very impressive. And A&O/Hummerbee with their forklifts inside and outside in the parking lot, also very impressive.

I have to tell you though, as impressive as both meetings were, the weather was a big plus for us from Northeast Ohio. It was about 75 and sunny most of the time we were there. The same week at home in Ohio they saw single digit highs and minus numbers at night. It was a good week to be away from home. This week is a little better – 34 today, back down to 19 tomorrow for the highs.

The Disneyland Hotel is a "Magical" place. If you don't believe it just ask anyone who works there. They always leave you with "have a magical day" – whether it's one of the several restaurants or gift shops or any of the places that make up the adjoining Downtown Disney which is blocks of shops, restaurants, ice skating, movie theatres and more. The headboards in the hotel rooms are carved to look like Disneyland and they actually light up and play a short Disney tune when you flip a switch. One thing that caught my attention is the music. There are four separate towers that make up the Disneyland Hotel, so you're outside a fair amount of time getting from your hotel room to the meeting rooms to the restaurants – and there is music that follows you everywhere. It never stops as you walk along whatever path you take. It's loud enough that you notice it, but not loud enough to be offensive – and it never stops. Disney has an incredible sound system. I haven't been to Disneyland or Disney World since my boys were in their mid teens, but I remember there seemed to be music everywhere we went.



And the landscaping and topiary are beautiful. Bird of Paradise in full bloom, roses, geraniums, bananas, all beautifully landscaped. And of course – Goofy, Minnie and the chipmunks were also out and about.

One thing that made the trip extra special was a visit with my brother. He lives in Oceanside and he and his wife drove over on Thursday night so we could all have dinner together.

We had a good time, sat in on good talks, visited with the vendors and ran into several old friends that we hadn't seen for awhile. All in all it was a pretty good week.

On a sad note I lost a very good friend a couple of days after Christmas. Lori had been fighting cancer for more than two years and she finally got tired of fighting. She was only 52. Lori was very special to me. We'd been friends for over 30 years. I'd known her before I had my children. So my boys had known her their entire life. She was one of the very few people I trusted to watch them when they were little.

Long ago when I first worked at the Root Company in 1984 Lori was here. We just seemed to click and became fast friends. I left the Root Company in 1985 and had my two children, but Lori always kept me in the loop of what was going on here. I watched her son before and after school so I got to see her just about everyday.

She's the one that got me to come back to work when *Bee Culture* and Kim were looking for someone to enter copy on a book project. So I guess you could say Lori is the reason Kim and I are together today. So she was special to both of us.

Lori had a lot of bumps along the way in her life journey, but she was always smiling and trying to make the rest of us feel better about things. After leaving the Root Company she raised a bunch of adopted children that all had issues. She dealt with things that most of can't even imagine. She was an amazing person and we don't understand why she had to leave us so soon and why she had to fight so hard. But while she was here she was a wonderful example to many of us who knew her. You couldn't be sad around her. Just a week before she died a friend and I got to chat with her for about an hour about old times when we were all much younger. Even then she made us laugh.

At different times over the last two years sometimes Lori was unable to speak because of sores in her mouth. This was especially true over the last months. However, due to modern technology we were able to communicate through texting. There were weeks we texted almost everyday, sometimes having some pretty lengthy conversations. I never dreamed I'd be so thankful for something that sometimes seems so trivial.

I will always be thankful that she was my friend. And I miss her terribly. But now she is happy and pain free. And I know I will see her again some day.

Shady Summers



A Closer LOOK



BEE DEVELOPMENT

Clarence Collison

*Development includes a pre-capping period (with the cell open)
and a post-capping one with the cell sealed.*

Honey bees are holometabolus insects displaying complete metamorphosis; having a four stage life cycle: egg, larva, pupa and adult. The three developmental stages (egg, larva, pupa) collectively known as brood are similar in all three castes but differ in length of time to complete development. Unfertilized eggs become drones and fertilized eggs become either workers or queens. The timing of bee development depends on the caste of the developing individual as well as environmental and genetic factors. Total developmental times average 16, 21, and 24 days for queens, workers and drones, respectively.

The three castes are reared in distinctive cells. New worker and drone cells are horizontal with a slight upward slant, and are hexagonal in cross-section with pyramidal bases; the angles of the cells become rounded when successive generations of larvae have lined them with cocoons and excrement. Queen cells are vertical, circular in internal cross-section, and taper slightly from the base towards the open end. Unlike worker and drone cells, a queen cell is extended, as the larva in it grows, and is reduced again after the queen has emerged (Jay 1963a). Cappings on all three types are porous and rough, consisting of an aggregate of particles, whereas the internal cell walls and bases are smooth and non-porous. Worker cell cappings are slightly convex at first but get somewhat flatter after a time, whereas drone and queen cell

cappings are highly convex.

Development includes a pre-capping period (with the cell open) and a post-capping one with the cell sealed. The pre-capping period includes an egg stage, followed by a feeding and growing larval stage. The post-capping period has a 'spinning' larval stage during which the cocoon is made, a quiescent prepupal stage, followed by a molt and an imaginal (having the form of an adult insect) stage within the capped cell before emergence (Jay 1963a).

The queen bee attaches each egg to the base of an empty cell in combs that have been cleaned by workers. The honey bee egg is a smooth, white, sausage-shaped object about 1.5 mm in length. Drone eggs are longer and wider than worker eggs (Bishop 1961). During the first day, the egg nucleus divides – if the egg is unfertilized; or if the egg is fertilized, the fusion nucleus or zygote divides. It is not until the third day that the embryo forms, in which head and body segments can be seen within the egg. The head is present at the larger unattached end and the back (dorsum) is on the in-curved (concave) side (Waller 1980). After three days the egg hatches into the feeding stage called the larva.

The first sign of hatching occurs when an egg is 72 to 84 hours old. Muscular contractions by the embryo cause a gentle, weaving motion that apparently results in a tiny hole being torn in the outer membrane (chorion). Fluid from within the egg soon emerges and covers the external surface. The embryo with its "tail" attached to the base of the cell continues to move about until its head also touches the base and an arch is formed. In this "croquet wicket" stage, the chorion evidently is dissolved. The larva then eases itself over against the bottom of the cell into the familiar C-shaped position (Waller 1980). Hatching of eggs is similar in worker, drone and queen cells (Jay 1963a).

The larva is a whitish wormlike grub with no legs, eyes, antennae, possessing simple mouthparts which need only lap up the copious quantities of food placed in the larval containing cells by nurse bees. The food is placed close to or even on top of the larvae. The larvae are able to rotate within the cells to get to food not placed directly next to their mouths (Winston 1987). Larvae usually move forwards around their cell bases while feeding. Worker larvae which lie curled in the bases of their cells, dorsal surface outwards use body folds on their sides and back as locomotory appendages. These folds

"Developing bees undergo six molts during which the outer skeleton is shed; five of these take place during the larval stage, and the last occurs when the bee emerges as an adult."

“During cocoon construction the predominant movement made by larvae of the three honey bee castes is a forward somersault which is made dorsal side outermost. Worker, drone, and queen larvae complete one somersault in 52, 46 or 67 (at two different times), and 32 minutes, respectively with the total number of somersaults made during cocoon construction being 27-37, 40-50, and 40-80, respectively; the larvae take 37, 54 and 30 hours, respectively to complete their cocoons.”

are retracted into the body and then protruded in a more advanced position, resulting in crawling movements. After the cell is capped queen larvae make a complete turn in their cells once every 50-70 minutes. At three days old, worker larvae make up to two complete turns in their cells every 1.75 hours (Jay 1963a).

All three castes gain an enormous amount of weight during the larval stage, about 900, 1700 and 2300 times the egg weights for workers, queens and drones, respectively. Worker weights at capping are approximately 140 mg; queens and drones weigh about 250 and 346 mg, respectively (Winston 1987).

Developing bees undergo six molts during which the outer skeleton is shed; five of these take place during the larval stage, and the last occurs when the bee emerges as an adult (Winston 1987). All castes of honey bees molt almost every 24 hours during the first four days of larval life. After four molting episodes, the larva reaches the fifth larval instar without phenotypic changes, except for a considerable increase in size. The larva-to-pupa metamorphic molt takes place within the cuticle of the fifth larval instar.

When the ecdysis or molting occurs, the skin splits over the head and slips off the posterior end of the larva. This process normally takes less than 30 minutes (Waller 1980). Four activities, each increasing in vigor as ecdysis proceeds, seem to remove the skin rearwards: (1) retraction and extension of the abdomen; (2) gyration of the head and thorax; (3) ventral bending and unbending, and side-to-side movements, of the head and thorax; (4) expansion and contraction of a bulb-like structure at the tip of the abdomen dorsal to the anus (Jay 1962b). Each new larval stage (instar) is at first only slightly larger than the previous one, but it grows rapidly. The fifth worker instar gains about 40 percent of the total mature larval weight during days eight and nine. By the end of the eighth day after the egg was laid, the cell containing the worker larva is capped. During the 9th day, the larva spins a cocoon using silk produced by the silk glands. On the 10th day, the larva stretches out on its back with its head toward the cell opening and becomes quiescent inside its cocoon. This inactive and intermediate stage is called the prepupa. The 5th molt, which occurs during the 11th day, reveals the pupal form – white in color and motionless with three major body regions that superficially look like those of an adult bee (Zheng et al. 2011). Color develops gradually, first in the eyes (13th day), then in the abdomen (15th day), legs (16th day), wings (18th day), and finally in the antennae (20th day). Throughout this period, the pupa is encased in a thin outer skin which is shed in the sixth and final molt on the 20th day. Thus, legs, wings and mouthparts are freed and the pupa becomes an imago (adult) which soon begins to chew its way out of the cell (Jay 1962ab; Rembold 1980; Waller 1980).

Much of the larval activity is concerned with eating large amounts of food. Both the Malpighian tubules (analogous to human kidneys) and midgut are shut off from the intestine until a larva is nearly mature. In this way, body wastes are stored internally and the food surrounding each larva is protected

from fecal contamination. The larva defecates just prior to spinning the cocoon and the feces therefore lie between the cocoon and the cell wall (Waller 1980). Fully fed worker and drone larvae are thought to be sealed in their cells with a small amount of food: a queen larva is certainly sealed with a large amount of brood food at the base of its cell (Jay 1963a).

The pupal stage is the longest post embryonic developmental period of the honey bee. The temperature at which pupae are raised influences the tasks and behavioral determination of the adult bees (Tautz et al. 2003). It is reported that pupal weight increases with honey production and pupal head weight increases with higher royal jelly production. Comparative biochemical analysis between worker and queen heads has revealed that adult workers raised under higher temperatures show higher probability to dance, forage earlier, and more often are involved in more activities (Tautz et al. 2003).

Honey bees grow and differentiate from the larval to the adult stage through periodic degradation of the exoskeleton (or cuticle) and replacement by a new one. Each episode of cuticle renewal, or molt, comprises a series of events mainly marked by the detachment of the cuticle from the subjacent epidermis (apolysis), the synthesis and secretion of the components of the new cuticle by the epidermal cells, and the ecdysis or shedding of the old cuticle (Soares et al. 2011). This cyclic re-construction of the cuticle is a complex task involving the expression of genes for extensive synthesis of structural cuticle proteins and enzymes with roles in cuticle pigmentation (darkening) and sclerotization (hardening).

The types of cell death in the midgut epithelium of the worker honey bee during the larva-to-pupa transformation were analyzed by light and electron microscopes (Pipan and Rakovec 1980). The metamorphosis begins with an increase in the number of autophagic vacuoles in larval epithelial cells and terminates with lytic destruction of the whole intestinal epithelium. Apoptosis (process of programmed cell death) seems to be independent of cell age, but important in fashioning of the new organ. Even in the cells in the regenerative nests of the larval

epithelium, from which the pupal epithelium develops, apoptotic death occurs. Single apoptotic cells are eliminated gradually from the primary multilayer tissue until the monolayer pupal epithelium is formed. Some of the apoptotic cells are endocytosed (energy using process by which cells absorb molecules such as proteins by engulfing them) by sister epithelial cells.

The last few days of larval life are spent constructing a cocoon within the cell. Soon after the brood cell is capped, the larval honey bee spins a thin cocoon over the inside of the cell. To spin the cocoon, the larvae uncurl and stretch out fully within the cells with their heads toward the capped end (Jay 1963b) and begin weaving the cocoon with their spinnerets. The silk for the cocoon is produced in two large glands, each longer than the larva itself, situated in the ventral part of the body cavity. Silk glands are well developed in queen, worker and drone larvae.

Cocoons consist of silk gland secretion (in thin sheets and threads), a colorless material, a light yellow material, and a more solid brown material (feces); the last three are discharged from the larval anus. Possibly some brood food is incorporated into the cocoon but skin secretions or larval blood are not.

During cocoon construction the predominant movement made by larvae of the three honey bee castes is a forward somersault which is made dorsal side outermost. Worker, drone, and queen larvae complete one somersault in 52, 46 or 67 (at two different times), and 32 minutes, respectively with the total number of somersaults made during cocoon construction being 27-37, 40-50, and 40-80, respectively; the larvae take 37, 54 and 30 hours, respectively to complete their cocoons (Jay 1964). About 72 hours after spinning the cocoon the silk glands disappear and no trace of them can be seen in the developing pupae. Soon thereafter, the adult thoracic salivary glands develop from the basement membranes of the silk glands.

The drone and worker larvae spin their cocoons over the whole of the inside of the cell (completely closed cocoons), but the queen larva always spins her cocoon on the lower half of the cell only. Queen cocoons do not

cover the base of the cell where a supply of royal jelly remains. Queen larvae continue to feed on royal jelly and gain weight after capping is completed. Uneaten royal jelly that remains later becomes firm, dry and brown in the cell base. The mean weight of a queen larva is 192 mg. before spinning begins 213 mg. when spinning has just begun and 278 mg. when the cocoon is complete; maximum weights recorded for queen larvae range from 260 to 323 mg. (Jay 1963a). In addition, the queen cocoon does not touch the inside tip of the cell.

Following the final exoskeletal shedding, the teneral adult remains inside the cell for several hours as the new cuticle begins to harden (Winston 1987). Emerging worker bees begin by perforating the capping with small holes as they rotate within the cell. The antennae often protrude through these holes. Although some pieces of capping fall outside the cell, the emerging bee works most of them between the mandibles and fastens them to the wall just inside the cell entrance. Later these fragments will be collected by bees for re-use. Other bees often help the emerging bee, by thinning down the capping before emergence, or by removing pieces of it during emergence, putting it on the rims of uncapped cells, or on the cappings of sealed cells. After several unsuccessful attempts to emerge, the young bee enlarges the opening sufficiently to crawl out. Workers will also often chew away the tip of the queen cell a day or more before the queen emerges. It is believed that removing the tip of the cell facilitates the queen's emergence. Drones and queens usually cut the capping, so it is in one large piece; queen cappings usually retain a small area of attachment to the cell (Jay 1963a).

After emerging, the teneral bee completes its development during the next eight to 10 days (Winston 1987). The emerged bee is still soft, and the cuticle finishes hardening during the next 12-24 hours. The workers, in particular, have a soft, fuzzy appearance at this time until their hairs stiffen and they cannot sting until the skeleton around the sting glands has hardened. Over the next few days internal development is completed, particularly glandular development and growth of fat bodies. **BC**

References

- Bishop, G.H. 1961. *Growth rates of honeybee larvae*. J. Exp. Zool. 146: 11-20.
- Jay, S.C. 1962a. Colour changes in honeybee pupae. Bee World 43: 119-122.
- Jay, S.C. 1962b. *Prepupal and pupal ecdyses of the honeybee*. J. Apic. Res. 1: 14-18.
- Jay, S.C. 1963a. *The development of honeybees in their cells*. J. Apic. Res. 2: 117-134.
- Jay, S.C. 1963b. *The longitudinal orientation of the larval honeybees (Apis mellifera) in their cells*. Can. J. Zool. 41: 717-723.
- Jay, S.C. 1964. *The cocoon of the honey bee, Apis mellifera L.* Can. Entomol. 96: 784-792.
- Pipan, N. and V. Rakovec 1980. *Cell death in the midgut epithelium of the worker honey bee (Apis mellifera carnica) during metamorphosis*. Zoomorphologie 94: 217-224.
- Rembold, H., J.-P. Kremer, and G.M. Ulrich 1980. *Characterization of postembryonic developmental stages of the female castes of the honey bee, Apis mellifera L.* Apidologie 11: 29-38.
- Soares, M.P.M., F.A. Silva-Torres, M. Elias-Neto, F.M.F. Nunes, Z.L.P. Simões and M.M.G. Bitondi 2011. *Ecdysteroid-dependent expression of the Tweedle and Peroxidase genes during adult cuticle formation in the honey bee, Apis mellifera*. PLoS One 6(5): e201513.
- Tautz, J., S. Maier, C. Groh, W. Rossler and A. Brockmann 2003. *Behavioral performance in adult honey bees is influenced by the temperature experienced during their pupal development*. Proc. Natl. Acad. Sci. USA 100: 7343-7347.
- Waller, G.D. 1980. *Honey bee life history*. In: Beekeeping In The United States, USDA ARS Handbook 335, pp. 24-29.
- Winston, M.L. 1987. *The Biology Of The Honey Bee*. Harvard University Press, Cambridge, MA, 281 pp.
- Zheng, A., J. Li, D. Begna, Y. Fang, M. Feng and F. Song 2011. *Proteomic analysis of honeybee (Apis mellifera L.) pupae head development*. PLoS ONE 6(5): e20428 doi: 10.1371/journal.pone.0020428.

Clarence Collison is an Emeritus Professor of Entomology and Department Head Emeritus of Entomology and Plant Pathology at Mississippi State University, Mississippi State, MS.

CREATING POLLINATOR HABITAT

A Beekeeper/Government/Corporate Collaboration

Michele Colopy • Peggy Garnes • Terry Liberman-Smith

The Ohio Environmental Education Fund (OEEF), a program within the Ohio EPA, has awarded a grant “Beekeepers Collaborating to Create Pollinator Habitats” to Ohio beekeeping groups. The grant was written by Michele Colopy, Program Director of Pollinator Stewardship Council (and contributor to *Bee Culture* magazine) to support an idea developed in collaboration with Peggy Garnes, President of the Medina County Beekeepers Association (MCBA), and Terry Lieberman-Smith, Vice-President of the Ohio State Beekeepers Association (OSBA). “The need for this project was inspired by national initiatives developed by the Honey Bee Health Coalition, the Presidential Memorandum for pollinator health, and the USDA, who recently gave funding to support pollinator habitat in five states (Ohio was not one of the five states).” stated Michele Colopy, Program Director.

The project is a public-private partnership to develop pollinator habitat on corporate land. The project had to secure land partners for the habitat development prior to applying for the grant. This requirement made it difficult to secure land partners since they would have to put their enthusiasm on hold until funding was approved. A story in the local newspaper communicated the beekeeper partners’ pollinator habitat proposal to the greater community. The contacts of the MCBA and OSBA proved invaluable to get the word out to local businesses. Two of our corporate partners came to the project from employees who are also beekeepers.

The land partners bring a diversity of land types, and placement across Ohio. In one case, two and a half acres sits in the middle of an industrial park, with neighboring businesses all having similar sized side lots. We believe this future 2.5 acre pollinator habitat will be the model for the other businesses to replicate on their land. The smallest parcel is less than an acre in total. The land surrounds a single family home redesigned (and re-zoned) for a private medical practice. The concern for this lot is the issue of the height of plants: grass cannot be taller than eight inches, *flowers* can be of any height. So, the pollinator mix planted will not include

any grasses. The grant will fund the development of pollinator habitat on a combined total of thirty-six acres of corporate land in northeast Ohio and southwest Ohio. Four corporate land partners are committed to creating and maintaining the habitat for a minimum of five years. The land partners are CEMEX, Inc., Remington Products Company, the Department of Veterans Affairs in Dayton, and Professional Services Providers of Wadsworth, LLC. The grant will act as a catalyst to educate corporations, their employees, and customers about the need for pollinator habitat, connect beekeeping groups with local corporations, enhance public/private collaborations, and inspire land use changes in support of pollinator habitat. “While this grant is closed, there are other opportunities for landowners and farmers to plant pollinator forage

*The land will remain the private
property of the land owner, but
it will be transformed into
pollinator habitat.*

through many CRP programs available through the Federal government”, states Terry Lieberman-Smith.

“The “Beekeepers Collaborating to Create Pollinator Habitats” project meets the needs of beekeepers for diverse, nutritional forage for pollinators, provides good nutrition for pollinators supporting healthy bee colonies and healthy native pollinators, supports microenterprise honey production at the local level, supports local food, educates business/institutional customers and employees about the value of managed and native pollinators, assists businesses/ institutions in fulfilling their own environmental stewardship ethic. This “increased cooperation” is integral to a vital, sustainable, and affordable food supply for humans and pollinators.

The land will remain the private property of the land owner, but it will be transformed into pollinator habitat. All of our land partners’ property is currently planted



This land in an industrial park will be transformed into pollinator habitat.

in grass. The grassy lawns that will be transformed are next to and/or surrounding the corporate offices of the businesses. The pollinator habitat created on private land will have beekeeper access. OSBA will facilitate contracts between the beekeeper and the landowner to ensure the safety and success of the bee hives on the private land. “OSBA is pleased to be a partner in this project”, says Terry Lieberman-Smith. “By partnering with Pollinator Stewardship Council, Medina County Beekeepers Association, and OEEF, we are able to support not only local associations, 4-H students, and honey bees, but also encourage local landowners to support beekeeping by planting forage that will provide nutrition to our honey bees.”

The land partners have the option to contract with local beekeepers to place bee hives on the property. The grant will also provide for nesting areas for native pollinators. Citizen Scientists will survey the land twice a year for five years noting the diversity of insects, and other animal life that are utilizing the habitat. This data will be available in a public database, so we can show the changes in the landscape, and the plethora of life supported in this pollinator habitat. Educational

materials will be provided to the corporate partners to share with their employees and customers inspiring them to plant pollinator forage instead of grass. The local bee clubs will provide scholarships to four 4-H students within the land partner areas, with the 4-H students writing articles for the corporate newsletters about honey bees and their beekeeping experience. The beekeeping partners will encourage other corporations, beekeepers, and the public to convert their grassy lawns into pollinator habitat through two dozen presentations about this project.

“This is not a beautification project, but an education and habitat project. All of the land is within forage range of dozens of Ohio honey bee colonies. We will collect that data from the State Apiarist to show the additional impact to the local honey production, and benefit to the community of beekeepers.” stated Peggy Garnes. All of the land is visible from the road, so the general public will be able to drive by the land and see the pollinators visiting this floral smorgasbord. This project, however, was developed to create pesticide free pollinator forage and habitat, not to provide a park-like setting for the public to stroll through. “To support the nutritional needs of our honey bees and native pollinators, beekeepers are best suited to take the lead to create pollinator habitat. Local beekeepers need to communicate with their local businesses to inspire them in the planting of pollinator habitat instead of grassy lawns. Local solutions to local problems are the key to a better community.” stated Michele Colopy. The Pollinator Stewardship Council, who wrote the grant, expects this project will serve as a pilot program adaptable in other states. If your State Beekeeping organization is interested in a similar program in your state, contact the Pollinator Stewardship Council directly at progdirector@pollinatorstewardship.org or 832-727-9492. To learn more about the Ohio State Beekeepers Association contact them at vice-president@ohiostatebeekeepers.org. **BC**

For information about the Medina County Beekeepers Association email Peggy@BeeCulture.com.

Bee-Z-Smoker



Cool Bee Smoke, Without the Choke!®

What? A long-lasting, rebuild-able power tool that produces cool smoke without fire.

How? Easy, safe, efficient heating element ‘toasts’ kiln-dried pine shavings, creating a bed of embers. Smoke is blown out the spout with a fan.

Why? In the end it’s about the time spent with your bees – not your smoker!

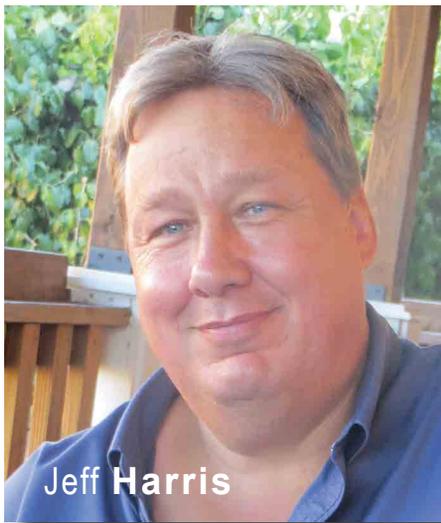
Order your beekeeping power tool for \$134.99 - use discount code **BCMAG** - excludes shipping and handling. Visit our website for EZ video demonstrations and proper usage techniques.

*Use discount code
BCMAG
excludes shipping & handling



\$134.99*

www.BeeZSmoker.com
603-446-7913 | info@beezsmoker.com



The Voice Of The South

About Stings

of stings received. Additionally, some beekeepers develop a mental toughness that blocks the pain of stings as they work. Let's face it, most beekeepers do not have time to stop and remove every sting received, and more often than not, work continues unhindered as stings are delivered by the bees.

New beekeepers can be particularly awed by seeing an experienced beekeeper work without veil and gloves. I cannot count how times I have spoken to a group of new beekeepers – all of them dressed in the cleanest white coveralls and the brightest new yellow bee gloves – without wearing any protective equipment myself. Of course, I am showing off my comfort at being around bees knowing of the crowd's apprehension of actually reaching into a hive for the first time. The event is often highlighted by my mild or total non-response to an incidental sting. Murmurs of “did he just get stung” ripple through the crowd as I continue talking without hesitation about whatever aspect of beekeeping that I was explaining.

It is during these times that I like to freak my audience out by saying that I actually enjoy the feeling in my hands within an hour or so of receiving many stings. I know they are thinking, “this guy is nuts.” However, I explain that although bee venom by design is intended to cause acute pain and inflammation, my body seems to respond with compensatory physiological mechanisms that actually reduce pain and inflammation up to several hours after receiving stings. My hands actually feel warm, and my fingers feel nimble. Most look at me in total disbelief.

What I do not tell them is that I once had the same apprehension that they are feeling. I once wore those clean white coveralls and bright yellow gloves for my first two years as a beekeeper. I gradually realized

that my soiled gloves caused many more stings than they were worth, and I finally “pulled the band aid” and went gloveless as a young teen. My confidence increased slowly over time – and then I decided to work with a commercial beekeeper one summer.

The most acute pain that I ever felt in my life occurred the first time we took honey from 120 colonies one morning. The bees starting snooping, and robbing became a real threat by the time we finished pulling the supers. Bees stung my hands with every super that I pried from a hive and carried to load on the truck. I was miserable! The next day, my hands were back into my gloves but barely (my gloves almost did not fit my swollen hands). This fact did not go unnoticed by my boss who chided me for being a bit of a sissy.

Do You Ever Get Stung?

Eventually, the gloves came off and stayed off even when we were taking honey from the bees. However, my boss still poked fun at me for leaving the apiary to urinate. We drank lots of coffee, and eventually I would need to pee while we were working in a beeyard. I almost always walked tens of yards from the beeyard, or I would hide behind some protective trees away from the bees.

One day my boss decided to teach me a special technique that permitted him to urinate beside the truck that was usually parked in the apiary. He also used the technique to drink water or cola under his veil even when the bees were a little “pissy.” His pearl of wisdom was to hold one hand over his head and flail it through the air while taking care of business (drinking or urinating) with the other. He said, “Bees will target the moving hand, and they won't sting you anywhere near your sensitive

As the Winter season progresses and my bee work is slowing down a bit, I think about funny things that people say and do when discovering that I am a beekeeper. The two most common questions are usually asked within the first few minutes in these conversations. The first – *Do you ever get stung?* – seems to be the most ridiculous question. If I am feeling a little mischievous, I will say that I never get stung because one of the first things that beekeepers learn is the telepathic control of bees. We are all like Idgie the beekeeper in the film *Fried Green Tomatoes*.

After a short pause, the often perplexed look turns into scornful cynicism when the person realizes that I was just kidding them, cued by my inability to hide smirks of amusement at his or her gullibility. After acknowledging that I was just teasing, the person often proceeds to the second question – *How many stings have you gotten stung in your life?* Still in a playful mood, I have been known to say that I am at 365,405 stings and counting. The resulting glare from my companion tells me that I have probably pushed things a little too far. The honest answer (that I have no idea how many times that I have been stung) is usually met with mild disbelief. Like, how could I possibly not know how many times that I have been stung?

The almost universal experience of the pain from a bee sting is felt by beekeepers and non-beekeepers alike, and the willingness of beekeepers to work with the offending animal is something that many non-beekeepers cannot understand. I explain that good beekeepers learn to work bees in manners that minimize the number

I Once Had The Same Apprehension New Beekeepers Have

regions.” My response was, “Right. No thanks. I will walk 50 yards away.” I had grown accustomed to my boss playing tricks on me, and I just knew this must be one of those times.

He continued to practice the technique over the next few outings, and I came to the understanding that he actually felt like the method afforded him adequate protection. Then one day I noticed him standing on the other side of the truck with his one hand flailing. I was about to ask him for help in lifting a hive, but decided to wait on him to finish before I bothered him. I turned to do another task when I heard a loud groan coming from his direction. I looked in time to see him double over in pain. I laughed immediately and exclaimed, “I guess that it does not work every time.” I could not understand his

grumbling in response, but I could not help from laughing for many, many minutes. I never saw him flailing his hands after that day.

I told this story to a new graduate student who has only recently worked bees for the first time. I just wanted her to get a sense of what a universal experience it is to be stung by bees. One of the best ways to deal with an unpleasant experience is to laugh about it, and I found the story to be funny. She did not find it as amusing as when I had experienced it as a kid, but I did detect a hint of a smile that she tried hiding from me. Quite remarkably, she actually was comfortable working bees without gloves from her first day onward.

However, I think that I have detected her own special defense against stinging bees. Maybe it is my imagination, but when bees become somewhat defensive, I find her standing slightly behind me. It reminds me of a cartoon that I had seen once in which a skinny beekeeper (she weighs 96 lbs.) stood shielded behind an obese beekeeper. Of course, she will probably deny the accusation, but I am onto her! **BC**

Jeff Harris is the Extension/ Research Apiculturist in the Department of Entomology at MS State University.

California Bees on the way!! Cedar Lane Apiaries, LLC Sterling, CT

www.cedarlaneapiaries.com • 860.234.1519



Northern California 3lb packages with marked queen, Italian or Carniolan

\$\$ 125.00 \$\$

Available mid April, limited supply – Must pay in full to secure order.

Pick-up at our Sterling, CT location only.

**ROSS
ROUNDS™**
Ross Rounds, Inc.

Round comb section equipment
and Sundance pollen traps.

Contact your dealer for supplies.

P.O. Box 11583, Albany, NY 12211
V 518-573-8426
www.rossrounds.com

Trees For Bees

f Reserve Your Trees Now!
Sourwood, Lindens & More
BeeBee Trees Ready To Go
Container Grown Trees
Ready for yard or garden
Bethpage, TN • 615.841.3664

Visit rockbridgetrees.com

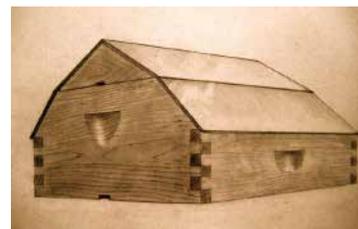


Buzz'sBees

Buzz & Nicole Landon
(530) 882-4302

Italian & New World Carniolan Queens
Spring, Summer & Fall
Fumagilin-B Fed
Packages & Nucs for Sale

Barn Hive



Combination 5-frame Hive, Lid,
Built-in feeder, & Storage.
Fits above standard
Langstroth box.

www.TheHoneyCompany.com
801-735-7227
Provo, Utah

The Four Pillars Of Honey Bee Management

N
U
T
R
I
T
I
O
N

H
O
N
E
Y

V
A
R
R
O
A

W
I
N
T
E
R

OCTOBER 24 -25, 2015 Medina Ohio

www.BeeCulture.com

for registration, travel, hotel, program and additional information as it unfolds

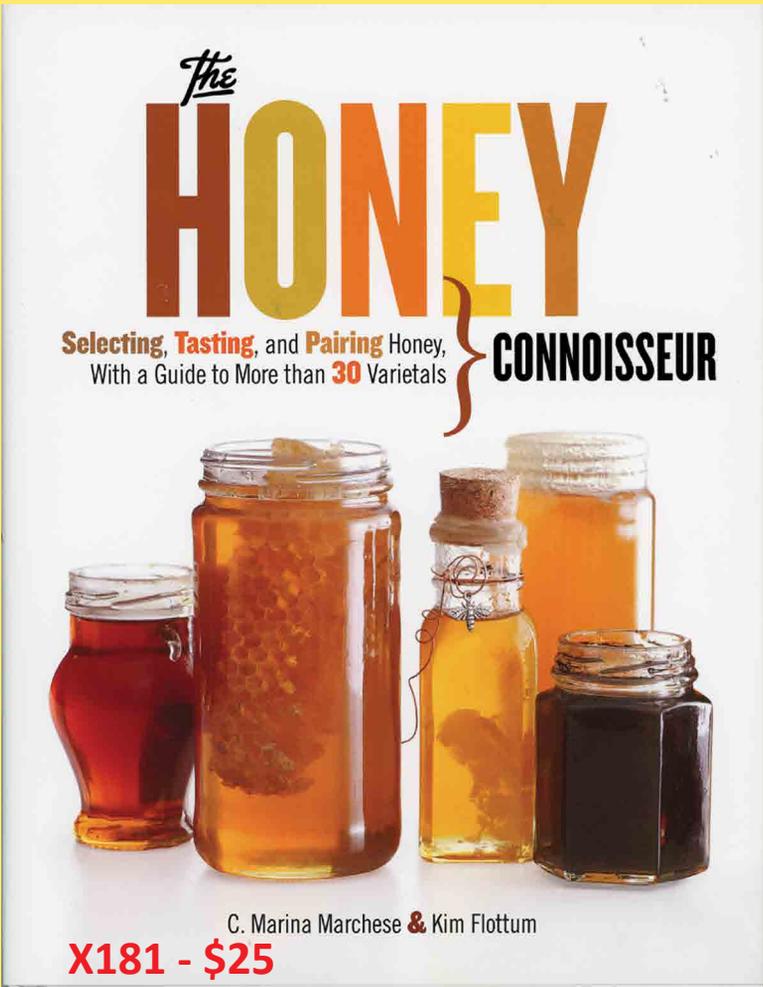
Join *Bee Culture* Magazine's Exploration of the Four Pillars of Honey Bee Management in October, 2015 at the *Bee Culture* Conference Center (on the A.I. Root Co. campus), 640 West Liberty Street, Medina, Ohio.

Follow Randy Oliver's discussion of every aspect of honey bee nutrition from best diets, how, when and how much to feed, and feeding in preparation for pollination events, wintering, dearth and everything inbetween. Nutrition has become the least understood aspect of producing healthy bees. Fix that here.

Then follow Jim Tew's arctic, and not-so-arctic adventures in wintering. Everything from as far north as you can get to moving bees south for a kinder, gentler winter. Refresh your Winter biology, then get better at wrapping, moving, feeding, treating and all you need to know to get bees from Fall to Spring.

Next, listen in as John Miller and a select group of commercial beekeepers who are in the business of serious honey production share their secrets, their skills and even their mistakes so that they consistently make as much honey as their bees can, every year. And now so will you.

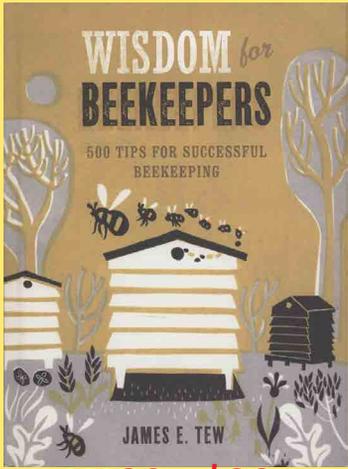
Finally, Pillar Four. *Varroa*. Listen and learn *Varroa* biology, but most importantly, *Varroa* control from Dennis vanEngelsdorp. Get every detail on every *Varroa* treatment. How, when, why, where. *Varroa* control chemistry needs to be perfectly understood to avoid, or reduce wax issues, and IPM *Varroa* controls need to be understood and used as much as, and as effectively as possible. Space is limited. Register early. Watch for details.



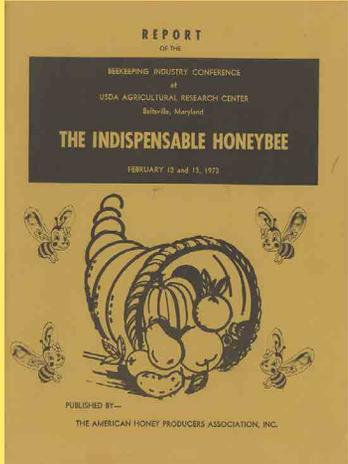
Learn The Ways Of Honey Tasting & Varietal Honeys

X181 - \$25

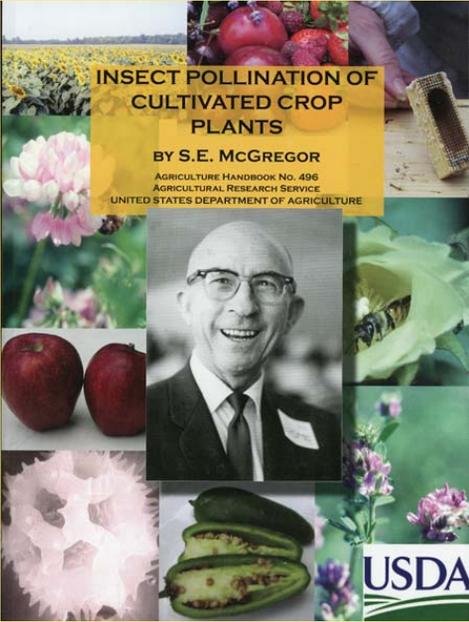
C. Marina Marchese & Kim Flottum



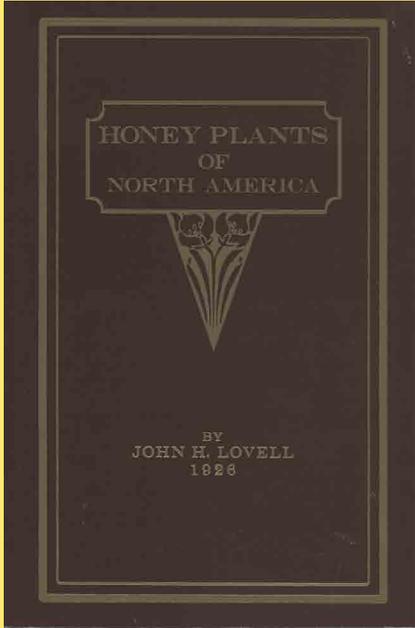
X190 - \$20



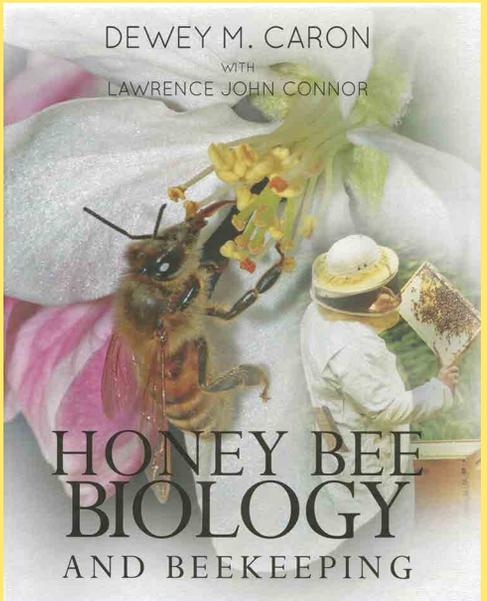
X192 - \$15.99



X181 - \$25



X178 - \$34.95



X70 - \$50

Go to www.Beeculture.com

It's Wintertime In The Apiary – Again

Increasingly, I am finding that I need each passing year to be longer than the previous one.

The correlation between bee magazines and beekeeping

Through the passing decades, Editor Kim and his staff have developed this magazine into an impressive, colorful, informative publication. The earliest versions of this magazine were hardly half the size and half the thickness of the vivid color magazine you are presently reading¹. They were printed on newspaper stock and only used the basic colors black and white. To be fair, I must say that the other national publications – including bee supply catalogs – have all exhibited remarkable advancements in recent years. The growth of beekeeping and the evolution of bee magazines, books and catalogs have been a tandem event. Beekeeping today, as are present-day beekeeping publications, is glitzy compared to beekeeping in the past. *(I'm going somewhere with this thread. Please don't give up on me.)*

The new supply catalogs and magazines now have many more inventory listings and article information for the largest number and diversity of beekeepers this country has ever seen. Changes seem to be everywhere.

But at its fundamental core, essential beekeeping principles have not changed that much – if at all². We have always ranted about queen quality. We continue worry about poor nectar flows. We have always raged about insecticides and their perceived harmful effects on our bees. We struggle to control diseases and pests. We get cranky about imported honey from improbable places. We install packages every spring, and we love to hive swarms that escaped from the colonies of other beekeepers. Essentially, it's beekeeping as it was and as it continues to be.

¹Unless you are reading the electronic version, and if you are, then good for you!

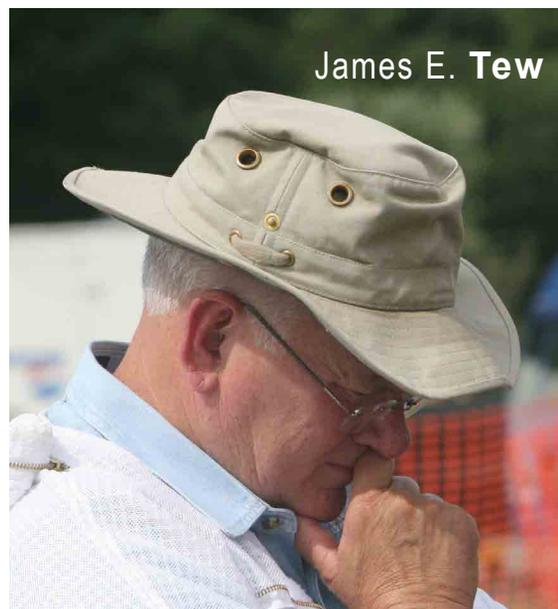
²I readily admit that *Varroa* has had a fundamental effect on modern day beekeeping principles, but even with the effects of that pest, beekeepers still primarily deal with the issues of beekeepers past.

And now, it's wintertime in the apiary – again

So if everything beekeeping is the same, what could be said about Winter management that has not been said over and over again? High on our present complaint list is excessive Winter losses. Opinions about what to do to reduce those numbers are readily available in today's literature. Yet, something still needs to be said about efficient Winter management – but what and said to whom?

New beekeepers everywhere

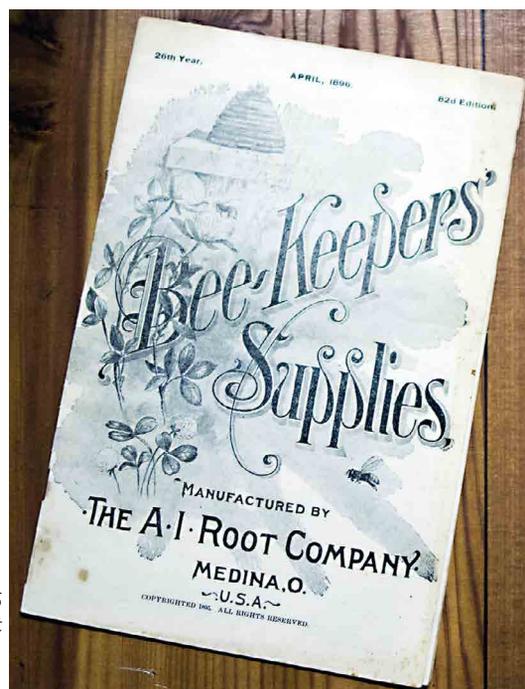
This is a glorious time for beekeeping. We have more new beekeepers right now than our industry has ever experienced. These people need help and information at the basic level. Writing another article on the topic of Winter colony management must be much like teaching algebra in school. Every year, algebra is taught again and again. Every Fall and Winter, basic articles are presented on successful Winter management. This needs to happen. I recently presented an article series on wintering that I posted at: <http://goo.gl/yGiPbp>.



I offer this recent resource to new keepers who are educating themselves in wintering concepts, as we presently understand them. From that three-part series, I have selected some topics that follow for a more thorough review.

Some interesting attributes of wintering colonies Activity within the hive

Within the wintering hive, it looks as though nothing is happening. I have several common types of cameras and audio gadgets, but right now, I am still at a loss to show you the absolute quiet that surrounds the wintering colony. The cold wind blows and a distant bird forlornly sounds off. Invariably, an airplane is droning somewhere in the distance. A Winter



Compare this 1896 catalog to the equipment catalogs of today.



The top of the wintering cluster. Note the round shape that outlines the cluster below.³

day is generally a placid day. Clearly, the bees in my colonies must be sleeping. Nope, they are wide-awake and on the job.

Here's my problem – while I know they are not sleeping, I am not sure exactly *what* they must be doing. Sure, they are producing heat. That fact is obvious, but there are so many unanswered questions. For instance, what serves as the thermostat? Apparently, colony temperature levels are set by the comfort of individual bees within the cluster core. In their own way, these core bees do calisthenics to “*work up a sweat.*” The outer bees provide insulation to retain and store heat within the cluster. It appears that the outer layer of bees is comprised of older bees while younger bees provide brood nest duties. Those outer bees must be kept at something like 42°F. The bees in this cluster zone are not much in the way of heat producers. Think about it. Most of the heat they produce is immediately lost to the atmosphere. Though the human response to increasing coldness would, no doubt, be to generate more heat, the insulation bees seem to stay the course. Internal bees must perform heat-generating duties while external bees insulate the cluster. If outer bees tried to produce heat, they would rapidly consume the colony's honey reserves on lost heat. (*I have great respect for the logic of bees and their biology.*)

Moving honey, preparing the brood nest, caring for new brood and dying are just a few of the tasks that are ongoing in the busy wintering

colony. The colony within the hive appears quiescence, but their lives are just as active during the Winter as they are on a hot July day.

Dead bees everywhere

A wintering colony without some dead bees scattered about is a colony that's dead already. Such individual bee deaths are a necessity. Yet dead bees always frustrate me. I know, I know. Bees are always dying. It's a normal thing. I see them on my driveway and notice them stuck in my car radiator. Bees live three to five weeks in Summer and up to three months during Winter. I realize there is a broodless gap in the colony population in hard Winter months but only for about a month in February in cold climates. In warm climates, there may be some brood during Winter months, but even that cool season population is reduced. Still dead bees in and around the wintering colony always set me on edge.

Yes, some number of dead bees is a good sign of normal senescence within the colony, but how many expired bees does it take to become a bad thing for the wintering colony? I don't know, but this is not an issue about which you can do anything. During hard Winter, only the colony can save itself. If you have not seen such a winter die-off, let me prepare you for it. There will be significant numbers of dead bees during late Winter and early Spring as the heat-generating bees naturally die. Last winter, for one of my hives, it looked as though every bee in the hive had already died. There were thousands of dead bees on the snow. I even wrote about it and presented photographs. Yet, my colonies all survived and are now experiencing another Winter. Life

goes on. I suppose I should expect the appearance of more dead bees within a few weeks.

You should know that the die-off from all colonies will not look the same. The way spent bees pile up, where they are piled, and how many dead bees are on the landing board are all characteristics that will vary from hive to hive. But one way or the other, to live a colony must deal with dead bees.

Where, oh where, is the perfect nest site?

Life is tough in nature so honey bee colony deaths are a common event in a natural nest. I frequently hear beekeepers telling about a tree that has had a bee nest in it for continuous decades. Possibly, in some instances that is true, but more likely, the colony frequently dies during the Winter and is replaced by a springtime swarm in short order. Beekeepers all know that a nest cavity that has been previously used is highly attractive to subsequent swarms. It would appear that the house-hunting swarm is perfectly comfortable moving into a nest cavity in which the previous bee cluster did not survive. Should not they be reluctant to move into such a cavity? Because there really are no (or at least very few) perfect natural cavities out there, can I pose the supposition that the swarm will make this iffy decision? It appears that bees are not trying to live in perpetuity. If they were, they would not routinely nest in a rotted hollow tree that is structurally unsound and certainly destined to topple over. In nature, bees prefer to swarm multiple times so that somewhere, some of them survive during some seasons. That really puts demands on beekeepers trying to develop Winter management schemes in artificial domiciles – our common beehives.

So we are left with the unanswered question – “*What features make up the perfect honey bee Winter nest cavity?*” or said differently, what domicile features are best suited for bee colonies in most years? To date, our best efforts have been our perception of the “*modern beehive.*”

This is all we presently know for sure – during the Winter season, some colonies survive at some locations some of the time in some types of hives. The unnerving thing is that I

³I have posted a 42-second unedited video of the cluster pictured in the photo above. The video shows the difficulty in the beekeeper perceiving the activities that are occurring with the defined Winter cluster. <http://youtube.be/KOKIsZdi21U>



Dadant

Winter Patties

Dadant's winter patties are a multifunctional patty, high in carbohydrates and 3% protein to help keep your colonies strong through the winter months. Contains: sugar, MegaBee and Honey-B-Healthy

- Can be used in winter & early spring in place of candy boards
- Readily accepted by the bees
- Convenient for all beekeepers

M0190010P3C

C / 10

\$21.95

M0190040P3C

40 lb. box

\$44.95



• 51 S. SECOND STREET, HAMILTON IL 62341 • PHONE (217) 847-3324 • FAX (217) 847-3660 • TOLL FREE 1-888-922-1293 •
• CHICO, CA (877) 332-3268 • FRESNO, CA (877) 432-3268 • PARIS, TX (877) 632-3268 • SIOUX CITY, IA (877) 732-3268 •
• WATERTOWN, WI (877) 232-3268 • ALBION, MI (877) 932-3268 • WAVERLY, NY (877) 532-3268 •
• CHATHAM, VA (800) 220-8325 • FRANKFORT, KY (888) 932-3268 • HIGH SPRINGS, FL (877) 832-3268 •





Dead bees on the reversed inner cover. Not too many, I suppose.

am not trying to be humorous with that statement. Some percentage of our colonies have always died during the Winter season. Therefore, our Winter colony management recommendations have always been in flux and are still not perfect. If there are few – if any – perfect hive sites out there, what should we be considering to make our hives more accommodating? I don't know, but I have some favorite guesses.

Hive insulation

I know most, if not all, of the arguments against hive insulation. They are valid arguments. Extra work and questionable survival outcome have been the driving force in not doing anything other than expecting the wintering cluster to cope with coldness in a simple wooden box. I agree with the arguments. Insulation that must come on and off is a pain. We need to keep looking for improved insulation materials or improved hive designs. In some way, the insulation used with the hive cavity needs to be porous and absorb moisture rather than making it simply rain on the bees inside. Moisture is critical to the wintering colony.



J. Tew cockamamie idea #321 – the hive heated feed source.

Water/humidity within the wintering colony

Bees cluster at 57°F. Well maybe most bees do, but not all bees are home sitting by the physiological fire of the cluster. Some are making dangerous trips to gather cold water when the outside time is as low as 42°F. I was surprised enough to be write an article about these cool season water foragers in *Bee Culture* last month (See: *Well... why does a colony need water during cool weather?*) My colonies were absolutely not overheated, so I am positing that when exhibiting this desperate water foraging behavior, the bees are trying to control the brood nest humidity. Not much is known about this wintering in-colony humidity requirement. We do know that below 40% humidity, no brood is produced. Greater than 80% humidity and Chalkbrood can become a common problem. So when we ventilate our wintering hives, are we always doing the right thing? Alternatively, not ventilating can result in a watery mess inside the hive. In a highly ventilated Winter colony, the only water sources are metabolic water or the water stored in honey – which is actually just future metabolic water. If my bees were frantically collecting water at nearly impossible temperatures, do I as the beekeeper just casually assume all those needs have been met as the temperature dips below freezing and all is well now? I suppose that at this point, I can only say that our understanding of the humidity needs of a wintering colony are not well understood.

Winter Feed and Feeding

The best we can do is leave the traditional amount of stores that a colony generally needs during an average Winter season (probably

about 65 pounds of capped honey). We have absolutely no way of knowing the nutritional quality of Winter stores. All beekeeper can do is go by the historical record of previous years. Yet, we know that like a wine, some nectar years are better or worse than others. Long ago, I heard a Canadian commercial keeper say that he took ALL the honey and fed the bees heavy sugar syrup as a pure food wintering source.

At least we have gotten better at the process of Winter feeding. Just a few decades ago, other than occasionally feeding granulated sugar, there was little thought given to actually feeding starving bees during Winter months. Now beekeepers have several techniques for feeding both fondant and crystalized granulated sugar to clustered bees. In a few weeks, I am going to put a protein substitute on to see if the bees will consume it (or remove it).

More than likely what follows will not be one of my better ideas, but I plan to give it a try. Later in the Winter while the temperature is low and the bees are high in the second deep, when I put on the late Winter feed, I am going to tinker with a sports-type hand warmer. I have not used them in many years so this idea could be way, way out in left field. I want to see if I can provide a warm area around the feed and actually heat the feed a bit. The heat pack is functional for 10 hours so the bee cluster will possibly have some time to move up around the feed source. No doubt some of you have already tried something like this. If so, let me hear from you. At the very least I hope these warmers will help keep me warm as I tinker with the late Winter feed.

Again, for those readers wanting a comprehensive review of current wintering recommendations and explanations, have a look at the article series I posted above.

We are all in this *colony-winter-management-boat* together. Hang in there. Spring is never far away. **BC**

Dr. James E. Tew, State Specialist, Beekeeping, The Alabama Cooperative Extension System, Auburn University; Tewbee2@gmail.com; <http://www.onetew.com>; [One Tew Bee](http://www.onetew.com/feed/) RSS Feed (www.onetew.com/feed/); <http://www.facebook.com/tewbee2>; @onetewbee

Valley Bee Supply, Inc.

46 Tinkling Spring Rd, Fishersville, VA 22939

Free Shipping
Orders over \$99



Hive Snuggies

Sweetheart of a Deal!!!

Beginner's Hive

Unassembled
10-Frame or 8-Frame

\$121.00

Frames & foundation sold separately



Order Bees Today!!
Nucs and 3 lb. Packages

Protein Patties
0% & 15% Pollen

Quality Products at Lower Prices!!



Call Today! 540-941-8127 www.ValleyBeeSupply.com Order Line 866-220-0198
Please call to order packaged bees and NUCS (local pickup only and pre-payment required.)

Roberts Bee Company

H & R Apiaries



2700 S. Macon St. Jesup, Ga 31545
Ph. (912) 427-7311

Over 100 Years of Commercial Package Shipping and Queen Raising Experience.

All packages come from Hives stored in Jesup, Ga year round.

Young, Fresh, and Healthy honey bees and queens.

****No old bees off of pollination from out West****



2015 Prices

Italian Queens and Bees

Quantity	1-9	10-24	25-99	100+
2 lb. Pkg. w/ Queen	72.00	69.00	66.00	64.00
3 lb. Pkg. w/ Queen	83.00	80.00	77.00	73.00
Queens	23.00	22.00	20.00	19.00

Give us a call today for pricing and availability.
Thank you for your business.

HandRApiaries.com
RobertsBeeCompany.com



GRAFTING



The "ah-hah" moment. Plastic foundation with fresh wax comb removed. (photo by Shawn Vashaw)

Maryann Frazier, Elina Niño and Christina Grozinger

GRAFTING . . . a useful skill that many beekeepers would love to have in their beekeeping skills toolbox but for various reasons don't. Picking up and moving a fragile 24-hour old larva from its cell and into an artificial queen cup is intimidating even if one has good eyesight and a steady hand. Many of us try it but understandably become frustrated and give up. BUT before throwing in the towel for good, read on and give this modification a try. It WILL make a difference. For those of you grafting thousands of cells a day, you also might want to consider this technique; it will likely shave precious seconds off of your grafting time allowing you more time to respond to those email requests for more queens!

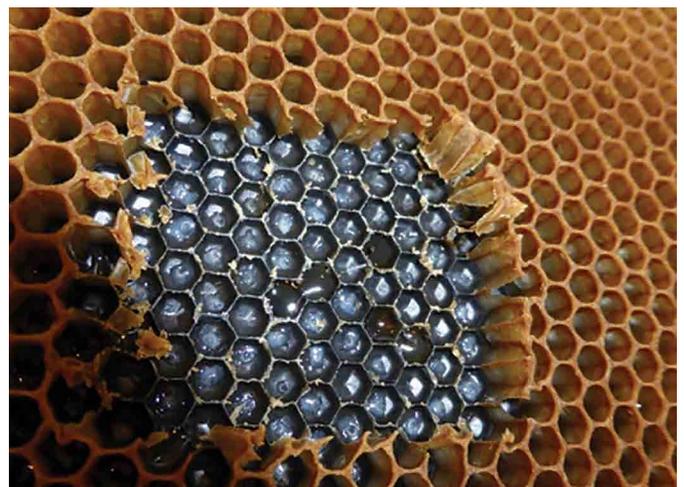
Sweet Serendipity

Our (Penn State) Center for Pollinator Research held its 4th annual queen rearing workshop in June, 2014. In addition to traditional grafting we talk about and demonstrate alternative queen rearing methods, including the Hopkins Hopkins/Case method. One of the challenges

with this technique is that the bees tend to rear too many queen cells and they are often connected to one another, making separation of individual cells difficult. So it is common to score the frame of young brood horizontally and vertically (think of making columns and rows) using a hive tool thus removing many of the cells but leaving small groups of cells with young larvae that will be reared as queen cells and later be cut out and relocated. In the process of demonstrating this, it just so happened that we were using plastic foundation (necessary for the modification about to be described) but it was also freshly drawn comb that had not previously contained brood. As the frame was scored, we were surprised by what we so CLEARLY saw; very young larvae, nestled unharmed in the "wells" of the plastic foundation but stripped naked of their wax cells! So easy to see, so easy to access!

The Pursuit of Evidence

Poor eyesight and/or an unsteady hand make grafting a challenge and more than a few students of the pursuit



Elina removing the new fresh wax comb on black foundation.



Accepted queen cells from the Doolittle grafting method (top) and modified method (bottom).

have given up after a single attempt. It certainly seemed to us that this little discovery should make the process easier... but would it? We wanted evidence!

We engaged eight of our undergraduates, graduates and technicians in a friendly but “controlled” grafting investigation! Each participant was asked to graft 10 cells using the traditional Doolittle grafting method and 10 cells using the modification of removing the comb cells. Their skill-level ranged from 1st timers to beginners (not their first attempt but not experienced) to experienced. The study was conducted in the Grozinger field lab, a regular beehive of activity.

Overall, the average time for grafting 10 larvae using the traditional Doolittle method was five min. 17 sec. and two min. 51 sec. when using the modification of removing the comb cells. Acceptance in the cell builder colonies was 64% and 74% respectively. So our modified method was almost twice as fast as the traditional and resulted in better queen cell acceptance! Using our modification, the three first time grafters reduced their grafting time by an average of two min. 52 sec. but surprisingly had 67% acceptance regardless of the technique (see table 1). The three beginners reduced their time by an average of three min. eight sec. while increasing their acceptance by 20%. The two experienced grafters (including author Niño) reduced their grafting time by an average of only 18 seconds but still increased their acceptance by 10%.

You Too CAN do this.

So if you’ve given up on grafting or never got started because it just looked too difficult, give this modification a try. Of course, you’ll want to graft larvae from your “best” colony (the one whose traits you want to pass on to “daughter” colonies). You also need to get the bees to draw at least one frame of plastic foundation (from any

disease-free colony). It is even easier to see the young larvae if you use black foundation. To get the bees to draw this foundation without putting brood in the cells place these frames in the honey supers. Once the frames are drawn, they will likely contain nectar or honey and will need to be extracted (honey) or left for the bees to rob out (nectar). Note, if you leave capped honey out for the bees to rob they will do more damage to your combs. If you are using last year’s drawn combs it is helpful to place them in the colony for a day to allow the bees to polish the cells in preparation for egg-laying. We found it best to use the freshly drawn out frames since removing the wax cells from old frames (especially those that had several generations of bees emerge from them) damages the larvae. We also use a frame cage designed and built by Craig Cella to confine the queen to a frame for 24 hrs so that we know the age of the brood within 24 hrs. You can also use a large push-in cage to do the same thing. Then once you are ready to graft just use your hive tool to scrape a small area of the comb containing young larvae. Make sure to scrape only a small area at a time to avoid larvae drying out. **BC**

We hope you’ll give this a try. If you do, drop us an email (mfrazier@psu.edu) and let us know how you make out; we’d enjoy hearing about your experience. Until then we wish you all Good Grafting!

Acknowledgements and resources: We are thankful to those who participated in our comparative grafting study; Philip Betz, Ryan Cray, Julia Fine, Marin McAuthor, Bernardo Niño, Ryan Reynolds, and Mario Padilla.

Frame cages are available from Craig Cella 867 E. Winter Road, Logantown, PA 17747, 570-725-3682

Participants	Average Time Traditional	Average Time Modified	Average % Acceptance Traditional	Average % Acceptance Modified
1st timers (3)	5:26	2:34	67	67
Beginners (3)	6:50	3:42	50	70
Experienced (2)	2:44	2:26	80	90

Table 1. Average time to graft 10 larvae and acceptance rates five days after grafting using traditional Doolittle and modified grafting techniques by eight subjects with varying degrees of experience.



BEEGT
pictured

White Goatskin Beekeepers Gloves

*BEEGT Ventilated
(XXSmall to XXLarge)*

3 pair @ \$10.75 per pair

*BEENV Non-ventilated
(Small to XXLarge)*

3 pair @ \$11.75 per pair

*Freight paid to a single destination
in the continental USA. We gladly accept
Discover, Visa and Mastercard.*



Bucko Gloves, Inc.
1-800-966-1408
www.buckogloves.com

Barkman HONEY

Buying honey from all parts of the U. S.

Call or email us for pricing.
800-530-5827

Candace Moss

Honey Buyer
620.266.2934
cmoss@barkmanhoney.com

Eric Wenger

Honey Buyer
620.266.2953
ewenger@barkmanhoney.com

Send us a sample

Barkman honey
120 Santa Fe Street
Hillsboro, KS 67063



THE ORIGINAL
Freeman
Beetle Trap[™]

- Newly designed Plastic Trays
- New no-rust Plastic Netting
- Now using all Cypress wood
- Reinforced Construction for years of use.
- Environmentally Friendly, controls hive beetle infestation
- Available for 8 or 10 frame hives
- Stocked for same day shipping

888-490-9046 • PO Box 369 • Star, MS 39167
eheartwood.com • sales@eheartwood.com

Queens & Bees

Chemical Free. Hardy Producers.
Order Early for Spring 2015.

B. Weaver
Apiaries
INC.

Texas Queens, Bees & Honey Since 1888

Mentoring Concepts

Setting up a mentoring program requires time & effort!

Larry Connor

A growing number of beekeeping organizations use mentoring programs as a means to complete the training of new beekeepers as well as providing a source of bees and queens for these new individuals. In this article we will review some concepts of mentoring new beekeepers with a very specific objective – keeping the new beekeeper in the beekeeping field by creating positive training situations where they can be highly successful with their new bee colonies.

Most of us who have kept bees for any length of time can quickly name one or two individuals who were critical to our learning of the essential aspects of beekeeping. These were our mentors, teachers or instructors who took on our need to learn about bees and helped guide us through the maze of confusion that seems to grow around us when we become a new beekeeper. Bee clubs serve their membership well when they take the effort to create this close relationship between experienced and new beekeepers.

For those who started with bees and beekeeping but never had a trusted mentor, the long-term success rate is much lower – these are the folks who apparently picked beekeeping as their next life project but failed to get the right amount of help and training necessary to be successful. With the rapid increase in the number of new beekeepers we have observed over the past few years, all beekeeper organizations need to focus on developing methods to keep these new people focused on bees and the proper methods to keep their colonies alive and growing.

Mentoring is a popular concept within the business world, as evidenced by the extensive number of books and training programs available online and at the bookstore. But the concept is much older, going back to old master and apprentice relationships where a master craftsman took on a new person to train and learn a particular skill set over a period of time, often for many years. Some – but certainly not all – master beekeeper programs focus on the long-term training and development of a mentee's skills, confidence and range of beekeeping experiences.

For local bee clubs, the challenge of setting up a mentoring program requires a great deal of time and effort, usually from a small group of highly skilled organizers. It seems logical that, to obtain the best success and results, each mentor should take on only one mentee at a time. That means if 100 new people sign up for a club's mentoring program, the club will need 100 mentors. Fortunately, these mentors do not need to be master beekeepers but people who are a year ahead of the new students. The primary reason I suggest this is simple: Each mentor should be charged with supplying a nucleus or single hive body colony for the new beekeeper. In fact, part of the role of the mentor is to work with the mentee to help with general bee work so that the mentor has the colony strength to produce the nucleus (or full-sized colony) for the student to purchase and then continue to

guide them through colony buildup and supering. Ideally, queens used in this process are produced locally or at least mated locally from queen cells or virgin queens.

This is not an act of charity by the mentor, at least not in most cases. Instead, it is a financial transaction that develops between the teacher and the student. It will require a detailed review of each person's expectations about the relationship. If the mentor decides to include some level of compensation for time spent as teachers, this needs to be carefully spelled out at the first meeting of the mentor and mentee. Furthermore, if the mentor expects the student to provide some sweat equity in the learning process by serving as a go-fer or in some other role, this needs to be carefully spelled out. In my own experience, the chance to perform simple hive manipulations many times as a student helped to cement my knowledge and confidence in working bee colonies. When I was then expected to work colonies alone, I felt with much greater certainty that what I was doing was following my instructor's teachings.

Clearly, I just identified two hot buttons for any relationship – spending someone else's time and money – so there needs to be a set of clear guidelines worked out in advance. Here are a few critical items to consider for the mentor to review with the mentee before starting the process.

List your expectations of the relationship. If you expect a student to help you on six Saturday morning training sessions, that needs to be made clear well in advance. Not everyone can meet at specific times. There may be another student who can meet these needs, so the organizers should be aware of each mentor's personal expectations. It is the mentor's role to take the lead in these matters, being extremely clear about meeting times, dates and duration of the sessions. Make or review this list together and each party should sign it before moving forward with the process. The mentor must take the initiative on schedule, as this is the role of the instructor.

The instructor must be willing to listen carefully to the new student and establish a safe working environment based on trust and a positive relationship. The mentoring books are filled with keys to successful mentoring that includes in-depth listening, accepting and supporting special needs, creating a safe and positive atmosphere and the ability of both parties to ask powerful questions and expect clear and direct answers. Mentors are encouraged to ask fewer 'Why' questions but to ask more open-ended questions, such as How and What. This becomes a bit like a bonding process, and the question-response is a critical and essential part of that process.

The instructor should spend time spelling out some of the key reasons he or she feels that they will be a good mentor, including goals and expectations, concerns about meeting together in the wood shop or the apiary,



Mentoring sessions should be structured and have an agenda so both parties know what to expect.

and logistical issues associated with transportation and mobility.

The instructor-mentor must also **set limits** about time of contact, method of contact and other matters that affect their personal and professional schedule. If you need to be at a meeting somewhere, you probably do not want the student calling your cell phone during that meeting. On the other hand, other mentors are happy to have students stop by with adult liquid refreshments to talk bees. It is important to note that the student should NOT assume that this is always the case! Ask, "How do you feel if I stopped by to talk bees next Friday night after work?"

So **a clear agenda** is very important for both parties. What will happen each time you get together? Work out a preliminary roadmap together, a plan of action that may change because of the weather and bee conditions. Perhaps most importantly, after two or three visits to the apiary, the mentor must make sure the mentee still wants to continue with bees. If the student is overwhelmed by the amount of work, time and money it takes to be a successful beekeeper, then they should feel free to say, "I have thought about all of this, and I really cannot see how I have the time (or money or interest) to continue with beekeeping at this time." It is better to cut the losses before bees are involved. In fact, more want-a-bee-keepers should be held back a bit before they get their bees to eliminate the impulse element we sometimes see in new beekeepers.

The Role of the Bee Club

For the organizing-sponsoring-facilitating bee club, there should be some other considerations. First, all new beekeepers **MUST** be required to complete a basic beekeeping course to join the mentor programs. While the individual may choose to go elsewhere for training, it seems reasonable that the club should have a set of rules regarding participation in the club's mentoring program. Having a clear standard of participation will ensure the training of the students before they enter the mentors' apiaries, and before they burden the mentor with 10,000

questions that could have been handled quite nicely in a Fall or Winter course.

The club, too, may have the role of setting expectations of the new beekeepers regarding disease management, equipment assembly, sources of bees and other issues of local concern. For example, if club members have been experiencing pesticide damage from a specific source, such as treated corn seed, then instruction on avoiding these risks should be a requirement for the club. This helps protect the new beekeeper and their investment in bees and equipment.

Clubs may emphasize the acquisition of two or more colonies by each new beekeeper and deemphasize the need to purchase honey-processing equipment. They can do this by offering the club extractor for low-cost rental when and if a honey crop is obtained from the management of these new nucleus colonies. The mentor may use this as one of the final sessions with the student (along with mite treatment and Winter preparation).

More and more clubs have special sessions for their new beekeepers, the mentees, at their monthly club meetings. They do this by offering a meeting for mentees a full hour earlier than the rest of the club, along with selected club mentors who run a session on current activities within the students' colonies. It also provides a chance for the new beekeepers to ask other teachers useful questions of their own without reviewing basic information in the general meeting or deflecting the speaker from the main topic.

Clubs need to suggest a minimum standard for nucleus colonies, as expressed by the number of frames of brood, frames of pollen and honey and general information about the population of bees. Because there is so much variation in what people consider an acceptable nucleus, it may be necessary to suggest a minimum standard as well as the ideal standard. For example, I like to prepare a five-frame nucleus colony with two or three frames of brood, plus two food frames, and an empty drawn comb so the bees will emerge and swell the number of bees in that nucleus. A mated queen will speed the process of establishing this nucleus, or the nucleus should be set up and managed for three to five weeks before it is transported to the student's new apiary. That way the frames of bees and honey could be transferred into an eight or ten-frame hive body (deep or medium depth) and perhaps given a second hive body once moved because it contains so many bees.

Clubs should discourage the use of package bees as well as quick-and-dirty nucleus hives made up on the spot with two frames of brood, a frame of food, foundation and a queen cell. Most new beekeepers are not ready for that challenge when they start, although I insist they can learn how to do all of this by the end of their first season.

Our objective is to keep the new beekeeper in beekeeping for many years by having them experience success with his or her bees their first year. This success is better obtained when associated with a well-run mentoring program and strong increase nucleus colonies. This formula is being used in many states with very good results, and I recommend bee clubs find a like-minded organization that is doing this and visit them and obtain speakers from the group. **BC**

Check out the new beekeeping books at www.wicwas.com.

Make the Decision Today

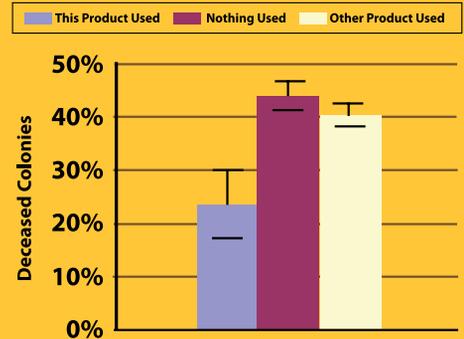
to Better Treat Your Hive Tomorrow



Bee Informed Partnership (BIP) Management Survey produced astounding results. Here is a comparison of average winter colony mortality among beekeepers who reported ***treating with ApiLife Var****, ***not treating with any known varroa mite control product***, or ***not treating with ApiLife Var***, at least once, between April 2012 and March 2013.

* This information is for educational purposes only and references to commercial products or trade names do not imply endorsement by the Bee Informed Partnership or its members.

ApiLife Var Use (Southeast)



ApiLife Var

An Efficient Mite Treatment that is Safe and Reliable.



Visit: BrushyMountainBeeFarm.com (or) Call: 1-800-233-7929

Brushy Mountain Bee Farm

Serving Beekeepers with the Best for more than 35 Years

Check out our...

New Items!



Standard Woodeware:

- Telescoping Lids
- Inner Covers
- Top Feeders
- Finger and Rabbit Boxes
- Screened Bottom Boards
- Frames in all sizes
- Economy Nucs
- Top Bar Hives

10-frame, 8-frame, and 5-frame in all standard items
Unassembled, Assembled, or Painted; Commercial or Budget grade

Other products:

- Protective Clothing
- Feed Supplements
- Foundation
- Fasteners

volume
pricing
available

- Hobby Extractor
- Capping Scratcher
- Heated Knife
- Double Strainer
- Bee Brush
- "J" Hive Tool

...and more!

*Call for a free 2015 catalog
to see complete list and pricing!*

Contact us!

BEELINE

APIARIES & WOODENWARE



Rochester, Washington:
360-280-5274 hjweaver@emypeople.net

Pueblo, Colorado:
719-250-4005 dwrightjoyceebey@gmail.com

Mendon, Michigan:
269-496-7001 Fax: 269-496-7005 beeline@abcmalbox.net

Dealerships Welcome! Call for information.

A HISTORY OF FEEDERS

A Look At A Few Of The Dozens That Have Patents

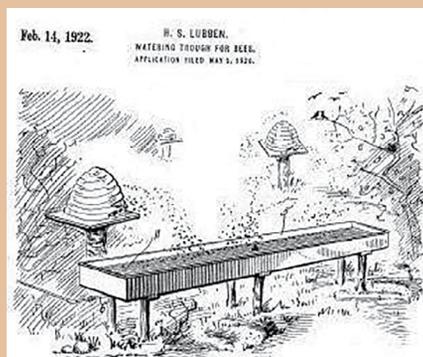
Jim Thompson

Many different types and styles of bee feeders have been used. There are open feeder stations, open feeders that have been used in and outside of a hive, entrance feeders, frame feeders, top feeders, feeders using a manifold system and feeders that use solid food. Even though I mention one type of feeder in a category, that doesn't mean that it is the only one of its type as there were 72 bee feeders that were patented in the United States.

What are the advantages and disadvantages of the different types of feeders? What mixtures and ingredients have been fed? When do you feed the bees? Why should bees be fed? Is there such a thing as an ideal feeder?

Open Feeding System – One of the early feeding systems was to provide an area where bees could be fed. It was usually in the center of the beeyard and permanently positioned. The structure could be filled with sugar syrup or honey so bees could gather it easily. Another feeding system was to have a large tray or trough where the bees could come and feed. Some of the troughs could be used as watering stations which was a better use for them rather than a feeder because bees need water for cooling purposes.

If sugar syrup was used in the trough, there was always the chance that it could be diluted or



contaminated by items falling into the trough. Open feeding is easier for a beekeeper as it cuts the time spent in filling several individual hive feeders. General feeding like this tends to cause bees to become robbers and sometimes they will visit other hives rather than the feeding station. It has been found that robber bees are more aggressive and that trait may be transferred to their home hives, where you will really notice the difference. When you analyze which bees are frequenting the feeder, the majority of the bees come from the stronger hives and usually not the hives that you need to bolster.

Open feeders – The open feeders were usually blocks of wood that had grooves in them and would hold liquid or solid feed. The feeders were known as the simplicity feeder, Gray simplicity feeder, Alexander Feeder, and miscellaneous other names. Some feeders were immediately outside of the entrance of the hive so the beekeeper could fill them easily, but in later models they were moved to be inside the hive going lengthwise, then across the hive or to the back of the hive and incorporated in the bottom board. A disadvantage of the

feeder was that bees could drown in the wide gaps of the feeder. Because the feeder was located at the bottom of the hive or immediately outside of the hive, the bees would have to break cluster in cold weather in order to feed. If the feeders were positioned inside of the hive, they were soon filled with debris. Many times the feeder had a portion exposed or an access hole in the hive, so they could be filled without disassembling the hive.



Gray Simplicity Feeder available in 1895



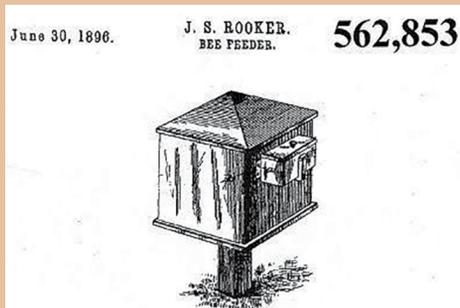
Alexander Feeder available in 1909



Alexander Feeder

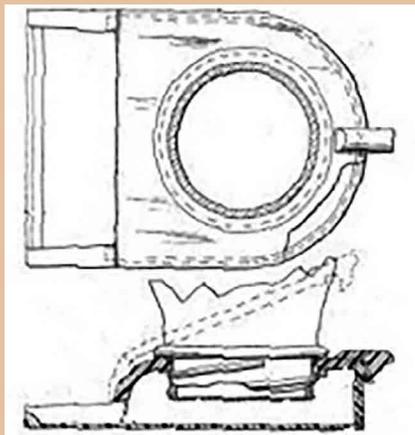


E.T. Cary Bottom Board Feeder July 23, 1907 860,852



Simplicity Feeder - was available in 1895

Entrance Feeder – The entrance feeder is one of the most common types of bee feeder and is the feeder that is included in most of the beekeeper starter kits. The reason that it is included is because it is simple to use and doesn't require any additional equipment except for the jar that fits the lid. You simply mix up the sugar syrup, put it in a jar, screw on the lid, and put the jar in the holder that is positioned in the front entrance.



J.W. Goble September 23, 1952
2,611,140



Wick Type Feeder

the elements by putting an empty super on the inner cover with the telescoping cover over the top. You can also increase the size of the feed jar from a quart to a half gallon jar. Some of the manufacturer's put six or seven holes in the lid, perhaps more holes could be put in the lid. However the holes must be small enough that you don't upset the cohesive and vacuum action of the syrup causing it to drip.

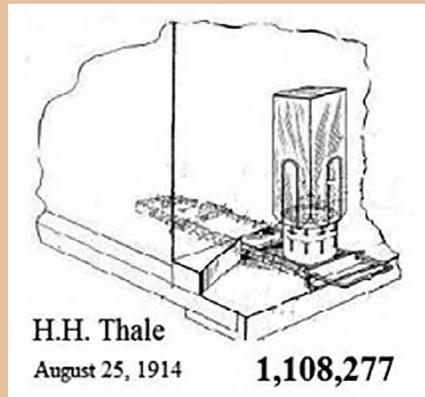
Another type of entrance feeder had the feed jar below the entrance of the hive. This improved the problem of water dripping into the hive, but you would have to have a wick placed in the jar so bees would not come in contact directly with the syrup in the jar and be trapped in the jar. In cold weather you would still have the cluster breaking problem and sometimes containers holding the syrup freeze and break. Thus for Winter feeding, one should consider feeding a solid food, such as dry sugar, or fondant.

A rather ingenious feeder was developed to attach to the rear of the hive and had a funnel arrangement into the hive and used the weight of the feeding pool to stop the syrup flow. It probably didn't catch on as it required some modifications to the super and would be difficult to load the syrup container without making a mess. It would also be hard to check the status of the bees with the feeder in place.

water:sugar, volume:volume) in the Spring for stimulating brood rearing and a thick syrup (1:1) in the Fall to help them with food stores for the Winter. Other beekeepers prefer to have thick syrup all the time. It also depends on your planned usage of the sugar, corn syrup, or fondant. Are you feeding a swarm, a package, trying to overcome some diseases, increasing food stores, or trying to get the hive to survive the Winter?

A problem with the entrance feeder is that since it is located outside of the hive, the bees would have to break cluster in cold weather to go down to get their food. If it rains during warm weather, water has a tendency to follow the jar down into the feeder and drip in the hive. If the hive is not setting level, you could have a syrup problem on the bottom board due to the leakage of the feeder. If medications are put in the jar with the syrup, they may be destroyed by the ultra-violet sun rays. The first type of entrance feeder used long feeder channels like the simplicity type feeder.

Eventually the feeders used a screw on cap that had small holes in it. This type of feeder was developed by H.C. Boardman of East Townsend, Ohio in the 1880s. His inspiration may have come from the France Pepper box feeder or the Hill feeder, which had shown successful top feeding results. Many changes have been made to the original design. There have been all plastic, one piece wood models, and a combination of wood and metal feeders. Essentially there is a perforated jar lid and a holder. You can improve the efficiency of this feeder by putting the jar and lid over the oblong hole of the inner cover and protecting the jar from



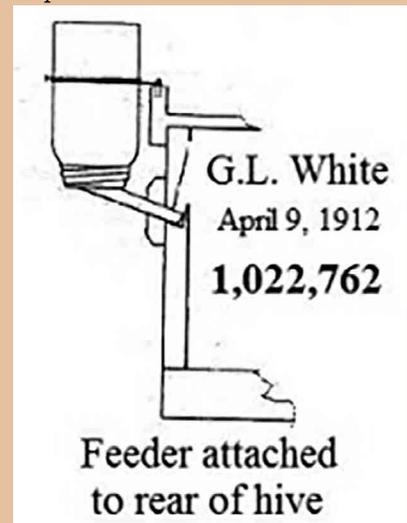
H.H. Thale
August 25, 1914 1,108,277



However there are some precautions. If the sugar syrup solution is too thick and not completely dissolved, it may settle and start to harden. Sometimes when the mixed sugar syrup sits around for periods of time it can spoil and grow mold. The question comes up, what is the proper water to sugar ratio? It won't take long to find out that this varies as to the beekeepers that you meet. Some beekeepers say that you will want thin syrup (2:1,



1,056,266
F. Danzenbaker
March 18, 1913



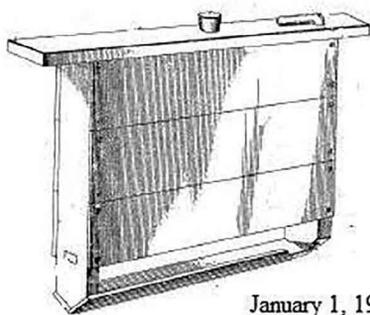
G.L. White
April 9, 1912
1,022,762

Feeder attached to rear of hive

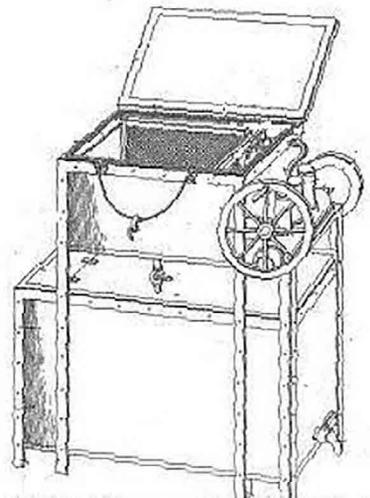


Boardman Entrance Feeder available in 1897 - held 2 Qt.

Frame Feeders – There are two types of frame feeders. The first type used the actual drawn out comb in the frame and the second is a trough the size of one or two frames that holds syrup. The honeycomb within a frame can be filled with syrup and the frame is placed in the hive right next to the winter cluster or against the side wall of the hive for a package feeding. The first attempts were quite messy as syrup ended up everywhere. However things seemed to get even worse as the frame filling machines were devised. In in the 1970s a plastic bag was available to slip the loaded frame into and with the bag was held in place with big red rubber bands and placed in the hive. Syrup still seemed to get everywhere. About the



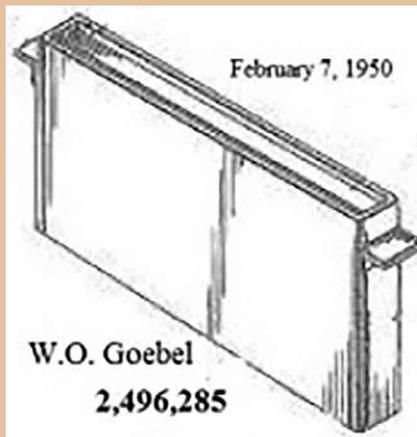
C.B. Saunders January 1, 1918
1,251,583



H.G. Gunn December 24, 1918
1,288,874
Frame Filling Machine

only good thing that one could say about using the frames as feeders was that the frames could be placed anywhere in the hive and the bees had access to syrup.

In 1980, the same idea was developed further, having a gasoline engine powering a pump so syrup could be sprayed into the cells and the frame set temporarily in a

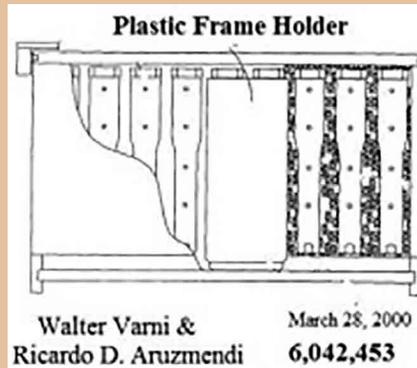


February 7, 1950
W.O. Goebel
2,496,285

recovery tank before being placed in the hive. Now you had a portable unit as long as it had big wheels. Don't give up on this system as one could do a similar feeding method with frames that are loaded with clean, safe honey that has been stored for this purpose and the mess problem disappears. Clean, safe honey means freedom from disease spores.



September 17, 1974
Donald A. Grigg
3,835,487



Plastic Frame Holder
Walter Varni & Ricardo D. Aruzmendi March 28, 2000
6,042,453

The other way of frame feeding is to use a trough in the shape of a frame that would hold syrup. They are easy to use. Simply install the frame where you want it, fill with syrup and close the hive. It was found that if you chose to put the frame feeder toward the center of the hive that you would have difficulty filling the feeder without spilling some syrup on the bees and interfering with the queen's brood area. So the feeders are usually placed next to the side wall of the hive. That procedure

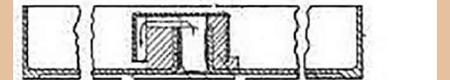
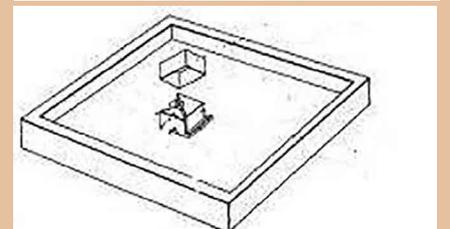
would not interfere with the cluster or brood rearing of the queen and if you spilled syrup, the bees could clean it up. You also learn quickly that a piece of wood should be placed inside of the feeder to act as a buoy for those bees that have lost their footing. If you made the feeders out of wood, a sealant that is non toxic to bees should be used to coat the inside of the feeder.

A variation of the frame feeder is a plastic frame holder that will hold one or two frames. This feeder would be manipulated like the plastic frame feeders except it holds frames allowing the bees a place to walk in the holder.

Top Feeders – Believe it or not, the top feeder is one of the older forms of feeders. Most of the changes have been in its design as to where the bees come up into the feeder. The very first ones had the entry near the front of the hive. Then a central point was selected and was used by many beekeepers, including C.C. Miller. The main feature of the C.C. Miller feeder was that there was a round piece of wood in the center of the feeder that had vertical holes for the bees to travel up into the feeder and a tin can confining their activity to the wood and syrup.

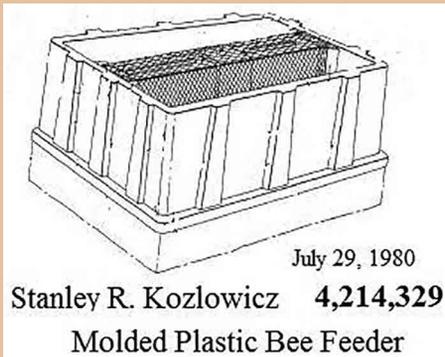


Mar. 28 1909
P. Miller, The Feeder.
88,058



A.C. Kehrle May 14, 1935
2,001,463

The Kehrle feeder of 1935 is similar, but with a square can. C.C. Miller later changed the bee entry point to be a longitudinal slot in the center of the hive. The Plastic hive top feeder of 1980 is similar in design. The only thing that I did not



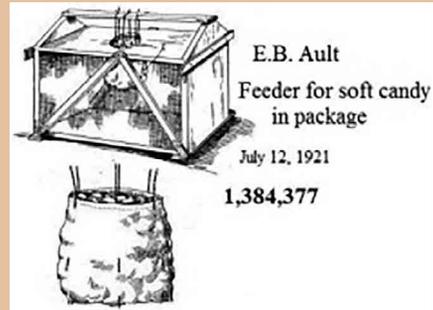
like about the 1980 feeder was that sometimes bees could wiggle in from the outside between the outer cover and the top of the feeder.

Homemade wood feeders are made syrup tight by coating the seams with a food grade sealant, beeswax, or paraffin. If you had a rectangular feeding area, you could line the entire tray with plastic similar to a garbage bag. The long central slot seems to be used by many bee supply companies and since the bees are allowed access to the syrup area wood floats are provided. Some top feeders do not prevent robber bees from entering the feeder from the outside causing a lot of confusion around the hive

Other top feeders could be gallon tin pail, plastic gallon buckets, and a multitude of other shaped and sizes of containers. If you make these containers into feeders, you may want to make a board that will punch the holes. I have found that you drive several small nails into and through a board so only the tapered end of the nail sticks out, you can punch several small holes at once without fear that the nails are driven in too far. Because the lid of the pail or bucket is flat and covers way more area than the oblong hole in the inner cover, two or three sticks should be placed under the container to allow the bee's access to the syrup. The top feeders are better because the feeder is closer to the cluster.

Package Feeders – Even though most package bees are fed today by a tin can that has either punched holes or a gauze feeding point, I wanted to mention that one of the predecessors of feeding can was candy in a sack. Feeding a package candy would solve the spillage problem. Candy today is usually fed to the queen while she is in the mailing cage. The formulation for the candy in 1893 was powered sugar and good thick honey.

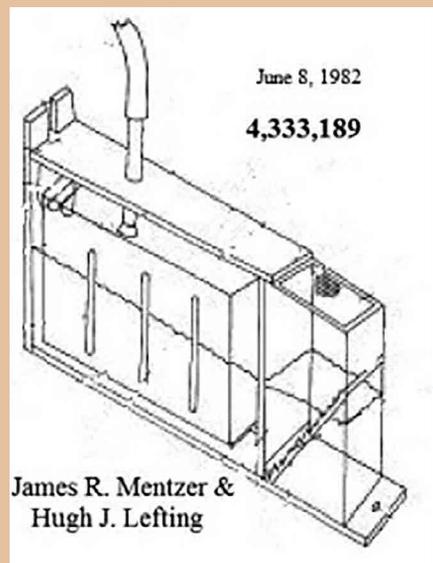
Later some beekeepers substituted marshmallows for the candy. However the current formulation is better for the bees.



Spray bottle – always assume that when you receive a package of bees that the feeder may be empty due to not being filled completely originally, rough handling by the delivery people, a long time in transit, or nervous and hungry bees. When you receive a package of bees, it is a good idea to spray them with sugar syrup as an insurance measure. The syrup is mixed, should be a very light amount of sugar to water ratio as a heavy amount of sugar will clog the nozzle. A heavier sugar mix could be used in a shaker bottle.

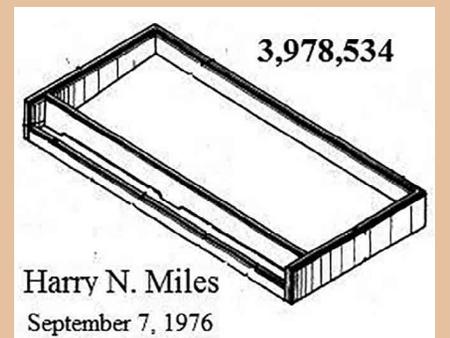
Sometimes I will use a spray bottle in lieu of my smoker when I work a hive because I never have to light it and it is ready to use in an instant. I must make sure that the syrup that I am using is freshly mixed as syrup that has been sitting around often ferments.

Feeders with the manifold system – For the beekeeper with many hives, there was a feeder invented so you could have a drum of syrup mounted above the level of



the hives or powered with a pump that would allow sugar syrup to run through a pipeline of flexible tubing to each hive. In the hive there would be a feeder that would have a shut off valve when the syrup reached a specified point. Therefore you could feed a whole yard and not have to come back for several days. It sounds good in theory, but accidents happen like animals stumbling into the tubing, shut off valves sticking, and hives tipping over. Since you aren't checking the hives often, it usually meant that the hive could experience problems.

Solid food feeders – The beekeeper may decide to feed his bees during the winter when the use of liquid syrup would freeze and break the containers. Therefore the options seem to be: 1) Placing a quantity of sugar around the oblong hole of the inner cover and covering with the lid. 2) Placing a solid sugar patty on the



top bars of the frames. If the space between the top bars and the cover is greater than 3/4", you may want to use a "feed" ring, which are four boards the size of the super and 2" deep. 3) Put on a feeder meant to hold solid food over the top bars. Usually the bees would have to develop moisture to help dissolve the solid foods. In the winter this could be hazardous to honey bees as they can take the cold but not the moisture. Some of the options for food other than pure sugar are: some of the corn syrups, Crisco patties, fondant, and health patties.

Of course the best feed for the bees would be some honey that is free from any diseases and placed on the hive in frames or by the super immediately over where the bees are located. The next choice would be pure sugar which according to A.I. Root in 1893 should be mixed at a rate of one gallon water to 20 pounds of sugar. This mixture should be

heated and mixed, with care to not burn.

In 1895, his recommendation was to use a high quality sugar which was better than brown or maple sugars and cheap molasses. I would imagine that he meant cane sugar over beet sugar because he was mentioning the sweetness of the sugar. If we look at the real differences the sugar content is the same the only difference is that in cane sugar the stalks are chopped and the plant grows again next year, while the beets are planted each year. The formulation changed in 1895 to equal parts sugar and water by measure. For large quantities of syrup, he advocated that you could mix it up in your extractor by adding the water first. However you could use a wash tub and a stick if you didn't want to use the extractor, but it would be more work stirring the syrup. For very small quantities, he still liked the hot water method. If you waited too long in the year to make the syrup, you could mix up a batch that had four parts sugar and three parts water.

Corn syrups have been used by beekeepers as a substitute for feeding bees as it is cheaper than sugar when one purchases it in quantity. It has been thought that the corn syrup may have developed toxicity to honey bees when it was being processed.

Crisco patties are made by mixing solid vegetable oil and sugar. Not only is it a food source, it is used to help in the tracheal mite problem. I would not recommend adding medications to the mix as some of the medications are not effective in the patty.

Fondant is usually obtained from bakeries as they use it in frostings. However if you would decide to make it, it is a mixture of four parts white sugar by volume, three parts high fructose corn syrup and three parts water. You could put it into plastic bags and slit the bags for bee access when you place the bag on the top bars.

The Ideal Feeder – One day I was talking to Vladmir Shaparew and he mentioned that he had developed a feeder that was better than any on the market. I believe that the reason that he didn't want to reveal all of the details of the feeder was that he had not worked up the patent for it yet. He was the individual that held five patents, two of which are very

well known. (The conical bee escape board and the pollen trap which was the forerunner of the Sundance Pollen Trap.)

We will never get to see his prototype feeder, but perhaps someone might design something close to what he had. It would have to be a top feeder so that it would be easy to fill and the bees would have access to it without having to break winter cluster. It should be large enough to hold two and a half gallons of syrup at one feeding because the bees could take that much in two days. The most important point was the bees must have plenty of access to the syrup. They should not have to wait in line or pile up trying to get the syrup. There should be no way that bees could rob the feeder from the outside.

In conclusion, the type of feeder that you use depends upon how many hives you plan to feed as some of the individual feeders get to be quite expensive. It also depends upon your reason that you choose to feed the bees. A package of bees must be fed until they develop enough numbers to forage on their own. Usually that is a period of at least a month or when the new brood is emerging. Some beekeepers suggest that a package should be fed until one or two deep supers are filled as your goal is to get the Spring package ready to survive the Winter. Some diseases need feeding to overcome stress and a short period of two to three weeks is usually sufficient. If you are feeding the bees while in a queen rearing operation, you should feed them for the entire time that the operation is being done. Winter feeding depends upon your location, but if you check your hives in late January and find that they are at the top of the frames in the upper-most super, they need feed immediately as they are out of food. **BC**

References:

A.I. Root, *Various Years of Bee Supply Catalogs, starting in 1893.*
Various U.S. Patents

If you want to read more about beekeeping patents please visit www.BeeCulture.com in the near future for Jim's entire list. Click on Thompson Files.



Big Island Queens Olivarez Honey Bees/Big Island Queens is seeking motivated beekeepers to join our Hawaii team! Experience preferred. Self-motivator and ability to work in a team environment a plus. Positions are full time, salary based on experience. Great Benefits Package. Prior work history and references required. Advancement opportunities available. Submit resume to info@ohbees.com or Olivarez Honey Bees Inc/Big Island Queens, P O Box 847 Orland Ca 95963, Fax: 530-865-5570, Phone 530-865-0298

VELAZQUEZ



APIARIES

Queens

Cordovan Italian and Carniolan Queens

From Northern California
To order go to: vapiaries.com or call 530.701.7244
velazquezapiaries@gmail.com
Hablamos Español
Visa or Mastercard accepted



SELBY APIARIES

CHICO, CALIFORNIA

URBAN BEEKEEPERS AND GARDENERS!

Mini-Hive Garden Pollinator Italian & Carniolan Queens Available Package/Bulk Bees

NOW ACCEPTING ORDERS - CALL TODAY!

Toll Free:
1-855-374-6639 selbyapiaries.com

OTS QUEEN REARING:
A Survival Guide For Beekeepers Worldwide©
(a.k.a. On-The-Spot Notching)
www.mdasplitter.com



Send \$49.99 + \$5.60 (U.S.) or \$25 (Int'l)
To: International Mating Nuc, Inc.
P.O. Box 9552, Wyoming, MI 49509

INTERNATIONAL MATING NUC, INC © 2014

We're here to serve **YOU** ...
all year long!

FRAMES

TOOLS

Miller BEE SUPPLY

888.848.5184

496 Yellow Banks Rd.

N. Wilkesboro, NC 28659

info@millerbeesupply.com

Improved formula eliminates sticking!

Patties Contain **CRUDE 20% PROTEIN**

NOW WITH PROBIOTICS



- Increased brood production!
- Healthier, stronger bees!
- Complete amino acid profile.

Dry Feed Contains **CRUDE 60% PROTEIN**



ULTRA BEE PATTIES

FD-375 Ultra Bee Patties 40 lb box	
1-3 boxes	\$85.95 per box
4-10 boxes	\$80.95 per box
11-39 boxes	\$74.95 per box
40+ boxes	\$69.95 per box
FD-376 Ultra Bee Patties	
2100 lb pallet.....	\$3295.95

Field testing proves Ultra Bee is comparable to natural pollen!
IT'S THE GOLD STANDARD OF BEE FEED

ULTRA BEE DRY FEED

FD-211 Ultra Bee Dry 50 lb bag	
1-3 bags	\$89.95 per bag
4-10 bags	\$85.95 per bag
11-39 bags	\$80.95 per bag
40-159 bags	\$77.95 per bag
160+ bags	\$73.95 per bag
FD-212 Ultra Bee Dry	
1500 lb tote	\$1745.00

Pro-Sweet Liquid Sugar Blends

- Pro-Sweet has both binomial and monomial sugars which stimulate the bees and help them put on weight
- Won't crystallize or ferment like sugar water
- Custom bee blend that's ready to feed



Delivery available in 1/2 loads or full truck loads only - 24,000 lbs. up to 52,000 lbs.

MANN LAKE
WE KNOW BEES
An Employee Owned Company

800-880-7694
www.mannlakeltd.com



Call for pricing and availability at our locations:

- Hackensack, MN
- Woodland, CA
- Wilkes-Barre, PA
- Hughson, CA
- Bakersfield, CA

*Free shipping applies to most orders over \$100 shipped within the lower 48 states. Prices and shipping offer are subject to change at any time.

Quality & Service Since 1907

Queens
Italians &
Carniolans

**C.
F.**

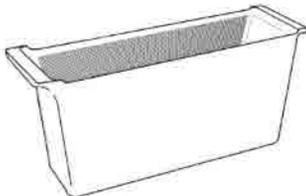


Packages
All sized orders
for pickup

ph. (530) 891-5216
www.koehnen.com

fax (530) 934-2613
bees@koehnen.com

3131 Highway 45 Glenn, CA 95943



All New! 2 Gallon / 2 Frame Feeders for 9 $\frac{5}{8}$ " Hives

1-9 = \$ 3.10/ea
10-559 = \$ 2.90/ea
560+ = \$ 2.80/ea

Same Great Quality as our
Deep Feeders!
35 per case/560 per pallet



In-Hive Feeders
9 $\frac{5}{8}$ " or 6 $\frac{5}{8}$ "

1-9 \$2.60/ea
10-799 \$2.40/ea
800+ \$2.30/ea



Cap n Ladders
9 $\frac{5}{8}$ " or 6 $\frac{5}{8}$ "

1-9 \$1.55/ea
10-799 \$1.40/ea
800+ \$1.30/ea

Polypropylene Hive Bodies



9 $\frac{5}{8}$ " with
Insulation Panels



9 $\frac{5}{8}$ " without
Insulation Panels



6 $\frac{5}{8}$ " without
Insulation Panels

- UV Stabilized Polypropylene
- Snaps together in under a minute
- No Painting / Nailing / Gluing
- Insect and Water resistant
- Insulation comparable to wood with Insulation Panels

Pricing:	1-4	5-99	100+
9 $\frac{5}{8}$ " with Insulation Panels	\$21.50	\$20.00	\$19.00
9 $\frac{5}{8}$ " w/o Insulation Panels	\$16.75	\$15.25	\$14.25
6 $\frac{5}{8}$ " w/o Insulation Panels	\$14.50	\$13.50	\$13.00

Everything we sell is Made in U.S.A.



Mother Lode Products

15031 Camage Ave.
Sonora, CA 95370
Ph: (800) 657-9876
Fax: (209) 532-5917

Order online at: www.motherlodeproducts.com

AVOID TANK MIXING INSECTICIDES WITH FUNGICIDES

Not all fungal diseases can be controlled by fungicides.

Michele Colopy

Fungicides (according to the Merriam-Webster dictionary pronounced \ fən-jə-,sɪd, **or** fən-jə- \) are used to combat fungi. “Fungicides are used to control disease during the initial development of the plant; to reduce blemishes on plants, and improve the storage life and quality of the harvested crop.” Not all fungal diseases can be controlled by fungicides including vascular plant diseases. When used properly, fungicides only protect from a new infection, they do not generally “cure” a current fungus. “Curative” fungicides tend to “have a higher risk of pathogens developing resistance to the fungicide.”² In an Integrated Pest Management program, an “economic threshold is used to determine when fungicide treatment is needed.”³ “Coverage of all parts of the plant susceptible to the disease is critical because very few fungicides can move adequately throughout a plant. For many diseases, effective control necessitates multiple applications of fungicides, sometimes as frequently as every five days. Repeated applications are needed to protect new growth and to replace fungicide lost from the plant by chemical decomposition, UV-light degradation, and erosion by wind and water.”⁴

Fungicides are “applied to:

1. Seed, bulbs, roots of transplants, and other propagative organs.
2. Soil either in-furrow at planting, after planting as a soil drench (including through drip irrigation), or as a directed spray around the base of the plant.
3. Foliage and other aboveground parts of plants by means of a sprayer.
4. Inside of trees via trunk injection.
5. Air in enclosed areas such as greenhouses and covered soil
6. Harvested produce, as a dip or spray in the packinghouse.”⁵

“Fungicides kill fungi by damaging their cell membranes, inactivating critical enzymes or proteins, or by interfering with key processes such as energy production or respiration. Others impact specific metabolic pathways such as the production of sterols or chitin.”⁶

At the end of almond bloom last year many colonies suffered due to a tank mix in some orchards. Last year the main culprit was a tank mix which included a fungicide. The Almond Board BMPs for growers advises “*Avoid applying insecticides during almond bloom until more is known, particularly about their impact on bee brood (young developing bees in the hive). If treatment is necessary, only apply fungicides and **avoid tank-mixing insecticides with fungicides.***”⁷ (Almond Board’s emphasis). They continue to advise, “***Any fungicide application deemed necessary during bloom should occur in the late***

afternoon or evening when bees and pollen are not present. This timing avoids contaminating pollen with spray materials.”⁸ (Again, the bold-faced type is the Almond Board’s emphasis.) These guidelines, however, are still “Best Management Practices,” and in the end are voluntary guidelines.

Fungicides are often *viewed* as relatively nontoxic to honey bees, however research has found “an increased probability of Nosema infection in bees that ate pollen with a higher fungicide load.”⁹ In one study, researchers found 35 different pesticides in the pollen samples all with high fungicide loads. Other research detected “121 different pesticides and metabolites within 887 wax, pollen, bee and associated hive samples. Almost 60% of the 259 wax and 350 pollen samples contained at least one systemic pesticide, and over 47% had both in-hive acaricides fluralinate and coumaphos, and chlorothalonil, a widely-used fungicide. In bee pollen were found chlorothalonil at levels up to 99 ppm and the insecticides aldicarb, carbaryl, chlorpyrifos and imidacloprid, fungicides boscalid, captan and myclobutanil, and herbicide pendimethalin at 1 ppm levels.”¹⁰ In the study, *Four Common Pesticides, Their Mixtures and a Formulation Solvent in the Hive Environment Have High Oral Toxicity to Honey Bee Larvae* found “chronic dietary exposure to a fungicide, pesticide mixtures, and a formulation solvent have the potential to impact honey bee populations, and warrants further investigation. We suggest that pesticide mixtures in pollen be evaluated by adding their toxicities together, until complete data on interactions can be accumulated.”¹¹

“Fungicides may enter the hive when applied to nearby flowering crops. Acaricides, antimicrobial drugs and fungicides are not highly toxic to bees alone, but in combination there is potential for heightened toxicity due to interactive effects.”¹² “Laboratory bioassays based on mortality rates in adult worker bees demonstrated interactive effects among acaricides, as well as between acaricides and antimicrobial drugs and between acaricides and fungicides.”¹³ “The sterol biosynthesis inhibiting (SBI) fungicide prochloraz elevated the toxicity of the acaricides tau-fluvalinate, coumaphos and fenpyroximate, likely through inhibition of detoxicative cytochrome P450 monooxygenase activity. Four other SBI fungicides increased the toxicity of tau-fluvalinate in a dose-dependent manner, although possible evidence of P450 induction was observed at the lowest fungicide doses.”¹⁴

“Some fungicides are demonstrably toxic to bee larvae. Exposure of larvae to pollen containing Captan®, Ziram®, or iprodione led to 100 percent mortality (Alarcón 2009). Fungicides may also have synergistic effects when combined with other pesticides, or miticides applied by the beekeeper, making either more toxic to the bees.”¹⁵

“Interactions with acaricides in honey bees are similar to drug interactions in other animals in that P450-mediated detoxication appears to play an important role. Evidence of non-transitivity, year-to-year variation and induction of detoxication enzymes indicates that pesticide interactions in bees may be as complex as drug interactions in mammals.”¹⁶ “A scary thing about fungicide contamination is that there may be a delayed effect – one may not notice problems until the bees dig back into stored pollen months after exposure!”¹⁷ “When bees ferment pollen into beebread, they count on the right microbes to do the job. Honey bees have a long evolutionary involvement with beneficial symbiotic bacteria and fungi, and several of them appear to be associated with the health and nutrition of colonies. When a fungicide (or possibly an antibiotic) is inadvertently added to the pollen, we simply do not know whether the “normal” fermentation process will take place, or whether the chemicals will allow toxin-producing microbes to thrive. The entombment of pollen may simply be the way that bees deal with beebread “gone bad” so that the nurse bees don’t suffer from “food poisoning.”¹⁸

The Pollinator Stewardship Council continues to encourage additional research on the effects of tank-mixing of pesticides. Academic researchers have also expressed the need for this research. Our honey bees and native pollinators, are not experiencing just one pesticide: research needs to examine the **real-world experience and effects** of pesticides upon pollinators.

Research needs to:

- Expand the testing of insecticides that are the targets of most current research to ALL insecticides;
- Test pre-lethal effects of pesticides;
- Review the modes of action of pesticides;
- Look at additive and synergistic effects between multiple pesticides;
- Examine the lethal and pre-lethal effects of fungicides on honey bees; and,
- Research the “pesticide-pesticide and pesticide-disease synergistic effects.”

Pesticides are registered by the Environmental Protection Agency based on a single active ingredient. *Tank mixes of pesticides are not reviewed/approved/regulated/monitored by EPA at the federal or state level. Dead honey bees (brood, adults, queen) are most often the result of additive and synergistic effects of pesticides. The economic benefit of tank-mixing to make one application of pesticides in the field, may cause an economic **loss** to the beekeeper. This is the “additive” effect of tank mixes upon commercial beekeepers.* **BC**

Resources:

¹What are Fungicides?, McGrath, M.T. 2004. *The Plant Health Instructor*. DOI: 10.1094/PHI-I-2004-0825-01

²Ibid.

³Ibid.

⁴Ibid.

⁵Ibid.

⁶Ibid.

⁷Honey Bee Best Management Practices Quick Guide for Almonds, 2014 Almond Board of California, www.Almonds.com/BeeBMPs

⁸Ibid.

⁹Crop pollination exposes honey bees to pesticides which

alters their susceptibility to the gut pathogen *Nosema ceranae*, http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=293497

¹⁰High Levels of Miticides and Agrochemicals in North American Apiaries: Implications for Honey Bee Health, www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0009754

¹¹Four Common Pesticides, Their Mixtures and a Formulation Solvent in the Hive Environment Have High Oral Toxicity to Honey Bee Larvae, www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0077547

¹²Acaricide, Fungicide and Drug Interactions in Honey Bees (*Apis mellifera*), <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0054092>

¹³Ibid.

¹⁴Ibid.

¹⁵Fungicides, <http://scientificbeekeeping.com/the-future-pesticides-and-fungicides/>

¹⁶Acaricide, Fungicide and Drug Interactions in Honey Bees (*Apis mellifera*), www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0054092

¹⁷Fungicides, <http://scientificbeekeeping.com/the-future-pesticides-and-fungicides/>

¹⁸Ibid.

Additional resources:

Fungicide Resistance Action Committee (FRAC) (<http://www.frac.info/frac/index.htm>)

Appendix II of a US Environmental Protection Agency (EPA) document (www.epa.gov/oppmsd1/PR_Notices/pr2001-5.pdf)

Fungicide chemical information can be found at www.pesticideinfo.org.

How to Reduce Bee Poisoning From Pesticides http://pesticidestewardship.org/PollinatorProtection/Documents/How%20to%20Reduce%20Bee%20Poisoning%20from%20Pesticides_PNW.pdf

ITA
We Care for your Bees

healthybeeguide.com

A new smartphone web app from Vita to give beekeepers easy mobile access to information about keeping healthy honeybee colonies.

Vita (Europe) Limited, Vita House, London Street, Basingstoke, Hampshire, RG21 7PG, United Kingdom. www.vita-europe.com

R WEAVER APIARIES Since 1888

R WEAVER APIARIES
SINCE 1888

Feb. 15, 2013 rickpatrickphotography.com

ORDER NOW FOR 2015 SHIPPING

**FAMOUS QUEENS
AND PACKAGE BEES**

**WEAVER BUCKFAST
and ALL-AMERICAN (ITALIAN)**

QUEEN BEES

3# PACKAGE OF BEES w/QUEEN

**4-FRAME NUCS WITH FEEDER
(PICK-UP ONLY)**

BEEKEEPING SUPPLIES

ASSEMBLED BEGINNER'S KITS

**WE HAVE EVERYTHING
YOU NEED FOR KEEPING BEES!!**

www.rweaver.com

Email: rweaver@rweaver.com

Phone: 936.825.2333

Fax: 936.825.3642

16495 CR 319, Navasota, TX 77868



If Nosema is a problem, Fumagilin-B is the solution

- ▶ **Non-toxic to bees** — 75-fold safety margin
- ▶ **No residue** — when used as directed
- ▶ **Cost effective** — reduces expensive colony replacement

Available from your beekeeping supplies dealer



Medivet Pharmaceuticals Ltd., High River, Alberta, Canada, T1V 1E6
403.652.4441 — www.medivet.ca

CONVERSATIONS WITH A UKRAINE BEEKEEPER

Tom Rearick

One of the benefits of writing a bee blog is that I also get to meet interesting people from around the world. I recently started a dialog with Oleg Sadovskij, a Ukrainian beekeeper, a honey exporter, and manager of TORENT-TRADE Ltd. In Ukraine. I was curious about Ukraine because it is in the top five list of page visits by country to my blog (after US, Great Britain, France, & China).

Americans have heard a lot about Ukraine in the news this year yet few realize the long history and loyal compassion Ukrainians have for honey and the honey bee. There are about 400,000 beekeepers in Ukraine or 1 beekeeper for every 107 Ukrainians. In the U.S., that ratio is 1 in 1500! Ukraine is the largest producer of honey among European countries and Russia. On average, a Ukrainian consumes 2.6 lbs of honey annually – double what is consumed in the United States. In 1815 the Ukrainian Peter Prokopovich invented the movable-frame beehive though the American Langstroth discovered bee space which made his 1852 patent for movable frames much more practical. If you are a beekeeper or if you just like honey, then you will find Ukraine a very bee friendly place.

Here are some excerpts from our exchange.

Tom: In addition to being an exporter, you said that you are also a beekeeper. How many hives do you keep? Does your family help? Do you use other products of the hive like wax, propolis, or pollen?

Oleg: I have a couple of hives, but as a hobby, because I have little free time. I do not even have time to take them to the apiary in the field. There are acacia trees, a meadow and even gardens not far from my house. By the way, there are 90 houses in my street and the owners of four houses have small apiaries (from 10 to 25 hives). However, do not think that it is so everywhere. It is rather a coincidence.

My main occupation is the cooperation with

beekeepers and honey export. I work as a manager. I am worried about the problem of this sector on the whole. So, I will answer the questions more professionally as a manager, not as an experienced beekeeper.

Tom: Do you use other products of the hive like wax, propolis, or pollen?

Oleg: Yes, propolis helps perfectly in case of toothache and I also make tinctures with propolis for applications. In Winter time I sometimes take one tablespoon of pollen on an empty stomach in the morning.

Tom: How does the cost of white sugar and corn syrup compare to honey?

Oleg: Corn syrup is not popular in our country, it is almost not used. Retail price for beet sugar is 12 UAH/kg [US\$2.05/lb]. Retail price for honey (motley grass honey) is from 50 UAH/kg [US\$8.53/lb].

Tom: My guess is that Ukrainians are much more knowledgeable and familiar with bees and beekeeping. Is that true?

Oleg: Beekeeping is much developed in Ukraine, in spite of the fact that there are no large companies in Ukraine that breed bees and harvest honey. However, there are many small apiaries and they cover the whole territory of Ukraine. There are about 400,000

beekeepers in Ukraine, with the total population of about 43 million. All these people do their best to get about 76,000 tons of honey per year. There is a great variety of honey produced by bees. Each honey has its own properties, taste and benefits.

Tom: We have a huge problem in the U.S. with introduced bee diseases: *Varroa* mite, various viruses and micro-organisms, wax moth & hive beetle. Our

Photo – Oleg Sadovskij in a “TORENT-TRADE” Ltd beeyard. Image used by permission. Copyright “TORENT-TRADE” Ltd.



winter losses have been averaging around 30% for the last several years. What pests or predators are of greatest concern in Ukraine? What are typical winter losses there?

Oleg: Yes, unfortunately, this problem is also typical for Ukraine, our Winter losses are up to 10%. For example, one beekeeper lost three of 100 bee families this Winter. The most frequently met pests are wax moths, ants, death's head hawkmoths (they got this name because of a "skull" pattern on the top of their thorax), and rodents (mice).

Tom: Italian bees are probably the most popular race of bee in the U.S. I have been importing Russians because they are said to be more tolerant to *Varroa*. What can you tell me about the race of bees in Ukraine?

Oleg: Carpathian bees and Ukrainian steppe bees are the most popular races in Ukraine. I have Carpathian bees (they are called "peaceful" bees).

Tom: In the U.S., nearly all our honey is in liquid form. The honey in the picture looks like partially crystallized honey. I've heard that most honey in eastern Europe is thick and creamy like that. Is that correct?

Oleg: Yes, that is correct. Our honey is mainly in crystallized or paste like, but acacia honey and linden honey are liquid.

Tom: Ukraine is where the 1986 Chernobyl nuclear accident occurred. How do beekeepers or exporters ensure that honey is not radioactive?

Oleg: Radiological control is obligatory during the quality assessment of the Ukrainian honey. The indices of this analysis meet requirements of EU countries and the United States. Certainly, the beekeepers do not move their bees to the "dangerous" zone.

Tom: Finally, Oleg, is there anything you would like to say to beekeepers in the United States?

Oleg: I wish you success in work, favorable weather for good honey collection, success in the fight with bee pests and close communication with beekeepers from other countries for sharing the experience.

Oleg's company, TORENT-TRADE Ltd., has an informative website at www.honey-export.com. **BC**

Tom Rearick is a UGA-certified Master Beekeeper and a member of the Metro Atlanta Beekeepers Association. His BeeHacker blog (beehacker.com), is a cross-pollination of technology and beekeeping.



Testing bulk honey. Image used by permission. Copyright "TORENT-TRADE" Ltd.

Z SPECIALTY FOOD, LLC

Moon Shine Trading Co. & Island of the Moon

WE BUY, SELL
AND PACK:

Natural & Varietal
U.S. Honeys
Round Comb Honey
Fresh Bee Pollen
Retail • Wholesale • Bulk
Custom Packing



Contact us:

tasty@zspecialtyfood.com
www.zspecialtyfood.com
800-678-1226

Visit us and send samples
to our home:
1250-A Harter Ave.
Woodland, CA 95776

Z Specialty is a small, family run packer of honey and other tasty treats.
We'd love to meet & speak with you!

Buying and Selling Honey from America's Beekeepers since 1979!

**"...increased probability of
Nosema infection in bees
that consumed pollen with a
higher fungicide load. . ."
Exposure to fungicides
makes "bees more sensitive
to acaricides. . ."**

Crop Pollination Exposes Honey Bees to
Pesticides Which Alters Their Susceptibility
to the Gut Pathogen *Nosema ceranae*
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0070182>



**We are beekeepers
working for beekeepers.**



**Support our work!
Make a donation today!**

Pollinator Stewardship Council
P.O. Box 304, Perkinston, MS 39573
www.pollinatorstewardship.org
832-727-9492

ALL THE BUZZZZ in...

Hello Friends,

I can't  to  without you.
Bee My Valentine.

Bee B. Queen

Bee B. Queen Challenge

Send me a poem by February 10 for the April Kids Page.

Amanda Hess, TX

Not Robbing Bees... Robbing BEARS!

By Bear Nikitchyuk

We arrived at the bee yard for our September Wannabees meeting. There was a surprise!

Most of the hives everywhere were knocked over. A giant cloud of angry bees was flying around. Everyone had to put on a veil even if you weren't near a hive. A bear attacked the bee yard. Mr. Bob said it looked like it happened just the day before.

Luckily the bear didn't touch the Wannabee hives. We did our hive checks and fed our bees. Everyone went home but me and Mr. Michael. Together we fixed more hives and he taught me how to catch queens. We dropped two but finally got one in a cage.



Bear and his papa connecting wires to the newly-installed fence.

Guest writer, Bear Nikitchyuk is a ten year old member of the Wannabees, a kids bee club in Connecticut.

After the hives were put back together, it was amazing how quickly the bees calmed down. But the bees weren't safe. The bear knows where to find them now. We need a fence!

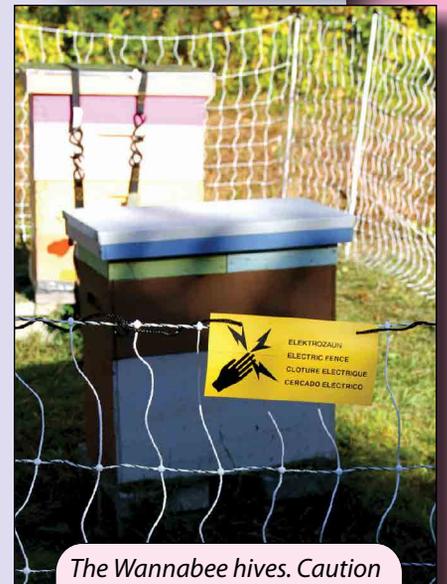
A few weeks later we returned to the bee yard to set up electric fences around the hives. The bear had been back again.

We measured and planned the fence before putting it in. I hammered a long spike into the ground to make the "ground" for the electricity. The sun will shine on the solar panels to charge a battery that will power the fence. We connected the solar panel to the ground spike and to the fence and turned it on. We did not touch it to test!

Mr. Michael said the bear has come four times. Maybe next time will be his last! (Isn't it funny that a kid named Bear gets to clean up after a real bear?!)



Bear and Michael Lund restocking hives and cleaning up after a bear attack at the bee yard.



The Wannabee hives. Caution Electric Fence! Try it now, bear!

... Bee kid's corner

Carlene, 7, CA



Samuel Garrett, PA

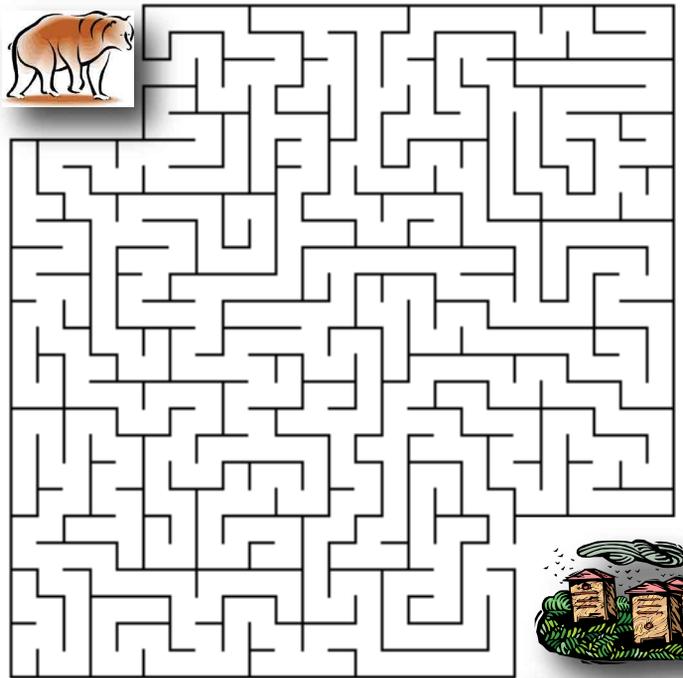
Produced by Kim Lehman - www.kim.lehman.com

www.beeculture.com

February 2015

Bear Search

Once a bear finds a beehive, it will continue going back to that place.



Bee Mine

Make Valentines for all your friends.

1. Cut six hearts all the same size: two yellow, one black and two red.
2. Glue the yellow and black hearts together in a staggered stack. That is the body.
3. Glue the red hearts on the back for wings.
4. Make antennae's using chenille sticks or paper.
5. Write a special message, give them to your friends and pass the joy around!



What do you call bears with no ears?

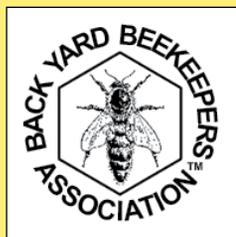


Saving My Tomorrow

Just because you are a kid does not mean you are limited in what you can do. You are amazing! HBO and the American Museum of Natural History have partnered together to present a four part documentary about what kids are doing to protect the earth. "Saving My Tomorrow" will start airing on Earth Day, April 22. Guess what? Bear Nikitchyuk, a Bee Buddy, will be a part of this series! Let us know what things you or someone you know are doing to make a better family, school, community or world.

Who are the Wannabees?

The Back Yard Beekeepers Association in Connecticut had kids who wanted activities just for themselves. Adults stepped in and helped to make that happen. How great is that? There are about 22 kids that meet every month. They have done all kinds of cool things like looking at pollen under a microscope, wax workshops, field trips, building nucs, chemistry experiments comparing sugars, and making the anatomy of a bee using recycled materials. Kids write articles for the BYBA newsletter. Maybe you and your friends can start your own bee club in your community!



Become a Bee Buddy

Send two self addressed stamped envelopes and the following information to:
Bee Buddies, PO Box 2743,
Austin, TX 78768.

Name
Address
Age
Birthday Month
E-mail (optional)



We will send you a membership card, a prize and a birthday surprise!

Send all questions, photos and artwork to: beebuddies@hotmail.com or mail to the above address.

HIVE TRACKS PART 2

James Wilkes

Introduction

Has this happened to you? You think it is about time to take a look at your bees; your internal bee alarm says it has been long enough since the last inspection to warrant getting in the hive again. You open up the hive, and they are a little noisier than usual and they are not boiling out of the top super like you were expecting given the current nectar flow. Your mind starts processing this input and given your knowledge of beekeeping, immediately you suspect something is amiss and continue your inspection. Digging further down in the hive you notice the bee numbers are much lower than expected and there are more drones than you like to see. As you reach the brood area it is becoming more and more clear that your hive is probably queenless or maybe they swarmed. At this point a vague memory comes into your mind about the last time you inspected this hive – it did not seem exactly right then even though you saw lots of bees and capped brood. Did you see the queen or eggs? You can't remember. Back then you made a mental note that this hive needed to be monitored a little more closely, but as soon as you went to the next hive or the phone rang or you got stung on your finger, that mental note vanished until now, when the situation is much more challenging than if you had only remembered to follow up sooner. This has happened to me more times than I like to admit!

Knowing your bees is an essential component of successful and satisfying beekeeping. Knowing your bees includes understanding the current condition of your hive (use the word “colony” if you prefer) as well as remembering what the condition was last week, last month, last year, etc. Most of the beekeeping “know how” we strive for and accumulate as beekeepers is centered around observing a hive at varying levels of detail, making an assessment of its condition based on those observations, and choosing what to do or not to do based on that assessment. We read books, take classes, watch videos, talk to beekeepers, join online forums and of course, look at our hives. If you are diligent, it doesn't take too long as a beekeeper before you can do a decent job of evaluating the basic current condition of a hive. However, as the opening story suggests, to be a successful beekeeper who stays ahead of and on top of the challenges of modern beekeeping, one must consider more than just the current condition of a hive in making hive management decisions. The history of the hive is equally important as is the context in which your bees live, things like weather, hive configuration, yard location including the forage environment and sun exposure, and even the



purpose of the hive, pollination, honey production, or simply backyard enjoyment.

Hive Tracks was designed and created to help you know your bees in the fullest sense as described above. By recording your observations, assessments, and actions, you will be equipped with the information you need to be a better beekeeper and you will enjoy greater satisfaction from your beekeeping by managing healthy and productive honey bee colonies. The remainder of this article provides an overview of the many helpful features of Hive Tracks, but the best way to evaluate it is to create an account and try it yourself!

Overview

Hive Tracks is software designed for beekeepers. It is a web application, which simply means you can access the Hive Tracks software through a web address, hivetracks.com, using any internet enabled device including smart phones, tablets, laptops, and desktops. Hive Tracks target beekeeper is the backyard and small sideliner, with active development of versions for larger sideliner and commercial beekeepers as well as bee researchers, bee producers, and queen producers and breeders. Hive Tracks provides an online platform for organizing information and data about your beekeeping endeavors and is organized in the same way you keep your bees. You have bee yards and within yards you have hives and for each hive you have a long list of characteristics and data about that hive. The system is not hard to understand

because it reflects what you are already used to as a beekeeper.

Yard View

All beekeepers have one or more beeyards, locations where their bees reside. Hive Tracks users can create any number of bee yards. The “My Yards” page is one of the most popular ways to view the information in your account because it gives a high level summary of each yard in the system including the number of hives in the yard, the current weather, honey harvested, and average hive strength. Each beeyard location is based on an address and/or GPS coordinates. Characteristics of each yard can also be recorded, such as sun exposure, forage environment (agriculture vs. natural vs. urban), and purpose (pollination, honey production, home base, etc.). The location of each yard is marked by an icon on a google map (more on this later) that is private to the owner of the account. There is an option for a user to choose to show their yard location on a global map viewable by the Hive Tracks community of users. Interestingly, about 25% of the yards in the Hive Tracks system have been shared to the global map.

Hive View

Since the focal point for any beekeeper is the health and productivity of each colony, the bulk of information and data in Hive Tracks revolves around the hives, hence the name! The most basic information about a hive is a way to identify it, either a name you give it or a number, and its location. The simplest way to get this identifier on the hive out in the field is to write the name or number on the hive. Each hive also has a QR code associated with it if you want to be fancy and put the code on the hive and scan it with your phone. Additional information includes the original source of the bees in the hive, type of equipment used including the hive hardware configuration with a neat editor to configure the hive, queen information (age, marked?, clipped?, breed, description), and a beekeeper selected hive strength (we are working on making this a calculated value based on data). Within the Hive Tracks system, each hive is regarded as active or inactive with inactive hives serving as an archive of any hives that have been sold or given away or combined with other hives or died including the reason for death. The active/inactive state is useful for tracking seasonal losses.



Inspections

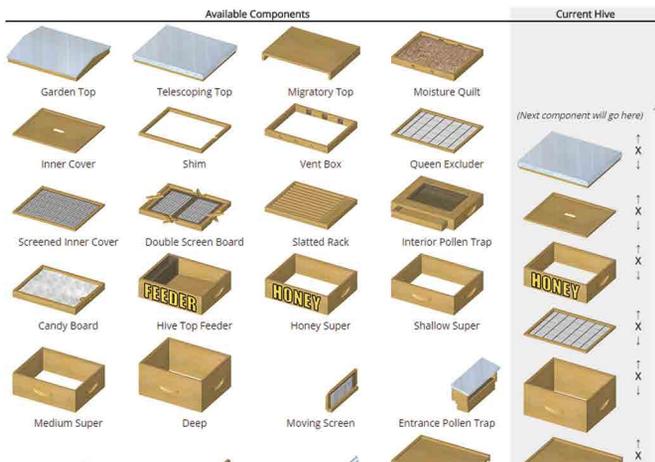
The heart of the Hive Tracks system is the ability to record observations, assessments, and management actions each time a hive is visited. Everyone has their own way of inspecting and managing their hives, so Hive Tracks is flexible to accommodate most any style and situation whether you are taking a quick look to assess honey flow or you are doing a full top to bottom evaluation. The inspection page was built based on the analysis of a variety of inspection sheets and includes more than most beekeepers want to record and also includes a free form text box for taking your own notes, which many people, myself included, like to do. The nice thing is that you only have to use the parts you want and ignore the rest (or customize the inspection, which we allow you to do!). Following is a list of information in an inspection:

- time and date stamp
- notes – free text input that might include the reason for the inspection or any items not covered elsewhere
- weather conditions (automatic from an online service or you can record)
- queen sighted
- brood – eggs, capped, uncapped
- hive strength (beekeeper estimate based on observation)
- hive conditions - temper, population, queen cells, laying pattern, odor, etc.
- diseases present – choose from a list
- treatments applied – choose from a list
- honey and pollen stores available
- feeding applied – choose from a list

As you can see, there is a lot of ground covered though we are well aware that something you do might not be included! In that case, please let us know and use the text box to enter what you want to remember. Looking at this list also underscores the fact that there is no way you can remember all of this stuff from one inspection to the next much less from one season to the next.

Google maps

One of the most interesting and valuable features of Hive Tracks is a Google map with pins marking the location of each of your beeyards with concentric rings drawn at one mile, two mile, three mile intervals (or kilometers) around the yard showing the typical foraging area for bees from that yard. The initial pin location for a yard is based on the address of the yard and occasionally



ACORN BEEKEEPING PRODUCT LINE 2015

The new standard of excellence in plastic frames and foundations



Acorn One Piece Frames are:

- Sturdier, Flatter, Stiffer
- Redesigned Mega Strong Ears Last Forever
- **PLASTIC SNAP-IN FOUNDATIONS** fit well in all wooden frames

The Bees Love 'Em!



allan dick photo

For information call:

Nick Lissaman
18 years experience
877-255-6078

info@acornbee.com

www.acornbee.com

13818 Oaks Ave. Chino, Ca 91710

FEATURES:

- Well Defined Precision Molded Cell Base
- Superbly Waxed - Standard, Heavy, Extra Heavy Available
- High Quality Bee's Wax Used
- Rigorously Field Tested
- Excellent Bee Acceptance



PROUDLY
Made in USA

QUEENS AVAILABLE

Healthy Queens
= Healthy Hives

Year Round

Premium Quality Queens
Produced in the Heart of
Northern California

Olivarez Honey Bees, Inc.

CALIFORNIA

(530) 865-0298

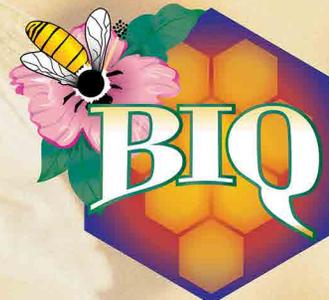
HAWAII

(808) 328-9249

TOLL FREE

(877) 865-0298

Big Island Queens
A Division of Olivarez Honey Bees, Inc.

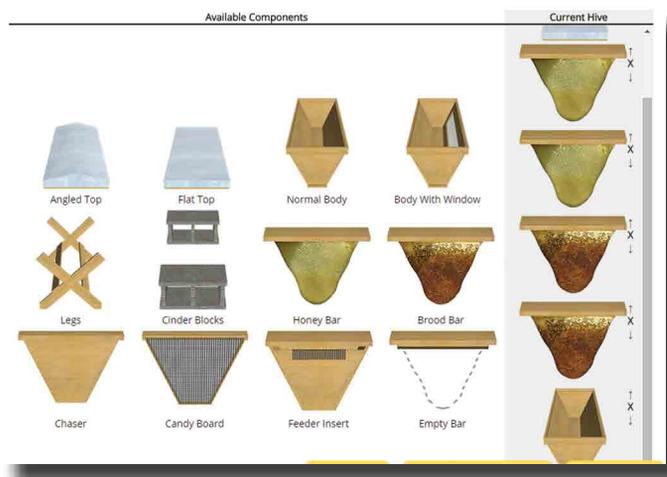
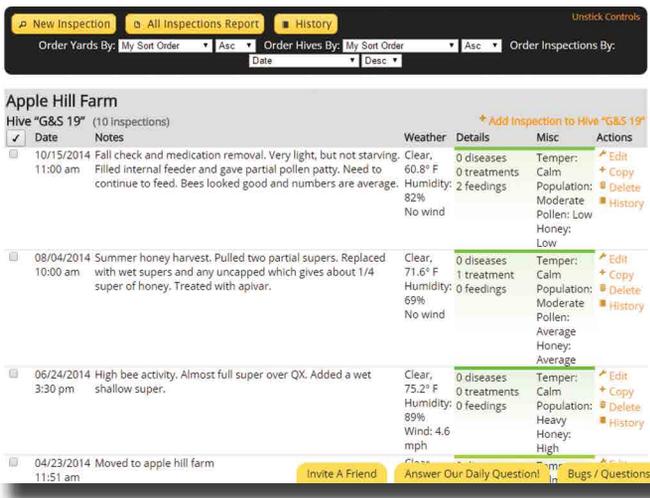


Like Us On
facebook

WWW.OHBEEES.COM

We accept all major credit cards





will not accurately reflect the actual location of your yard, so you can move the pin on the map to the exact location of your yard and the GPS coordinates are automatically updated. If you have not seen a satellite view of your beeyards, it can be an eye opening experience and very useful in evaluating available forage types and proximity to other beeyards, which is particularly helpful for queen breeding/rearing. In my own bee operation we seek out sourwood honey, and two of my sourwood yards are locations that an old beekeeper friend in my area had purchased in the 1950s specifically for making sourwood. Viewing these yards on the Google map clearly showed how the yards were ideally located in totally wooded sections of the downslope of the Blue Ridge Mountains. It was fascinating to see this and you will likely be surprised to see what your bees can reach.

There is More

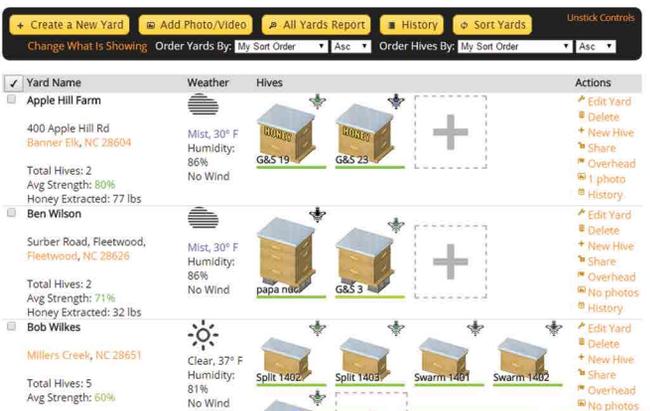
What you have seen so far is simply a foundation and a framework of information and data that sets the stage for many valuable features and useful functionality that can only briefly be mentioned here due to space constraints. Maybe another article in the future will explore these in more depth! As your number of hives increase the volume of data entry escalates so we provide bulk operations that can apply to a group of hives: hive creation, inspection, moving, and requeening. Moving hives is worth mentioning because it is much easier to do in Hive Tracks than in real life. A simple cut and paste mechanism is used to select hives from one yard

and put them into another yard. As mentioned already, you are given much flexibility in setting up your account and how your information is viewed including a variety of parameters for viewing your hives like queen age, date of last inspection, or you can order the hives like they are in the beeyard. Numerous preference settings include metric units for our international audience, customised inspections pages, alternate date formats, and several user interface controls.

Add to all of this a hive timeline, harvest records, reports, an online forum, a queen page and, you get the idea! Of course I have not even gotten to the really fun stuff that includes a hive hardware inventory, an integrated to do list and calendar with automatically generated to do list items, uploading of images, video, and audio, an offline native mobile app that works outside of cell and wifi coverage, and collective beekeeping analytics for your neighborhood, region, and the world. I almost forgot sharing information with your beekeeping friends: you can create groups (think bee clubs!) of Hive Tracks users who can share information with one another including a joint google map.

Join the Club

My article last month discussed how Hive Tracks has grown organically around the world to include more than 14,000 beekeepers (crossed the 14K while I was writing this article!) in 139 countries. These beekeepers are taking an active step to be better beekeepers by equipping themselves with information and tools to make the best hive management decisions possible. I invite you to join them and me and the Hive Tracks community as we all endeavor to make the best of this great journey of beekeeping! **BC**



<http://www.hivetracks.com>
<http://www.facebook.com/hivetracks>
<http://www.facebook.com/faithmntfarm>
james@hivetracks.com

James along with his wife and eight children keep bees in the vicinity of their family farm, Faith Mountain Farm, in the heart of the Blue Ridge Mountains of NC.

Thymol.net

- Buy Online At www.Thymol.net
- 100% Pure Food Grade Thymol Crystals
- Free Shipping In The Continental US!



1 - 4 lbs	\$24.00/lb
5 - 9 lbs	\$18.00/lb
10 - 24 lbs	\$16.00/lb
25 - 49 lbs	\$14.00/lb
50+ lbs.....	\$12.00/lb

Common Uses: Thymol naturally occurs in many essential oils. It is used as a flavorant in many foods, candies and personal care products.

Thymol.net

2015 SPRING PRICES
PHONE 912.583.2710
FAX 912.583.4920

HARDEMAN APIARIES

906 South Railroad Ext.
P.O. Box 214
MT. VERNON, GA 30445



ITALIAN QUEENS & PACKAGES

<u>QUEENS</u>	<u>PKGS.</u>	<u>1-9</u>	<u>10-24</u>	<u>25-99</u>	<u>100-UP</u>
1-9 . . . \$18.50	#3	75.00	73.00	71.00	69.00
10-24 . . . \$17.50	#4	90.50	88.50	86.50	84.50
25-UP . . . \$16.75	NO NUCS THIS SEASON				

RUSSIAN HYBRID QUEENS AND PACKAGES

<u>QUEENS</u>	<u>PKGS.</u>	<u>1-9</u>	<u>10-24</u>	<u>25-99</u>	<u>100-UP</u>
1-9 . . . \$21.00	#3	78.00	76.00	74.00	72.00
10-24 . . . \$19.25	#4	93.50	91.50	89.50	87.50
25-UP . . . \$19.00	NO NUCS THIS SEASON				

CLIP . . . \$1.75

MARK . . . \$1.75

WE WILL START TAKING ORDERS IN DECEMBER

Pick-ups are welcome. Yearly inspected by The Department of Agriculture. Package and Queen prices do not include postage. All shipments must be paid in full before we ship. No payment may cause delays in your shipping. All postal claims are to be made by customer. Hardeman Apiaries are not responsible. We accept all major credit cards.

We will not ship packages to zone five and up, no exceptions. Postal service will not insure packages past zone four. Zone five and up package customers should try your local bee clubs to see if they may be picking up packages. Queens can be shipped and are insured to most United States customers.

Letters from a Beekeeper's Wife

At convention, February 1, 1917

Dear Sis:

I know you are anxious to know how we are enjoying the convention, so while I am right here in the midst of it I'll take time to give you my impression. Rob is having the time of his life.

To begin with the first session—the only impression I had was of heavy solemnity. The beekeepers who came into the dark, stuffy room in the Capitol assigned to us were heavy-bearded, heavy-footed, solemn and important! I was almost frightened! They all wear terrible red badges with a queen bee on! There were two other wives who sat with their husbands, as I did—I mean each sat with her husband—and we all listened very respectfully and attentively to the President's address and reports of committees. I looked around during the reading and discovered that although there were a great many elderly bearded men present, there was more than a sprinkling of young, clear-skinned, wide-awake-looking men too. And some of the older men looked younger after I had heard them talk—especially good old Mr. Randolph.

I expected a great deal from the papers that were to be read—but, oh dear, such a disappointment! They were nothing more than the endless discussions I hear at home between beekeepers. The same old subjects—Queen-rearing, Bee Diseases, Marketing Honey (about which most of the men seem to know almost nothing) and the men who talked didn't know any more about their subjects than the other men apparently, but, just like all beekeepers, when a paper was ended there was wordy, wandering all discussions of it. As every man had to air his pet theory—every beekeeper has a pet theory—the discussion wandered off in all directions and never seemed to arrive. They talk about the aimless discussion in women's clubs, but it can't compare with a state beekeepers' convention.

At the end of the day I wondered to myself what Rob can get out of this organization to want to come year after year.

Rob read a paper on "Home Marketing of Honey" in which he described our work last summer. One man actually said that it was not right to charge twenty cents a pound for honey, and several intimated that Rob had not really done what he said! That made me furious, and I was glad that a young beekeeper rose and completely annihilated Rob's critics, finishing by telling them that a man who will retail honey for ten cents a pound is little short of a fool. Rob's paper was the best one read yesterday—of course I am unbiased in my judgment.

However, today the apiarist from the State College talked, and, as every one had worked his pet theory out of his system the day before, the discussion stated somewhat nearer the topic. I noticed that the younger men almost always led in progressive ideas, but I must again include Mr. Randolph, who is almost eighty years young, and the conservative old heads would shake in disapproval. I suppose it was the same in Langstroth's day when he tried to introduce the movable-frame hive—and you know Susan B. Anthony had troubles of her own.

I've been over to the last session but slipped out to write to you. They were carrying on a question-box when I left. That's the funniest thing! Any one who desires writes out a question he would like to have answered. There are read aloud and then any one at all answers, whether he is an authority on the subject or merely thinks he is. I have an idea that some of them put in questions that they expect to answer themselves, for a lot of the men have not had much chance to talk today while there were real subjects being discussed. There will be five or six absolutely different answers to each question, so that I should suppose that an amateur would be pretty well muddled in the end.

Of course now that I've been with these beekeepers for two days I begin to see why they like to come to conventions, but I don't believe that most of them know the real reason. It isn't for the papers, and certainly not for the awful question-box, but for the human contact with beekeepers—and they are a mighty nice lot of people. After the sessions it's the hardest thing to pry Rob loose from any little group that happens to form, and last night he stayed up and talked to the apiarist from the college until half past one. Poor Mr. Apiarist! I'm not pitying Rob for I'm sure it was his fault. The beemen hang around that dingy room or the hotel lobby, swapping bee stories until the lights are turned out. Rob says the convention has been a success this year, for the usual bore with a new hive did not come, and the man who has kept bees a few months but knows more about beekeeping than all the rest put together has been kept in the background. Rob is quite elated that they didn't make a new constitution this year, for he says that is the beekeeper's favorite indoor sport.

I'm glad I came for I have met lots of men that I've known by name for a long time. Tonight we leave for home. Goodbye.

Mary

Kevin Rader
Agency Principal

BEEKEEPING INSURANCE SERVICES

21845 Powerline Road, Suite 205
Boca Raton, Florida 33433
www.beekeepingins.com

tel: 888-537-7088 krader@beekeepingins.com

PACKAGE BEES (Queenless Only)

Available February - June

Pick Up Only
Metter, Georgia

Patrick Wilbanks
912.286.7789

Double Nucs

In a new deep with 10 new frames.
Minimum five to six frames of brood and a new caged queen for making two splits.
No equipment exchange!

Taking orders for April 1-7 \$300 each
Pick-up at Wellington, OH • 440.281.2688
or Pick up at Grove City, OH •
614.506.4523

Hinton Apiaries & Honey Bee
Mine Apiaries

BEE POLLEN

Low Moisture

10 lbs.	\$71.00
50 lbs.	\$325.00
100 lbs.	\$625.00
250 lbs.	\$1500.00
500 lbs.	\$2900.00
1000 lbs.	\$5600.00

FOB Auburn, NE

**DRAPER'S
SUPER BEE
402-274-3725**

Home of the Speed
King Uncapping Knife



The Original & Continually Improved
**PIERCE ELECTRIC
UNCAPPING KNIFE**
Made in the U.S.A. for over 40 Years

PIERCE-MIERAS MFG. 2536A E. Fender Ave. Fullerton, CA 92831

Manufacturers of Quality Apiary Woodenware

MADE IN THE USA
BY BEEKEEPERS FOR BEEKEEPERS

Frames – Boxes – Telescoping Covers – Inner Covers – Bottom Boards
Hive Stands – 8-Frame Equipment – Reversible Screened Bottom Boards

Nucs Available in May – Order Early For Your Convenience
Open House March 21, 2015 9:00 - 3:00 Guest Speakers – Jean Vose & Peter Lammert

<p>Frames:</p> <ul style="list-style-type: none"> *Full 3/8" sidebar *Groove and Wedge Top Bars *Interlocking Top & Bottom Bars *Available in Commercial & Budget grade 	<p>Boxes:</p> <ul style="list-style-type: none"> 5, 8 & 10 Frame in four standard sizes *Authentic Box Joint *Predrilled *E-Z grip 6" Hand Holes *Available in Select, Commercial & Budget Grade
---	---


 636 Coopers Mills Road, Windsor, Maine 04363

Visa, Mastercard, Discover & American Express
 Accepted – Credit or Debit
 Call toll free 1-877-4BEE BOX (877-423-3269)
 or 207-549-5501
 Fax # 207-549-5512
 email: humbleabodes@prexar.com
www.humbleabodesinc.com

CALL FOR PRICING AND AVAILABILITY
All orders quoted FOB Windsor, Maine

POLLEN SUPPLIERS WANTED!

Koppert Biological Systems in Howell, MI is looking to purchase bulk quantities of honey bee collected pollen in 2015.

- ◆ Collected in the U.S.
- ◆ Collected fresh, stored frozen.
- ◆ Collected from wildflowers or agricultural crops.
- ◆ High quality, free of bee parts and pests.
- ◆ Harvested in Spring - Fall.



Contact us at 800-928-8827
Qualitylab@koppert.com

KOPPERT
BIOLOGICAL SYSTEMS

BUILD A FEEDER JAR STAND

Ed Simon



Introduction:

Spring is here again and you have decided to double your hive count. Of course that means that there will be a significant investment in woodenware. There is also another investment that is easy to overlook. It is the feeder required to get your new hives off to a roaring start. They can easily cost \$3.65 for a Boardman style feeder or \$6.00 for a frame feeder to \$32.00 for a full top feeder. But available at a very inexpensive price is the old canning jar feeder. Used canning jars are readily available in pint and quart sizes at many of the used merchandise stores such as Goodwill or Salvation Army.

You will need a device that allows the bees access to the syrup. You can make a number of feeder jar stands very quickly. It is actually easier to make many at a time as compared to making one or two. The members of your bee club will be happy to relieve you of the extra ones you make.

Material:

- 1) $\frac{3}{8}$ " x 9" x 8' Plywood base (1) – makes 24 stands
- 2) $\frac{3}{4}$ " x $\frac{5}{8}$ " x 8' Stand legs (4)



Special tool:

A hole cutter that will cut a $2\frac{3}{4}$ " diameter hole is needed. One of the most inexpensive ones is an adjustable circle cutter pictured here. Most hardware stores carry this type of cutter.

Construction:

This article will describe making 24 feeder jar stands.

Because:

- 1) It is safer
- 2) It is easier than making one

Step 1: Working from one side of part #1, mark a line $2-1/8$ " for the length of the plywood. This is one of

the center lines for the drill. Then duplicate this line on the other edge of the wood. You should now have two parallel lines for the length of the plywood.



Step 2: Now mark the cross line for the centers by starting 2" in from one end and then marking every 4". Do this on both of the center lines marked in step #1. The picture shows the drill marking as circles and the cutting lines as dashes. You do not need to mark the cutting lines. They are there for illustration purposes only.

These drilling centers will provide for a 4" x 4" platform base for the jar with a $2\frac{3}{4}$ " hole in the center.

Step 3: If you are working with an 8' length of plywood then I recommend that you cut it into two 4' sections. This will make handling the wood much easier.

Step 4: Drill $2\frac{3}{4}$ " holes at the marked locations. To make a smoother cut only drill $\frac{3}{4}$ " of the way through the plywood and then turn it over and finish the hole from the other side of the wood.

Note: A drill press is best used for this operation. It makes drilling significantly easier and safer.



Caution: Using a hole cutter like the one pictured can be very dangerous. The bar that holds the cutter heads can fly around at a speed that makes it difficult to see. If your hand or anything else gets in the way, it is guaranteed to hurt.

Step 5: Once the holes are drilled, cut the plywood in half lengthwise.

Step 6: Using 3/4" wood cut parts #2. One piece is needed for each edge of the plywood.



Step 7: Glue & nail or staple legs (parts #2) to the bottom of the base. It is easiest to nail from the top through the plywood into the leg. Use one nail or staple on each corner of the hole to ensure a solidly attached leg.

Make sure that the leg does not cover any part of the hole in the base

Note: I bet you didn't know that circles have corners. They don't but this was the easiest way to explain the positioning of the nails.



Step 8: Once the glue is dry you can cut individual stands from the strip.

Usage: After filling your jars with syrup, invert them and place them in the hole in the stand. Place the stand on the inner cover and place an empty hive body over/around the stand to protect it. A stand with pint canning jars can be covered or protected with a medium hive body. A quart jar will fit inside a deep hive body.

Warning: In the Spring and Fall, the temperature differences between night and day can cause the syrup to be pushed out of the feeder jar. Make sure the jar is away from the hole in the inner cover so the liquid does not drip on to the bees.

Conclusion: During the times of the year when the bees are feeding heavily you can add as many feeders as there is room for on the inner cover. If you overlap the filling of the feeders, you can make sure the bees always have food. When the feeding slows down and there is a possibility of the syrup fermenting, all you need to do is remove the extra feeders and the spoilage will be kept to a minimum.



Addendum: Creating feeder jar lids

Lids for the canning jar feeder can be made very easily by pounding small nails in the lid. An easier way is to use a brad gun with an 18 gage brad to pierce the lids. Place a stack of lids on a piece of polystyrene and then use the brad gun to make the holes. The insulation is used so the brads do not nail the tops to the workbench. It may take a little work to remove the brads from the lids, but it is easier than using a small nail or a punch and hitting your fingers. **BC**



Get a copy of Ed Simon's book *Bee Equipment Essentials* with detailed drawings, construction hints and how-to-use instructions for dozens of beekeeping tools and equipment from www.wicwas.com. Ed can be contacted through Ed@TheBeeShed.com. Now online are all of Ed's Bee Culture magazine articles. They can be accessed through *The Bee Shed* website at <http://www.thebeeshed.com/publications.html>.



AHPA



An Organization of Beekeepers for Beekeepers

FIGHTING FOR:

Gains in Research, Improved Pollinator Protection, Anti-Dumping & Prevention of Circumvention, National Honey Standard of Identity, Streamlined H-2A Processing, and More.

www.AHPANET.COM




Save Money

Pumps and Spinners



2" Gear



3" Progressive Cavity



Cappings Spinner

Buy Cowen

www.cowenmfg.com 800-257-2894




The leading honey & food lab since 1954
ISO 17025 Accredited

Adulteration | Traceability | Residues | Authenticity

- Antibiotics (Fluoroquinolone, Nitrofurans, Chloramphenicol, Carbendazim)
- Aflatoxin Analysis – Chemical Analyses
 - Microbiological Analyses
- Pesticide Analysis – Pyrrolizidine Analysis
- Pollen Analyses – Specific Testing for Honey

www.qsi-q3.de

Quality Services International GmbH, QSI | Bremen | Germany
 info@qsi-q3.de | +49-421-594770

Tentamus North America | Illinois
 Lauren Fleming | lauren.fleming@tentamus.com | (630) 488-7434

Columbia Food Laboratories | Corbett, Oregon
 info@columbiafoodlab.com | (503) 695-2287

nozevitTM Plus



Your partner in helping maintain the intestinal Well-Being and Integrity of your honeybee Colonies

Contains:

- All Natural Plant Polyphenols
- Phytonutrients
- 3 Essential Oils
- Complete Amino Acids
- Vitamins and Minerals



NO GMO or HFCS!

AS LITTLE AS €27 PER USE.

Simple, Effective and Economical.
Apply early Spring and late Fall via drench or in feeder. Add to protein patties.

 **Dadant.com**
 **eKoBeekeeping.com**

For more information - (907) 727-8200

THORNE

For all your...



Beekeeping needs



E.H. THORNE (Beehives) LTD.

BEEHIVE BUSINESS PARK, RAND, LINCOLNSHIRE, ENGLAND, UK

Tel: +441673 858555 sales@thorne.co.uk www.thorne.co.uk

Like us on Facebook www.facebook.com/E.H.Thorne Follow us on Twitter @ThorneBeehives

a great product
made even BETTER!



✓ ALL NATURAL
HONEY BEE
FOOD SUPPLEMENT

OPTIMA®

HEALTHIER BEES
FOR MAXIMUM PRODUCTION

Contains
**15 Premium Essential Oils,
Whole Plant Polyphenols,
Complete Vitamins,
Minerals and Amino Acids.**

Products are available at:

Dadant.com, eKoBeekeeping.com
DrCarsons.com

and your local beekeeping equipment suppliers

Worlds largest ever permaculture event - page 35

www.permaculture.co.uk

permaculture

practical solutions for self-reliance

**BUILD YOUR OWN
RAISED BEDS**
for FREE

Our Guide to Choosing
SUSTAINABLE TEXTILES

Now with FREE digital & app access!

FAMILY GARDEN

Strawcrafts, Heritage Apples
and the Perfect Hens for You



No. 82 Winter 2013 £4.95 UK / \$8.99 US / \$9.99 CAN
PERMACULTURE MAGAZINE 8.2

www.permaculture.co.uk

granite
SEED
and erosion control



- Increase pollinator forage
- Create diverse pollinator buffer zones
- Custom pollinator seed mixes

Quality seed and professional service.

graniteseed.com
Utah 801.768.4422 Colorado 720.496.0600

BIGGER PICTURE

Jessica Louque

Sweets For Your Honey

Being February, it's about that time to see pink and red hearts everywhere you shop. Jewelry and chocolate commercials abound, and I have to admit that sometimes I fall prey to the "buy me jewelry and chocolate" theme of gift-getting that seems to swallow all holidays nowadays. Although I do like presents and Bobby and I are affectionate enough to make most people gag, Valentine's Day has never been one of my favorite holidays. The whole thing seemed sort of cheesy to me (unless you really want to buy me presents, then, you know, who am I to stop you?). It just seems that we spend so much money buying presents just to not be judged by other people. Last year, we didn't get each other presents for Valentine's Day and you'd think we'd murdered someone. We just wanted to spend some time together and hang out with the kids. Whatever works, right? This year, I think we're going to try something a little different and make presents. Normally, unless you have a friend that has a super awesome hobby like Master of the Knitting Universe or Glass Blower Extraordinaire, homemade presents suck. In this case, we are going to make sweet treats where you can't go wrong with homemade. The question now is who gets treats? Since Valentine's Day is supposed to be about love, then we're going to show our love to the *whole* family. Our family might include a few things that yours does not, or maybe yours has some that mine doesn't. I'm going to list out some tried-and-true recipes for homemade treats for not only the spouse or kids, but for your animals as well. We love them too, right?

Treats for the dogs

Crunchy Cookies

Sometimes Atlantis (our family wonder dog,) won't eat food with cinnamon, so it gets left out most

of the time. It smells good cooking though, so you should try it with the cinnamon first! For the record, most of these things can be substituted. For example, if you really don't want to part with your honey, you can substitute molasses. These will make crunchy chew bones (if you cut them out in a bone shape, of course).

1/2 cup vegetable oil
1/2 cup honey
1 teaspoon vanilla
1 egg
2 tablespoons milk
2 1/2 cups whole wheat flour
1 teaspoon baking powder
1/2 teaspoon cinnamon

1. Preheat your oven to 375° and lightly grease a couple of baking sheets.

2. In a large mixing bowl, add the liquid ingredients. Once they are mixed together, add in the flour and baking powder. Mix until a dough forms.

3. On a lightly floured surface, dump out the contents of the bowl and then knead it until all of the ingredients are homogenous and it can be spread using a rolling pin. Roll the dough out to about a 1/4" thickness and then either cut using cookie cutters or a pizza cutter.

4. Place the uncooked biscuits/cookies on your baking sheets and bake for 13-15 minutes. Store at room temperature in an airtight container.

Treats for the birds (especially our fine feathered friends of the chicken variety)

Suet Blocks

Suet is really easy to make, and it can be adapted for any birds. Here, they are for the chickens, but you can make them for wild birds, or for ducks and geese. There are a whole litany of ingredients that can be used for suet, depending on what

you want to do. You can either buy grocery store lard, or suet chunks from a bird store and grind them in a food processor, or you can just use meat fat from when you cook. If you buy suet, you should melt it first before using it, so it will be easier to use it in the recipe. Everybody has a preference, but I prefer the easiest way.

Possible ingredients:

Dried fruit
Raisins
Nuts
Seeds (like sunflowers)
Cracked corn
Cayenne pepper
Birdseed (no whole kernel corn)
Crushed eggshells
Honey
Molasses
Peanut Butter

Basically, you can put what ingredients you want in the bottom of a casserole dish, and then add your liquefied meat fat, suet, or lard by pouring it over your ingredients. Stick it in the freezer, and then add another layer of your ingredients and cover with your favorite fat source. You can either use a small casserole



Suet beginnings – seeds and grains with eggshells and meat juice in a le creuset pan, ready for the freezer.

dish that fits your suet cage, or you can use a big dish and cut it up. Don't worry if you get a little bit of meat in your fat. Most of it will be fine with the chickens since they are omnivores, but be careful to not use too much bacon fat since it is processed differently. It's also better to mix your wet ingredients together, so if you can pour your honey in your liquid fat while it's hot, the suet will have a better consistency.

Make sure when you feed suet that it's not too hot outside or you don't give too much to your birds so it doesn't spoil. It's a great source of energy for birds in the Winter to keep warm, but you want them to eat it quickly! Try a few different ingredient mixes to see what they like best.

Treats for Goats

Goat Cookies

I'm working on my goat recipes in hopes that my plan to have goats this year actually comes to fruition. There are goat owners who swear by this recipe, but I don't have any goats to try it out on yet.

11 cups of grain
1 cup of chopped carrots
1 cup of chopped apples
1 cup of raisins
1 cup of bananas
48 ounces of molasses or honey
5 cups whole wheat flour

The amount of grain can be reduced and raisins, apple, carrots, peanut butter, or other favorites may be substituted. Mix together adding a small amount of water – just enough to stick everything together. Spray cookie sheets with cooking oil. Make small balls of the mixture. Bake at 350 degrees for about 20 minutes, or until they appear done (dried, not brown or burnt).

For grain, some people use their goat grain, cracked barley, or cracked wheat. These will turn out to be little goat cookies that smell better than most desserts when they bake. The goats will thank you, and the house will smell awesome. The kids might be jealous though. Terrible pun – you can feed this to goat kids, although I suppose you could feed it to human kids too.

Treats for your horse

Horse coins

I don't have horses either, but I don't want them to be left out. Most people who have horses consider them a family pet rather than a farm

animal, so they need to have some Valentine's Day love too!

1 cup sweet feed for horses
2 cups bran
1 cup flax seed
4 large carrots
1 cup molasses or honey
½ cup brown sugar
1 cup applesauce

Preheat oven to 350° F. Combine all the dry ingredients together and then add the applesauce. Slowly combine molasses/honey mixture with dry ingredients, adding only enough molasses mixture to form thick dough. Drop tablespoons of dough on a greased cookie sheet, spacing cookies one inch apart and flattening slightly to make portions about the size of a silver dollar. Bake for one hour; turn and bake approximately 45 minutes until crisp.

Treats for Pigs

Potbelly pops

Pigs are easy to treat because they are, well, pigs. They will eat on par with the average 14-year-old boy (like Henry). This one isn't particularly difficult. Roll up some cheerios in peanut butter until you have little balls, and put an unsalted pretzel stick in the end to make a potbelly pop. Or, you can just give them a couple cheese cubes. The piggies will love it (and so might Henry), but don't overfeed because it's not particularly healthy.

Treats for cats

Fish Balls

While I love our cats, I hardly think they're worth treating. I guess I should be thanking them for allowing us to live in their house. If you too

think you need to repay the homage for their hospitality, here's a recipe for even the most finicky of cats.

16 ounces canned tuna in oil
2 ounces cooked herring (drained), skin removed
3 baby carrots, cooked
2 Tbsp bread crumbs or oatmeal
3 Tbsp grated cheese
2 tsp brewer's yeast
several pinches of catnip
1 beaten egg
2 Tbsp tomato paste (not ketchup)

Preheat oven to 350°. Lightly spray a cookie sheet with vegetable oil. Mash the carrots and mix all the ingredients together. Roll the dough into small balls and place on your cookie sheet. Bake for 15 to 20 minutes, or until golden brown and firm feeling. Cool completely.

Treats for humans

Rice Krispies

Although this is a fairly ubiquitous dessert, it's easy to make with the kids involved, and you get to make something for them and spend time with them doing it.

1 family sized box of rice krispies
3 jars of jet-puffed marshmallow cream
2 bags of mini M&M's
1 stick of butter
food coloring

Melt the marshmallow cream and butter on low heat until it's liquid. Pour in your color of choice (perhaps pink or red for the conventional types to be festive) before you mix with the rice krispies. Pour half of your rice krispies in a heat-proof bowl, and then pour in the melted fluff cream butter concoction, and cover with the other half of the rice krispies. Mix until even, and spread out on a flat pan. Covering the top with wax paper and lightly using a rolling pin works well. Before it cools, cover the top of the mix with the mini M&M's. Let cool for about an hour, or more if you have time. You can either do traditional squares, or you can use a heart shaped cookie cutter to continue the festive traditions.

In the end, Valentine's Day is about showing love and appreciation to your family. Nothing says appreciation to farm animals or kids (and sometimes the hubby) like a full belly of tasty treats that are for special occasions! **BC**



Blue rice krispies, first taste test!

Bee a Part of Something Great

As a member of the
American Beekeeping Federation
you'll benefit from:

- Year-round online education on a variety of beekeeping and honey production topics
- Exclusive member rate on annual North American Beekeeping Conference & Tradeshow
- Networking with 1200+ professionals, partners and hobbyists
- Advocacy on critical bee health issues
- Annual memberships for all levels, \$60 - \$1500



Join Today!
abfnet.org

"Your source for one or a truckload!"

B & B Honey Farm

- Package Bees • Queens
- Woodenware • Beeswax
- Winter Wrap
- Candlemaking Equipment
- Assembled Boxes & Frames

Free catalog upon request!

5917 Hop Hollow Road

Houston MN 55943

Phone 1.800.342.4811

Fax 1.507.896.4134

bbhoney@acegroup.cc

www.bbhoneymfarms.com

facebook.com/bbhoneyfarms



STRACHAN APIARIES INC.

"Honeybees are the backbone of agriculture"

2522 Tierra Buena Road

Yuba City, CA

95993-9654

www.strachanbees.com

(530) 674-3881

Fax: (530) 674-5802

Orders Only: (800) 368-3881

orders@strachanbees.com



New World Carniolan
Bees & Queens

We select for hygienic behavior, honey production, mite resistance, and gentleness.



applewoodseed.com

sales@applewoodseed.com

303-431-7333

Grow Flowers *for* Honey Bees

Flower Seeds and Mixtures for Honey Bees

Native Flower Seeds for Pollinator Conservation

Bordelon Apiaries, LLC

Emeric "Joey" Bordelon IV
(337) 988-6644
ejbordelonapiaries@yahoo.com

Minnesota Hygienic Italian Queens

1-9	10-24	25-99	100+
\$20.00	\$19.00	\$18.00	\$17.00

Prices do not include shipping.
25% down to book queen order



Carniolan, Italian, VHS Queens

Excellent Honey Producers

Fumidil-B Fed Colonies and Nucs
Prompt Service Guaranteed

**QUEEN CELLS AVAILABLE FROM
FEBRUARY THROUGH APRIL**

Terms: 10% deposit with order.
Balance due 2 weeks prior to shipping.

**PACKAGE BEES AND NUCS WILL BE
DELIVERED TO MI AND WI IN APRIL AND MAY**

Honey Land Farms
Garry Oreskovic
Phone: (352) 429-3996
Email: honeylandfarms@aol.com
22146 O'Brien Road
Howey In The Hills FL 34737



BEEKEEPER'S BEEHIVE BRANDER KIT

Prevent Theft!



**Mark your boxes
and frames today!**

- Heavy duty
- Light but rugged - easy operation
- 1/2" and 1" characters available
- Designed to produce very deep brands
- Uses Standard #20 propane BBQ tank



375 Pine Ave. #22
Santa Barbara, CA 93117
(800) 964-8251 BrandNew.net



Planting Natives for Pollinator Habitat?

ernstseed.com
sales@ernstseed.com
800-873-3321
814-336-5191 (fax)




Beekeeper's Protective Clothing



Quality made in England since 1968

SHERRIFF

The "Original" **bjsherriff.com**

Sherriff's Clearview Veil

USA Supplier:
Sacramento Beekeeping
info@sacramentobeekeeping.com
Ph (916) 451-2337

Manufacturer of Fine Beesuits for Optimum Performance

Apiarist Suit with Hood

Honey Rustler Jacket



HiveTracks

KNOW YOUR BEES

The world's leading beekeeping software is better than ever. Join thousands of beekeepers around the world who are improving their record keeping. We help you **Know Your Bees** better than you ever thought possible.

Mobile friendly web app

Bee club maps and stats

Nuc and top bar hive types

Go to hivetracks.com/beeculture to sign up and see what's new!



BEEKEEPING AND TECHNOLOGY

*Are we on the verge of a new
technological revolution in beekeeping?*

Ross Conrad

Beekeeping technology took a huge jump between 1850 and 1875 with the invention and development of the movable frame hive, the centrifugal honey extractor, and the modern hand-held bee smoker. These are the primary technologies that modern-day beekeeping is built on and continues to rely upon. Now, well over a century later in the age of the internet, smart phones, iPads, iPods, Blue Tooth, and computers that are being built into just about everything, beekeeping appears to be on the precipice of another revolutionary jump in technology that some believe will change the face of beekeeping as we know it.

One aspect of this technological revolution is the advent of the “smart hive.” This is a hive that is wired with sensors that monitor and measure hive weight, brood nest temperature, relative humidity of the hive’s interior, and sound levels (acoustical scanning) within the hive. All this data can be collected in real time and transmitted to any device that has internet access.

For quite awhile, Radio frequency identification (RFID) tags have been used to identify or track consumer products, as well as pets. It is relatively easy to see how the beekeeping industry might benefit from this service that may be used to help track hive performance and manipulations, or make identification in cases of theft easier. Bar codes may also be used to help keep track of hives, just as grocery stores use bar codes to track their product inventory and sales.

Infra Red (IR) technology using heat detecting cameras is also being used more and more by the beekeeping industry. Once the problem of matching the ideal camera to various tasks is solved, the health and vitality of hives can be quickly evaluated during all kinds of weather, the viability of queen cells can be checked, and swarms can be monitored in order to more accurately predict when they are likely to take to the air.

Another area of development has been the use of LIDAR in beekeeping. As opposed to RADAR, which utilizes radio waves to calculate distances by measuring

the time it takes for a signal that is reflected off an object to bounce back to the source, LIDAR uses laser light in a similar way. Lidar is able to recognize bee size, wing beat frequency, and flight movement without the need to attach tags or transmitters to individual bees as has been the case in the past.

In an effort to address some of the virus issues of parasitic mite syndrome created by *Varroa*, the biological process in which RNA molecules inhibit gene expression called RNA Interference (RNAi) is being studied and developed. The effort is being undertaken in the hopes of creating another tool for beekeepers in their effort to overcome viral infections.

These are just some of the technologies that seek to extend and refine the senses and abilities of the beekeeper. Many of them may prove helpful though probably only for those that will be able to afford them – mostly the large industrial beekeepers and the very small backyard beekeepers who hold down good paying jobs outside of beekeeping. Unfortunately as is usually the case with new technologies, there are numerous issues and problems that these technologies either create or inflame.

Is it possible that once a beekeeper comes to rely on technology to monitor hive health and conditions for example, their beekeeping skills may start to atrophy? Over time it is likely that for at least some of us, our ability to successfully judge a hives state of health, level of food stores, disease condition, or readiness for manipulations will decrease without the benefit of regular practice and use. This issue may not be considered a serious problem as long as our technology is there to fill the void, but what happens when our technology fails? Batteries die out, gadgets break or wear out, internet service gets interrupted – things happen, and when they do the importance of being able to back up your technology with old-fashioned manual beekeeping skills and technologies becomes clear. What happens when a new beekeeper starts out their beekeeping career relying on such technologies? Will their initial reliance on technology retard the development of their manual beekeeping talents, the same skills that today are normally used to gather the necessary information needed to judge which hive manipulations, if any, are necessary? It seems



As an analog instrument, the traditional hand-held refractometer on the left can measure a liquid’s refractive index, and thus reveal its moisture content, just like the digital hand-held refractometer on the right. Digital refractometers are generally considered to be more precise than traditional hand-held refractometers though less precise than bench top models used in labs. Digital models also require batteries and a slightly larger sample to read from since the sample is not spread thinly against the prism as in traditional models. Which model will be most desirable in 10, 20, 50 or 100 years from now?



The Frame Up

Stainless steel, second set of hands. Hang frames on hive box. Provides space to examine hive. Works w/all size frames in 10 & 8 frame hives.

49⁹⁵
+ shipping

To order, email:
frameup7@gmail.com

TABER'S Honey Bee Genetics

**Russian
Carniolan,
Hybrid
Italian Queens
& Packages**



*Selected For Winter
Survivorship & Mite Resistance*

707.449.0440

P.O. Box 1672
Vacaville, CA 95696

www.honeybeegenetics.com

SUGAR BRICKS

"Convenient in every way"

A year-round feeding strategy that reduces starvation and increases overwinter success. Eliminates the mess of syrup



3 1/2 lbs of feed per brick (approx. 6" x 6" x 2")

Set of 12 bricks: **\$93** (Delivered in U.S.)

Send checks payable to: Mel Disselkoen
Apiaries, 1941 Alba, Wyoming, MI 49509

www.mdasplitter.com

INTERNATIONAL MATING NUC, INC © 2010

PENDELL'S CORDOVAN ITALIAN QUEENS

Ph: (530) 963-3062

Mite
Resistance

Gentle

Honey
Producers

VSH Trait

Isolated
Mating
Yard

Hygienic

Frank & Sheri Pendell
Fouts Spring Rd
P.O. Box 40
Stonyford, CA 95979



Orders only: 877-963-3062
Fax: (530) 963-3063
fpendell@stonyford.com
www.pendellapiaries.com

NORTHERN CALIFORNIA FALL QUEENS



530-520-8558 WWW.ZSBEEES.COM
4588 CO. RD. G ORLAND, CA 95963



Queen Right Colonies®

43655 State Route 162
Spencer, OH 44275

Tel: (440) 647-2602
Fax: (440) 647-0922

Email: info@queenrightcolonies.com
www.queenrightcolonies.com



www.queenrightcolonies.com

Order California Package Bees

We are now accepting orders for 3 lb. package bees, call us today!

**2015
New World Carniolan
& Italian
Package with Queen**

3 lbs. for \$120

**Prices are subject to change*

We plan our delivery for approximately the third week in April (check our website for updates, www.queenrightcolonies.com & Facebook).

A Full line of
Beekeeping Supplies
in Stock Year Round!

We ship UPS | All major credit cards accepted. | Call today!

**STORE
HOURS:**

(March 1 - Oct. 31)
Monday - Friday: 10 a.m. to 6 p.m.
Saturday: 10 a.m. to 2 p.m.
(Closed Sundays)

(Nov. 1 - Feb. 28)
Monday - Saturday:
10 a.m. to 2 p.m.
(Closed Sundays)

possible that an over-reliance on technology may lead to beekeepers whose beekeeping skills are diminished from lack of use, or even worse, beekeepers that never develop good beekeeping skills in the first place. Will the increased use of technology stifle the development of the beekeeper's creative, intuitive side of the beekeeping craft, and what will it do to the sacred connection that humans have long shared with honey bees and the natural world? We already have problems with beekeepers that make mistakes in evaluation and judgment when inspecting hives. Is it wise to turn to technology in order to try and solve these issues rather than old-fashioned education, practice, and experience? I don't claim to know the answer to all these questions, but I think that it is important that they are asked and seriously considered.

Technologies such as those cited above are often promoted as time savers, but on closer examination is this really true? When one considers the time it takes to procure these technologies, learn how to use them, calibrate, maintain, implement and repair them, not to mention the time that had to be traded for the money needed in order to acquire the technology in the first place, how much time is actually saved in the end?

Most of these technologies are highly energy intensive; require the mining of increasingly scarce rare-earth minerals, and/or high tech clean rooms that have extremely low levels of environmental pollutants such as dust, airborne microbes, aerosol particles and chemical vapors. These energy intensive technologies are being developed at a time when our ability to tap into new sources, and continue to produce and distribute our current energy resources (primarily fossil fuels) at an ever-increasing pace is rapidly diminishing. Our relatively quick, inexpensive and easy sources of fossil-fuels are declining, requiring the development of unconventional fuel sources that are much more expensive, dangerous, and environmentally destructive to obtain. Add to this about 300 years of greenhouse gas (GHG) production that is a result of the burning of fossil fuels and has initiated the growing crisis of rising sea levels, ocean acidification, and increasingly unpredictable and severe weather patterns, and it is easy to imagine that a dramatic shift away from fossil fuels and the accompanying energy intensive technologies that they have enabled is not only necessary, but just around the corner. To paraphrase Winston Churchill, you can always count on Americans to do the right thing – after they have tried everything else first.

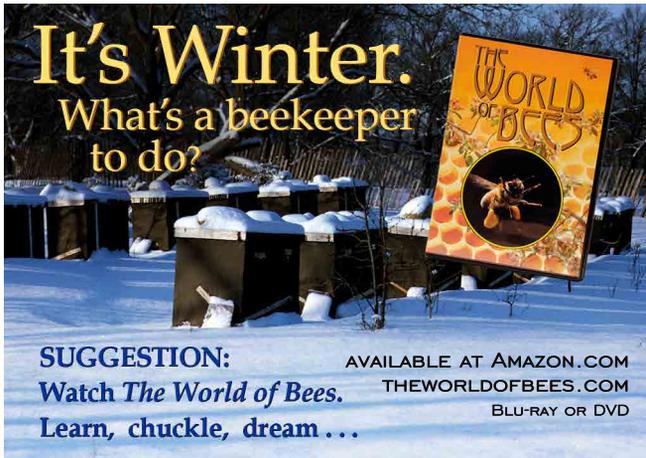
It has been said many times that the craft of beekeeping is as much art as it is science (and by extension, technology). However, I suspect that the technologies that will be used by our great, great grandchildren will more closely resemble the technologies that our great, great grandparents used than anything that is emerging today. Even current technologies that are highly relied upon by today's beekeeping industry can be expected to be phased out and eventually abandoned. This includes the use of gasoline powered forklifts and diesel trucks to move hives and transport them over long distances, which will in turn initiate a massive change in how we approach agriculture and pollination. Given that air travel is one of the most highly energy intensive and GHG emitting forms of transportation, and there are no viable renewable clean energy sources that can

replace jet fuel, the decline in our ability to ship packages of bees by plane around the world is poised to decline dramatically, if not be eliminated entirely within two to three decades. The shift away from fossil fuels and development of cleaner, renewable energy sources is starting to pick up pace around the globe. However, it is a mistake to think that we can simply replace the highly concentrated energy sources we have in fossil fuels with the more diffuse energy of sun, wind, water, geothermal, biomass, animal or human power.

All this suggests that the beekeeping technologies of today, and those being envisioned for tomorrow, should not be relied upon too heavily if keeping bees successfully over the long-term is our goal. This is in direct contradiction to the last 200-300 years of experience in which the quickest way to prosper has been to ride the wave of progress, using more energy, more resources and more technology than your competitors. I suspect that over the next century, the quickest way to succeed and prosper will turn this rule upside-down. Those that can get by with fewer resources, less energy inputs, and simpler technologies will be the ones that will survive in the long run.

One of the lessons we can learn from the devastating wars and disasters of the 20th century is that the difference between having a lot of energy available and having only a little energy available is much less important than the difference between having a little and having none at all. The wise beekeeper will be investing today's relatively abundant resources in the technologies and energy sources that will carry us well past tomorrow. This will make it a lot easier to continue to provide at least a little energy when it is needed and help cushion the challenges that will be created by the necessary phasing out of fossil fuels and their accompanying high energy, resource intensive technologies. As a result, I will be keeping my trusty old hand-held manual smoker, and hand-cranked extractor on hand even though I may find myself using an electric extractor or electric smoker today or tomorrow. **BC**

*Ross Conrad authored the revised and expanded 2nd edition of *Natural Beekeeping* published in 2013 and will be leading a symposium on natural beekeeping for the Philadelphia Beekeepers Guild on Sunday February 8th. Visit phillybeekeepers.org for more information.*



**It's Winter.
What's a beekeeper
to do?**

SUGGESTION:
Watch *The World of Bees*.
Learn, chuckle, dream...

AVAILABLE AT AMAZON.COM
THEWORLDOFBEES.COM
BLU-RAY OR DVD



Oregon Grown Queens

Producing acaricide free Survivor Stock since 2000

Selecting for productive, mite, pest, & disease tolerant bees..

Double Vetted and Fully Matured
Mated Queens for Higher Acceptance
Rates and Longevity.

Queens, Nucs and Pollination.

For more information please contact
Old Sol Apiaries at www.oldsolbees.com
or call 541 582 2337

BEE SUIT BREAKTHROUGH

Patented, totally ventilated,
cooler, virtually sting free

Call for prices & free info

504.456.8805

goldenbeeproducts@yahoo.com

www.goldenbeeproducts.com

GOLDEN BEE PRODUCTS -DEPT. B

344½ Aris Ave.,
Metairie, LA 70005

www.JZsBZs.com

to order
Cups, Cages
& Cell Bars



Country Rubes'
Weatherproofed
Bee-keeping Equipment

Cannot Rust!



NEW!! FEEDING TRAYS & RIMS

CANDY BOARD ALTERNATIVES

Easy to use, no cooking!

NUCS & 5 FRAME EQUIPMENT

Including 5-Frame Combo Deep Screened Bottom Boards and
Oil Trays

www.CountryRubes.com

For Information, Prices & Orders

Combo Screened Bottom Boards

Robbing Screens

Small Hive Beetle Baffles & Trays

Hive Bodies—Deeps & Mediums

Entrance Reducers

Dusting Screens

Observation 'Sticky' Boards

530-913-2724

Complete Line of Bee Keeping Supplies

*Italian
*Carniolan

California
Package Bees

*2 - 3 - 4 #
Packages

*Queen Bees

Package Bees for pickup Only

Simpson's Bee Supply

Danville, OH.

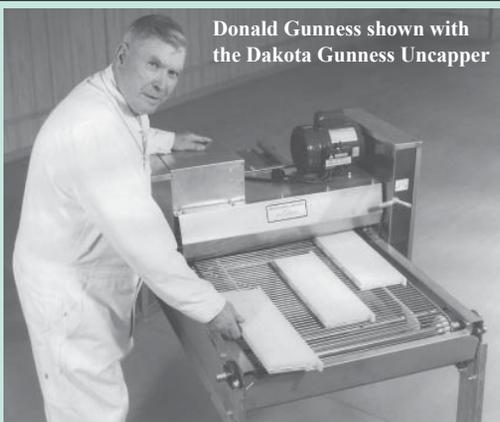
(740) 599-7914

(740) 393-2111

www.simpsonsbeesupply.com



cwsimpson@embarqmail.com



Donald Guinness shown with
the Dakota Guinness Uncapper

*"We have used the Dakota
Guinness Uncapper for over 20
years and haven't had a bit of
trouble with it. It is
virtually indestructible."*

Rick Smith
Yuma, AZ

.....
We sell liquid sucrose
and 55% High Fructose
Corn Syrup as feed for
your bees.

Dakota Guinness, Inc.

P.O. Box 106, Abercrombie, ND 58001

888.553.8393 or 701.553.8393

dakgunn@rrt.net • www.dakotagunness.com

Bee Smart®

1-800-600-7446

516 741-3062 • Fax 516 742-3617

email: info@beesmartdesigns.com

www.beesmartdesigns.com

195 Atlantic Ave • Garden City Park, NY 11040

D E S I G N S



NEW!

The Ultimate Hive-Top Feeder

- SIMPLE. EASY TO USE. AFFORDABLE.
- 1 gallon tank fits any size cover, telescoping or migratory.
- Easy grip handle
- Great for early season build-up.
- Perfect for fall feeding.
- Hive-top design saves time. QUICK - EASY - CLEAN - FAST.
- Gives bees easier access to syrup.
- Twist lock keeps tank securely in place.



The Ultimate Hive Cover
• Fits 8 or 10 frame boxes.
• Passive ventilation.
• Light, strong and durable.



The Ultimate Hive Stand
• Fits 8 or 10 frame boxes.
• Ergonomic design.
• Built-in frame holders.



The Ultimate In-Hive Feeder
• 1 gallon EZ grip tank.
• User and bee friendly.
• Fast, easy, drip-free.



The Ultimate Comb Uncapper
• Fast, easy to use, drip-free.
• Perfect for hobbyists.
• Use with 5 gallon bucket.



DOWNTOWN

Car-Free Beekeeping: Going Green Without Burning Gas

For the past few years, we have seen a small, but serious, handful of new beekeepers in our short courses who opt to take on beekeeping without personal, gas-powered transportation. Here in DC, they mostly do this by our public transit system, Metro. In fact, the White House beekeeper, Charlie Brandts, brought the (probably) most famous swarm in the world home by train on April 9, 2009 – there are feral colonies in the trees across the street from 1600 Pennsylvania Avenue, and one of them threw a swarm onto the pad where all the reporters stand when you see news stories with the mansion in the background. On the flip side, a couple of years ago an amateur swarm catcher in London brought a leaky box of bees onto one of those lovely double decker buses, and abandoned the project in a panic, causing the bus to be evacuated, the press again to get excited, and more experienced souls to arrive and clean up. Clearly, some guidance is a good idea.

But beekeeping by shared or human-powered means of transit is not how I manage and mentor, and the next time we teach, I wanted to be able to offer better information for new students who need or want to do this for economic, geographical, philosophical, or any number of other reasons. Almost every beekeeper has a fairly personal set of goals for learning and practicing apiculture: these folks have a few more on top. Finally, over and over in urban beekeeping, we discover that beekeepers independently come up with similar and supporting ideas, but don't know anyone else is doing

it. (Consider me one of the most guilty!) This article is a shout out to all the cool souls who shared their experiences here, but also an invitation for the people we didn't find to get in touch and share.

It also turns out that this might not be a good fit for every city. I contacted friends and associations in Atlanta, Pittsburgh, and San Francisco to seek out stories from those habitats, and it turns out that infrastructure, climate, and geography matter a lot. In both Pittsburgh and Atlanta, car-friendly urban settings, including infrequent or non-existent public transit to many areas, roads that leave little room for bikes, or lots of hills have reduced enthusiasm for beekeeping by alternative transport. The San Francisco Bee-Cause (www.sfbeecause.com), which has invested a lot of time and energy in a Bee Farm, finds that none of its members are getting there by bike or bus. Co-founder Karen Peteros mentions, "You gotta have good onsite storage," a theme mentioned by most who undertake car-free apiculture. She adds "Our site is infested with Argentine ants. As a result, we are in a constant battle to keep them out of our hives and cannot store our hive equipment [there] . . . Instead, I have to store all the equipment at my house and lug it up and down my 22 stairs to and from my car."

Non-car beekeepers seem to fall into two groups: folks who are managing apiaries by bike, and those who are using a combination of public transit resources. There are important advantages and challenges – not obstacles – to both. Bike beekeepers Jana Kinsman (bikeabee.com) of Chicago and Kristy Lynn Allen (www.thebeezkneezdelivery.com) of Minneapolis have great experiences and advice for folks looking at two-wheeled beekeeping, public transit

beekeepers Justyna Nicinska of DC and Jim Fischer (NYCBeekeeping.org) of New York have explored the ins and outs of trains and buses, and Arielle Kouffman, also of Washington, is transitioning from the bus to pedal power.

Car beekeeping is lazy in many ways: you can just heave anything you can fit into the car, and proceed with just a hazy idea of what the bees might need or of how to structure the work you need to do into the time, season, and bee situation available. You can get away with not planning, not keeping good records, and not inventorying the mount of junk you keep on hand. This is the inverse of what anyone who is carrying their tools in a backpack, a bike basket, a grocery cart, or a bike trailer has to do.

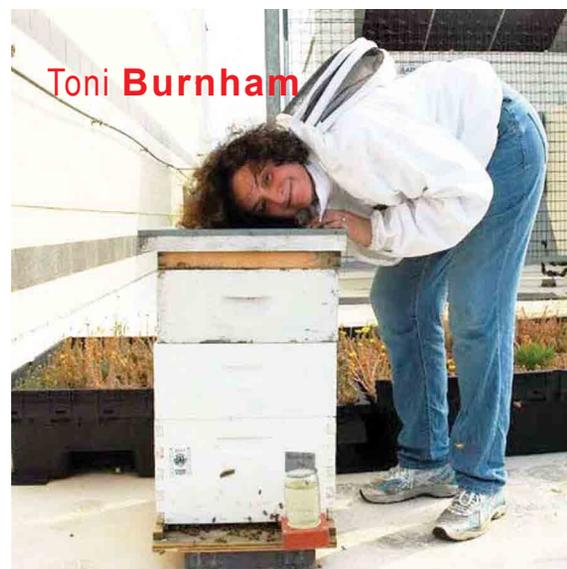
Common themes for all means of transit

Planning is absolutely the key when the work you can do is limited by the amount you can carry. Every one of the beekeepers

Human Powered Transit

February 2015

BEE CULTURE





Jana's work bike.
 (photo by
 Brent Knepper –
www.brentknepper.com)

interviewed for this article talked about keeping track of the bees' needs and the likely activities of the season, of important concerns like swarm prevention, feeding, and the inevitable unanticipated curve ball that living things will always throw. They all talk about keeping decent records, and taking a moment before they head out to calculate, as exactly as possible, what they will need and how they will get it there. In many ways, this is urban beekeeping on overdrive: in the city, we always have to worry a little bit more about how what we do impacts lots of people and bees: these folks have do all that, at that high quality, with great precision and care.

They all also point out that, a large part of the time, you can look after your bees with a veil, a tool and a smoker. But take that moment, collect your thoughts, and collect your stuff: then be a mindful beekeeper.

Time is a major consideration: for many apiary sites, a distance that

looks trivial in a car takes on new significance with a super and a bag of sugar in tow. Justyna knew from the outset that she was not going to have access to a car, and got an apiary site in a community garden 1.1 miles from her house: a single mile that is downhill one way, uphill the other. She is bus dependent, but no purist. If the load is heavy, she might take a cab or phone a friend. But mostly, "I get into my beekeeping clothes and load up my grocery cart, and head for the bus stop. I look like a bag lady a lot of the time, and it is also important to know the bus schedule and how much time it is going to take to get to the bus stop, and from the bus to the hives and back." She notes that she often has to use public transit from work to home to get tools, the bus again to get to her apiary, and has to fight disappearing daylight in order to do what she plans in a weekday visit. "It's not like I can work by flashlight."

Arielle was offered a great hive site at a local university, but realized what would take 10 minutes in a car

would take more than an hour by bike or bus, and opted instead for a site near a major bus route.

Conversely, Jana groups her hive sites and her bike travel schedule into different neighborhoods on different days, and can get around to several bee yards across brutal traffic in a fraction of the time a car could manage.

Kristy in Minneapolis adds, "The time factor is significant, and it depends on your priorities. If you are trying to run a business, and economics is a major goal, the time required to manage the number of hives you can handle with a bike might not work. But we have a different philosophy and seeking different things, like community outreach, and that time is worth spending."

Justyna notes that her trips would be a lot easier if she had **reliable, secure storage** at her site, and it is important to have a way to make sugar water or wash her hands, even if she has to carry her own H₂O. Kristy of BeezKneez sets up her equipment for the whole season on site, but is careful to advise that any comb that has contained honey needs to be sealed, and pest situations need to be watched. Jim Fischer of New York finds carrying a smoker around to be a problem on the 4, 5 or 6 Train, so he keeps one on every rooftop.

Both Jana and Kristy overcome some of these storage constraints by using high quality bike trailers. Kristy shares that she is a 5'3" 120 pound woman who routinely hauls over 200 pounds of stuff around town. She uses a heavy duty Surly long bed trailer capable of holding 300 pounds. Jana uses a heavy duty Bikes at Work trailer made in Ames, A and has modified her bike to add panniers that are instrumental for carrying sugar water. "Loading the trailer is like a game of Tetris, and its really fun. I've had loads of over 300 pounds!"

Out apiaries involve **community outreach**, which can help. Beekeepers in community gardens, parks, school yards are going to get questions, and folks like BeezKneez actually banked on this as part of their alternative transit beekeeping and honey delivery. They wear bee clothes and decorate their bikes to get noticed! People are intrigued, ask questions, become "friends of bees,"



BeezKneez turned to their bike mechanic, Carl, to convert a broken donated extractor into a pedal-powered dynamo.
 (photo credit: BeezKneez)

and often lend a hand. Which helps a lot when time and energy are at a premium! Many of these beekeepers carry an extra veil in order to give passersby the experience of working with bees. Jana mentions, "I took my short course without having any experience inside a hive, but fell in love once I worked with my mentor in Oregon. Urban beekeeping is very popular, but it helps people to discover whether or not it's for them."

Finally, most of these beekeepers have opted to use **medium woodenware**, all of the same size, in order to ease planning, packing, weight, and interchangeability.

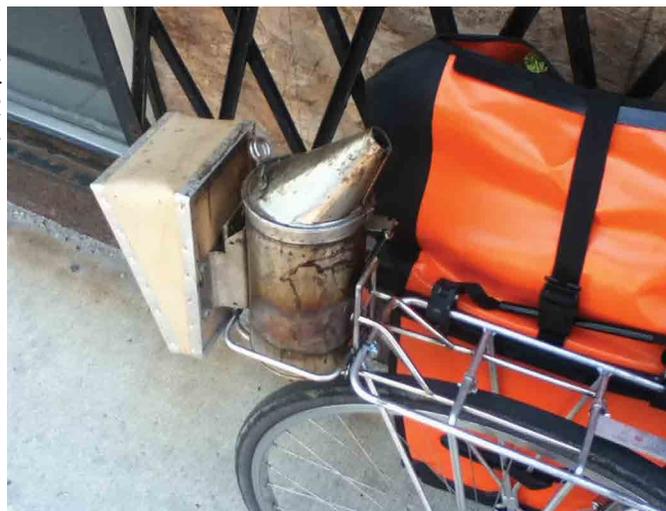
Bikes versus Public Transit

There are pluses and minuses to both sides of the bike versus bus/train approach to urban beekeeping. Riding the bus or train is physically less taxing while you are moving, but subway beekeepers are actually working harder and carrying less at most other times. You need greater physical stamina, and should be well aware of the state of your health, before taking on long, weighty bike rides, but you will burn calories on the subway, too.

Bikers easily manage more than their body weight in trailer loads, and most bikes are easily customizable to have baskets or sidebags. Both Justyna and Arielle point out the importance of knowing the transit schedule –BEFORE the hive site is even selected – because their timing will rely on those schedules, which are often infrequent or late. Unlike bikes, where your journey begins when the bike is loaded and ends when you arrive at the apiary, most public transit journeys are multi-stage: walk to the stop, ride the vehicle, get off and walk again to the beehives. There are usually stairs, and it can get hot while you wait. Trains are almost always the fastest way across town, however, though it is an odd sensation to board one while carrying a package of bees.

At harvest time, Jana is happy to point out that the issue of bees riding home on supers is nonexistent: they blow off in the breeze as she pedals. Nonetheless, she restricts her loads to four supers, max, for stability reasons. The transit beekeepers usually phone a friend with a car: something a community is usually happy to provide.

Jana of BikeABee had the rack of her beek bike modified to hold a smoker. (photo credit: BikeABee)



Arielle of DC is actually transitioning from bus to bike, the one beekeeper here to do so, though most are not transportation purists. For the unanticipated emergency, for large loads, or simply to get set up in the first place, most of these beekeepers will use a car once in a while. Jim Fischer reports, "Woodenware is moved by Volvo in the wee hours when no one minds a little double-parking for a minute.

Why?

The question of "why?" may be an odd place to end, considering that it is where most of these beekeepers have started, but their answers to this question ended up being the most meaningful part of this investigation.

The standard urban beekeeping assumptions apply for many, many of the beekeepers who contributed to this article. They live in apartments or don't have back yards, so they were going to have to locate and travel to out apiaries. Many chose city living because it was walkable and accessible, and chose not to have cars because, fundamentally, the cost and

carbon footprint didn't make sense. Also, being serious environmentalists pretty much without exception, it seemed contrary to burn gas to go green.

It pays to mention some special cases, of course. Jana of BikeABee, who moved to Chicago at 19, was already an avid cyclist who never owned a car, and took on beekeeping by bike after falling in love with bees-by-pickup in Oregon in part to prove it could be done, and to thwart the impression that grown up, serious Americans get anything important done by car. She was initially joking with her mentor, back in the Windy City, "It went from a joke to the conviction that I CAN DO THIS! I wanted to prove I could do anything that a car can do." The only time she uses a car is to pick up Spring packages in Indiana.

Arielle was not a cyclist, but is now pedaling along, and told me, "Regardless of all the types of transport I have had to use, it has been an experience that has brought me what I was looking for: community, a connection with nature, time in the outdoors. I am usually at the office or in my apartment: now I am getting into nature, taking on physical exercise, using my hands to gather smoker fuel in the woods and to work with the bees. I've had to reach out for information and community support, to be more outgoing and to meet people. And by being a beekeeper, people have approached me and I have made new friends. I got what I came for." **BC**

Toni Burnham keeps bees on rooftops in the Washington, DC area where she lives.

Baldwin's Bee Bizz
 Accepting Orders for 2015
Packages, Nucs & Queens
 Call For Details
330.553.9371
 Located In NE Ohio
 Packages Ordered by December 25, 2014

Bee Art

Alice Eckles

Beeswax is the most inspiring and accessible art material I can think of, and I have been a professional artist and art teacher for many years. I am also a certified Waldorf teacher. Beeswax plays a prominent roll in Waldorf education. The children become experts at modeling colored sheets of beeswax into many imaginative scenes. They draw with real beeswax crayons, both block and stick. The Waldorf educational system values beeswax as a high quality natural material that when used as an art supply, nurtures children's imagination and helps develop life skills.

I have enjoyed using beeswax in encaustic painting, at Easter creating Ukrainian eggs with my family, and exploring the art of batik. In the instance of Ukrainian eggs as well as in batik beeswax resists the watery dyes and provides a crisp contrast between colors. I have tried using non-beeswax from a regular commercial candle for Ukrainian eggs and it simply didn't work. Beeswax has many special qualities not fully understood. I don't mind not knowing exactly why beeswax works so well for so many artistic purposes. I like the mystery of this material that is so pleasant to work with.

As a beekeeper and an artist I am excited that there are so many art supplies I could potentially make with our beeswax if only I had the time. I could make beeswax crayons, colored modeling beeswax sheets, and encaustic paints. I could make sealing wax for sealing important letters. I have made encaustic paints for myself on an as needed basis, and I make bulk wax that can be used for various projects, such as Ukrainian eggs, but that is as far I have gotten in making art supplies. This fall the leaves and black-eyed-susans were so pretty I was inspired to dip some in beeswax to decorate our honey booth. People often ask, "What do you do with beeswax?" when they see the bulk wax at our honey booth. There are many uses for beeswax and beeswax as an art supply is my favorite category. Beeswax is the chief wax used for artists' materials. Here are a few art techniques employing beeswax.

Encaustics

Encaustic painting, or painting with hot beeswax, is an art that

comes to us from ancient Greece. Greek painters in Egypt painted the famous Fayum funeral portraits in the 1st through 3rd centuries A.D. The word encaustics, or in Greek enkaustikos, means literally to burn in. Though encaustic painting may be man's earliest easel painting method, it was not the most convenient way to paint and was later displaced by new mediums such as tempera and oils that did not require heating. Encaustic painting became for a time "a lost art". However during the eighteenth century mural painters

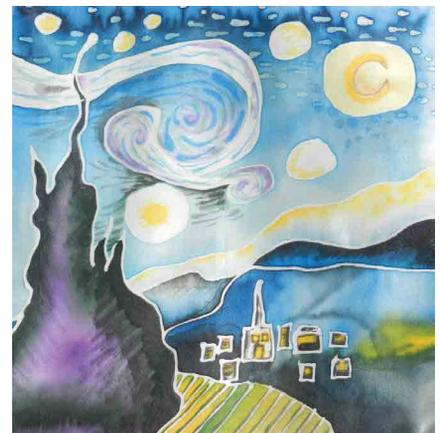


The Eckles family Easter eggs, 1999.

sought a new material that could withstand dampness over time, and the beeswax based paintings by ancient Greeks offered a potential solution in this regard. With much research the lost art was found. The revival of encaustic art continues today, aided by electronically heated equipment.

The classic encaustic painting process is quite simple. You will need beeswax, resin, and pigments. Light or white beeswax is best for color clarity. A muffin tin is a handy item for melting your colors in. For my "hot palette" I use a single electric burner and a metal plate on top of a few bricks to make a table over the burner. Then I set the muffin tray on

that with mostly beeswax, a dollop of resin (one part dammar resin crystals to eight parts beeswax), and various colors for the different compartments. For pigment I use oil paint, oil pastels, ground chalk pastels, or pure artist's pigments. Some spices and even shades of dirt will work to add color. The surface you paint on should be hard, so that the paint cannot crack off. Clay board, masonite, and matt board are commonly used. To paint I choose brushes that I won't need for anything else and I dedicate each brush to its own color. No brush



Jennifer Hansen Vyhnaak, 'Thank You, Vincent,' batik, 2014, unsigned, 11x10-5/8. Artist's collection.

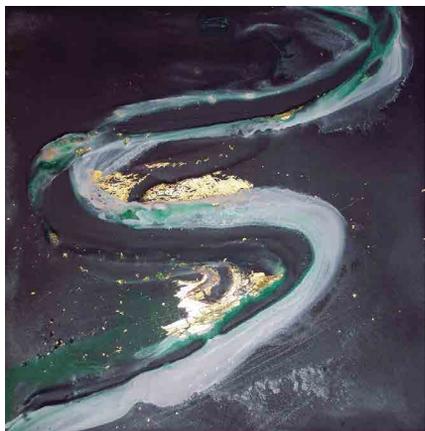
cleaning is necessary. Metal palette knives can be heated and used almost like a brush, but also as carving tools.

Encaustic painting is a versatile art that is used by many artists to expand the way they are already working with materials. For instance an oil painter might simply add oil paints for pigment to the melted beeswax and resin, or a collage artist might use the melted beeswax and resin to glue papers to a backing material. As a multi-media and print making artist myself I use encaustics with oil paints, to glue papers, image transfers, relief carving, and with pastel drawings.

n Artist

Batik

Batik is a way of producing colored designs on fabric. First designs are painted with hot wax, and then the fabric is dyed. The waxed areas resist the dye and thus an image is made. A mixture of beeswax and paraffin wax are used to paint the designs. Beeswax is excellent for adhering to the fabric but does not give the crackled effect that some artists want. If crackle is not a desired effect pure beeswax can be used. The word batik may have been derived from the word



Alice Eckles, *Cosmic Swirl*, Encaustic, 2010, 9x9.

“ambatik”, meaning “cloth with little dots”. Batik was developed in the Far East, Middle East, Central Asia, and India, and reached its greatest peak of accomplishment in Java where it is still popular.

Designs are drawn in beeswax with a Tjanting, or stylus, onto the cloth before it is dyed. The cloth can then be dyed repeatedly with new designs between each dye color so that there is an overlapping effect; each new beeswax design preserves the color of the cloth before the next dye bath. Therefore preplanning the color sequence is important. Starting with the lightest colors first and using related colors helps the color scheme develop in the way you intend. Cotton,

muslin, or silk are good choices for batik. Be sure to wash out any sizing, the chemical residues left-over from the manufacturing process, from the material before beginning. A frame, or stretcher to hold the material flat as you draw your designs with hot wax may be useful. When the wax drawing/painting and successive dyeing process is completed to the artist's satisfaction the final step is to remove the wax. An easy at home method is to place a few layers of newsprint (unprinted) or brown paper bag paper over and under the fabric, and iron with medium heat until wax is melted out and absorbed into the paper.

Ukrainian eggs

The batik method is also used in Ukrainian egg dyeing, a traditional Ukrainian practice begun long before the birth of Christ. In early sun worshipping cultures, birds were magical as they were considered the only creatures who could get close to God, and their eggs were also believed too have special powers. As a source of life the egg was honored in rights-of-spring festivals and decorated with nature symbols. Today Ukrainian egg decorators embrace Christian symbols and celebrations as well.

I can't over emphasize how much fun this activity is when shared with family, friends, and community. I recommend a visit to Ukrainiangiftshop.com before Easter. There you can buy excellent dyes, kistky (stylus), a Blas-fix egg blower with egg drill, beeswax, as well as guides and design books. I recommend getting many kistky, for all your friends. In a pinch I have made a stylus using a pencil, a paper clip, and the metal from a wine bottle. I made a wax reservoir from wine bottle metal, then made a loop around that with the paper clip, and inserted the metal ends of the loop into the eraser of the pencil. Voila.

To make a Ukrainian egg, first wash the egg in soapy water or

vinegar water. Have your dyes mixed and ready. Dry the egg. Next use the Blas-Fix egg blower and tiny drill included to empty the eggshell of egg liquids. Make sure the egg is clean and dry. Next some people draw the design with a pencil on the egg first but I don't recommend it because you will be able to see the pencil in the final design and if you try to erase it the wax and the dye don't work right and instead there will be a dark smudge. A good way to start your design is to draw wax lines with your kistky dividing your egg into quarters vertically and then in half horizontally. Then dye the egg in a light color. Use your kistky again to draw designs, pictures, and symbols inside each of the sections, dyeing the egg in a new color before you add more details. After you have been through this process a few times, use your darkest color, and if you believe your design is complete it is time to remove the wax. This is an exciting step as the beauty of your colors and drawings is only now revealed. One way to remove the wax is to hold the egg above a candle flame, rotating and wiping with a paper towel while being careful not to get any smoke marks on the egg. Another way is to warm the eggs in the oven at a very low temp and gently wipe off the melted wax.

Beeswax remains the most versatile and broadly used product from the hive. Uses for beeswax include candle making, metal casting, modeling, cosmetics, food processing, industrial technology, textiles, varnishes and polishes, printing, and medicine. For the artist there are many opportunities to use beeswax: in painting, in modeling, in crayons for drawing, Ukrainian egg dyeing, batik, sealing wax for love letters, carving, lost wax sculpture. Artist Aganetha Dyck collaborates with honey bees to create her beeswax covered sculptures. See <http://laughingsquid.com/artist-collaborates-with-honey-bees-to-create-fascinating-beeswax-covered-sculptures/>

So you see when it comes to beeswax you are only limited by your imagination. **BC**



Better Beekeeping With Better Records

— Lonnie Funderburg

It's that time of the year when some of us make resolutions with good intentions and, for me, with usually poor results. This year is going to be different. This year I am going to be a better beekeeper. This year I am going to do all the things that I know I am supposed to do, that I know how to do. And, I am going to keep better records of my beekeeping activities.

Who should be keeping records of their beekeeping activities? Every beekeeper who has more than one colony and some of those with only one colony should be recording what they do. Maybe, with only two colonies in your backyard, you can remember everything. Good for you. You may skip this article. I am trying to help those beekeepers who have increased their number of colonies to the point that they cannot remember all this stuff.

Do you receive an annual request from the USDA, National Agricultural Statistics Service with questions about your "hobby"? Are you participating in the Bee Informed Partnership? You should be! Does your state department of agriculture want to know how many colonies you have, where those colonies are, and how much honey you produced? Do you sell your honey and file a Schedule F on your tax return? Are your hives in more than one out yard? Are *you* the only person who knows where all your out yards are? Then you should be keeping records.

Here is a good example. A friend of mine suffered a stroke last year. He is paralyzed on his right side and confined to a wheelchair. When I offered to purchase his hives, I could not understand him when he told me where they were. The stroke had affected his speech. Locating his four out yards took a little detective work, actually a lot of detective work. I asked the now retired bee inspector who could remember where two yards were. The man's daughter said that her brother might know where a yard was. Two colonies were in another beekeeper's yard, and that beekeeper knew where another yard was. Make a record of the location of your out yards. An address, if applicable, would have been too simple. Sometimes, my out yard does not have an address. There is always a latitude and longitude. Don't laugh. With Google Maps and a GPS, your out yard can be located very accurately.

It's simple. Open Google Maps. Locate your out yard. I am serious. Sometimes, if the yard has been established for a few years, I can see my hives in a satellite view. Place the cursor on the out yard and right click. One of the selections is "What's here?" Left click on "What's here?" The latitude and longitude will appear in the upper left corner.

You have recorded the exact location of your apiary. OK, what other information and activities should be recorded? When did you last look into that hive? Time gets away from us. Has it already been a month since you inspected that colony? How strong was the colony? How manageable were the bees? Don't forget the weather, season, time of day, a nectar flow; all these elements affect their mood. Did you record their mood? Is that same colony consistently irritable? Should you consider re-queening? Or do you have an animal harassing that colony at night? How about the brood pattern? Was the brood pattern great, good enough, poor, or none? The brood pattern also depends on the season. Did you see eggs or very young larva? Or not! Did you see capped brood? How old is the queen? Is she marked? If she isn't marked, how do you know she is the same queen that you put in that colony? Do you suspect the colony might be queenless? Are they roaring? A caution here, be careful diagnosing queenless with a single visit. Make a note of the colony and come back in three or four days. Did you see a misshapen frame that should be replaced? Does the hive need other maintenance? Did you apply any medications or miticides? When? If applicable, when should the miticide be removed? When are you allowed to put on surplus honey supers? How much honey did you produce? Which colonies produced honey? Which out yard is the most productive? I can only speak for myself; I cannot remember any of this stuff anymore. I must write it down.

How do you identify your hives? I have used a black permanent marker, self-adhesive address numerals, old automobile license plates, and cow ear tags. I have a couple of number tags that were used in a research project several years ago. I have seen chalk used. I have seen a 5" x 8" card inside a ZipLoc® bag stapled to the back of

the hive. Maybe you have another, even better method. So, somehow you identify the hive in your beeyard.

When should you prepare these notes, your records? I have to write it down immediately. If I look at three hives, I'll forget which of the three had what problem. The big word is *contemporaneously*, i.e. originating or happening during the same time period. I have to make the record right then. Maybe you can look at a dozen colonies in a yard and then record what you saw. Good for you. But, make the record before you leave that yard. I have to make the record after each colony, a consequence of reaching 65.

We are in the digital age. We have smart phones, iPads, tablets, laptops, digital cameras, and other devices with which I am totally unfamiliar. Even in this digital age, we still have paper and a pencil; and in some situations, I find that paper and pencil are still the most efficient means of recording. Let's simply agree that there are many different methods of recording your observations and maintaining this information. Keeping and safeguarding your record is as important as creating your record. If you use digital means, be sure to back it up. It's not how you create these records; it's whether you create these records and keep and safeguard your records.

In the past, I have purchased preprinted forms for a three-hole side punched binder. There was one page per colony. It worked as a means of preparing beekeeping records. The form was carefully designed to have blanks for almost everything you could think of associated with a bee hive inspection. There were shorthand symbols to facilitate rapid notation. In my opinion, there was limited space to write brief descriptions which I found necessary too often. This is mostly excuse; I quit using the preprinted forms because they did not fit my style or method.

Again, in the past, I purchased a computer program for keeping my beekeeping records. I recall that the program was very inexpensive, possibly only \$25. The designer of the program had put more thought into the records to be kept than I ever dreamed of. This record keeping system would have worked very well if I had fully utilized the program. At the time, I did not have a laptop; so, this computer program required that I make notes out in the yard and transcribe my notes to my computer when I returned home. More often than not, I did not transcribe my notes when I returned home.

Currently, I keep my notes utilizing three separate paper records. For out in the beeyard, I use a Composition notebook that I purchased at one of the dollar stores for \$1. That Bee Log is going on three years old and only a little over half used. I expect it will last two more years even if I make more notes next year as I plan to do. Every entry is dated. This information is when and where I did something such as when I moved bees to which floral source, when I pulled off each floral source, my mileage, the checklist of supplies and equipment needed, what I forgot, mistakes that I should not repeat like forgetting the spare tire for the trailer. I record observations on a yard basis in this Composition notebook.

In a small, three-ring binder with 5" x 8" paper, I keep a separate page for each colony. In this three-ring binder I record the date the queen was introduced, her source, whether she is marked, on what date I inspected if I suspect a queenless colony, a failing queen, or a drone layer, a particularly testy colony, any sign of disease, if I

tested for mites and the result, or other notation specific to that colony. Of course, each page is titled with the hive identification and location. The hive identification could be an old auto license plate or a cow ear tag. I have never filled up this form over the course of one year.

The third notebook is production and sales. It is simply a spiral bound, college ruled notebook that fits in a purple cover that we have used for years. My wife and I refer to it as the "purple notebook". The majority of the entries are sales of a quantity of honey to named individuals on dates with amount of money collected. If we go somewhere for a weekend, the sales are summarized by container size, quantity, and dollars. My wife records her sales of candles, gift baskets, lip balm, creams, lotions, and soap. At the end of the year, this notebook is the record of revenue collected for tax purposes.

For our accountant, I prepare an Excel spreadsheet which summarizes purchases by category and total sales. If you never sell any of your honey, you could skip this step altogether.

What do I suggest that you do? Do something! Keep some kind of record. It will cost you a dollar to begin utilizing one of those Composition notebooks from the dollar store. You could pay more at the office supply store and get a Composition notebook with a stiffer cover. Simply begin recording the date, time, weather, bees' mood, entrance activity, population, brood condition, and other observations, if any. The weather does not have to be the temperature, wind velocity, and barometric pressure. Just write "Warm and sunny" or "Hot and humid". For mood, just say "Calm" or "Gentle" or "Testy". Note if there is something you should do or equipment that should be repaired or replaced on your next inspection. When do you plan your next inspection?

Write down your purchases. Put the invoice or receipt in a file folder or brown envelope. If you sell any honey, write down how much and to whom. Do you have two colonies? You should have a minimum of two colonies. Do you have more than two colonies? I am not sure how many colonies this one book system will accommodate. When this one-notebook system is inadequate, change your system. It's your bee operation. You are the boss, right?

OK, you want something more twenty-first century. You just have to go digital. It is possible to dictate to your smart phone. Although, I do not know how, I can envision sending that dictation as a text message to your computer and COPY and PASTE the dictation to a log. Make a concerted effort to complete your record with one action. For me, I simply do not transcribe my yard notes when I return home. With my paper system, when I have written in my notebook on the lid of the adjacent hive, I am through.

A very cursory search of the internet for beekeeping records produced www.talkingwithbees.com/wp-content/uploads/2013/02/BBKA-record-keeping.pdf. There are programs available to record and summarize everything you can think of concerning your beekeeping. Again, do an internet search for Beekeeping Records. Remember, it's not how you do your record keeping; it's whether you do your beekeeping record keeping. Keep a record; you will be a better beekeeper. **BC**

Dadant

Quality that can't be beat anywhere in the industry.



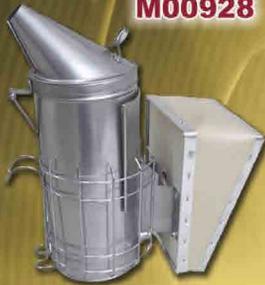
M00926



M00928



M00927



M009281

**Assembled
Starter Kit**



C52201P

**Premium
Smokers**

**QUALITY BEEKEEPING SUPPLIES
FROM AMERICA'S OLDEST AND
LARGEST BEEKEEPING SUPPLY COMPANY**

**Little Wonder
Hand-Extractor Kits**

**M00396KIT - Hand
M00403KIT - Power**



**Economy
Vent Suit**

**V01260(size)
Suit**



www.dadant.com

51 S. SECOND STREET, HAMILTON IL 62341 • PHONE (217) 847-3324 • FAX (217) 847-3660 • TOLL FREE 1-888-922-1293
• CHICO, CA (877) 332-3268 • FRESNO, CA (877) 432-3268 • PARIS, TX (877) 632-3268 • SIOUX CITY, IA (877) 732-3268 •
• WATERTOWN, WI (877) 232-3268 • ALBION, MI (877) 932-3268 • WAVERLY, NY (877) 532-3268 •
• CHATHAM, VA (800) 220-8325 • FRANKFORT, KY (888) 932-3268 • HIGH SPRINGS, FL (877) 832-3268 •

Make Valentine's Day Special With Honey

Ann Harman

February is a strange month. It is the shortest one but it has quite a few days for observances. One of my favorites is the second of February, Groundhog Day. Silly? Yes. But we need a few silly things in our lives. Chinese New Year is celebrated in several cities around the country. Mardi Gras does vary between February and March, but in 2015 it is in February. All the Presidents of the U.S. are honored on President's Day. But the most delicious February celebration is Valentine's Day. It is a day to celebrate with candy, chocolate, hearts and flowers. (I can't think of anything appropriate for a Groundhog Day celebration.) Since you want to enjoy the Valentine treats on the day itself, the time to do all the cooking and baking is the one or two days before. Homemade treats with honey make Valentine's Day special.

Mothers, fathers, children, grandparents, brothers and sisters and special friends are all looking forward to a box of chocolates. Surprise someone! You could make these brownies as your special Valentine's Day gift.

FUDGY BROWNIES

½ cup butter or margarine
2 one-ounce squares unsweetened chocolate
½ teaspoon salt
1 teaspoon pure vanilla extract
1 cup honey
1/3 cup flour
1 teaspoon baking powder
2 eggs
1 cup coarsely chopped walnuts

Melt the butter, chocolate and salt together in a saucepan over very low heat. Remove from the stove and stir in the vanilla. Then blend in the honey, flour and baking powder. Add the eggs and beat well with electric mixer. Stir in the coarsely chopped walnuts. Pour into a greased 9X9X2-inch pan and bake in a 325°F oven for about 35 minutes or until done in the center. Remove from the oven and allow the brownies to cool for 15 minutes before marking into squares. Makes 16 delicious Fudgy Brownies.

Joy With Honey
Doris Mech

Children frequently like treats with peanut butter so make some of these crispy squares for them. They are quick to make. If you line the pan with cooking parchment the squares will be easy to remove.

HONEY KRISPIE SQUARES

¾ cup honey
½ cup peanut butter
4 cups rice krispie cereal

In a saucepan, heat honey until bubbly. Remove from heat and add peanut butter; stir until smooth. Pour over cereal and mix thoroughly. Press into an eight-inch cake pan. Set aside to cool. Cut into squares.

Microwave Directions

Heat honey in a two-cup measuring cup on medium high power for two to three minutes or until bubbly. Stir in peanut butter until smooth. Pour over cereal and mix thoroughly. Continue as above.

*A Honey Of A Cookbook Alberta
Beekeepers Association*

Since Valentine's Day is going to be full of chocolate, how starting the day with something different – orange muffins.

ORANGE MUFFINS

2 cups flour
1 tablespoon baking powder
¾ teaspoon salt
1/3 cup honey
1 egg, well beaten

1 tablespoon grated orange peel
½ cup fresh orange juice
½ cup milk
¼ cup oil
2 oranges, peeled and sectioned

In large bowl stir together flour, baking powder and salt. Combine honey, egg, orange peel, juice and milk. Add oil. Add to dry ingredients, stirring quickly until just mixed. Batter will be lumpy. Spoon batter into 16 lined muffin cups. Fill each about 2/3 full. Place one orange section on top of each muffin. Bake at 400°F for 20 to 25 minutes. Makes 16 muffins. (Sunkist Growers, Inc.)

The Honey Kitchen
A Dadant Publication

So you don't have time to make muffins. Are you going to have a piece of toast? Then use this honey and orange butter on your toast. You can even make this several days before since it will keep. And while you are doing the cooking and baking, sit down and have a cup of your favorite tea and a piece of toast with the orange butter on.

HONEY ORANGE BUTTER

¾ cup soft butter
¾ cup creamed honey
4 tablespoons orange juice
3 teaspoons grated orange rind
½ teaspoon grated lemon rind, optional

Mix all ingredients together, beating until light and fluffy.

Ontario Honey Recipe Book
Ontario Beekeepers Association

Here is a chocolate cake to put the perfect finish to Valentine's Day. Since it is baked in a tube-style pan it has a hole through the middle. Find a small container to fill with a small amount of water to act as a vase. When presenting the cake as dinner dessert, put the little vase in the hole and put two red roses in it. Trim the stems so that the roses are level with the top of the cake.



DOUBLE CHOCOLATE HONEY RING

- ½ cup butter or margarine
- 1 cup honey
- 3 eggs
- 1 teaspoon vanilla
- 1-¾ cups all-purpose flour
- ½ cup unsweetened cocoa powder
- 2 teaspoons baking powder
- 1 teaspoon salt
- 1 teaspoon baking soda
- ½ cup dairy sour cream
- 1 cup semi-sweet chocolate chips
- ½ cup chopped nuts
- additional cocoa powder

White Chocolate Glaze

- 2 ounces white chocolate
- 2 teaspoons milk

Cream butter in a large bowl with electric mixer; gradually add honey, beating until light and fluffy. Add eggs, one at a time, beating thoroughly after each addition. (Batter may appear slightly curdled.) Beat in vanilla. Combine flour, the ½ cup cocoa powder, baking powder, salt and baking soda in small bowl.

Add dry ingredients alternately with sour cream to butter mixture. Fold in chocolate chips and nuts.

Pour batter into 12-cup fluted tube pan. Bake in preheated 325°F oven 50-55 minutes or until wooden toothpick inserted near center comes out clean. Cool pan on wire rack for 10 minutes. Remove from pan and cool completely on wire rack.

Make glaze. Melt two ounces

white chocolate in top of double boiler. Stir in two teaspoons milk. Drizzle glaze over cake with spoon. Sprinkle with additional cocoa and add the roses in their little vase.

National Honey Board

I wish you Happy St Valentine's Day! I hope you enjoy the one day of the year where you can indulge from breakfast through dinner with special treats made with honey. **BC**

THE WILBANKS APIARIES, INC.



 P.O. Box 12 • Claxton, GA 30417
 912.739.4820 • FAX 912.739.4821

2015 PACKAGE BEE PRICES

QUANTITY	1-9	10-24	25-99	100 UP
2 lb Pkg w/young laying queen	73.00	70.00	67.00	65.00
3 lb Pkg w/young laying queen	83.00	80.00	77.00	75.00
4 lb Pkg w/young laying queen	93.00	90.00	87.00	85.00
Extra Queens	24.00	22.00	21.00	20.00

PACKAGE BEES: Package bees are shipped by Priority Mail surface transportation only and insured.

QUEENS can be shipped to any zone, regardless of temperature. Queens can be shipped to most zip code destinations by Priority Mail or Express Mail INSURED, or by UPS Overnight or 2nd Day UNINSURED.

Package Bees, Nucs, Hives & Queens

Pick up in CA – SF & LA

805.616.0187



www.beekeepermike.com
mike@beekeepermike.com

Got A Question?

Ask Phil

Phil Craft

He Knows!

Send your questions to Phil at
phil@philcrafthivecraft.com
www.philcrafthivecraft.com



A beekeeper in Kentucky writes:

Is it ok to leave supers on hives during the Winter?

Phil replies:

Yes, it is quite acceptable to leave a honey super on top of the hive through the Winter; beekeepers frequently do this. Since the purpose is to ensure adequate food for the Winter, remember to remove queen excluders, if any. As winter progresses, the cluster will move into the upper brood box and then, if necessary, into the super as the bees consume the honey below. A queen excluder between brood box and super would prevent the cluster from reaching the extra food stored there, since the queen cannot go through the excluder.

There are a few issues to keep in mind before leaving supers on all Winter. If you treat in the Fall with a miticide which is not labeled for use with honey supers in place, you'll need to remove them all prior to treating. Otherwise, you cannot later use the comb in those frames to store honey meant for human consumption. Frames of honey which you intend to return to the hive after treatment will have to be protected in the meantime from wax moths and small hive beetles. If you have enough available space, a freezer is excellent for storing these frames of honey.

Another consideration is what happens inside the honey super in the Spring. As the earliest blooms emerge, the cluster will be in the top box of the hive where the queen will begin to lay eggs and the colony to rear brood – all part of the spring cycle. Your honey super will have become an auxiliary brood box. Not a problem if you're content to let it continue as such, but if you want to return it to its original function as honey super, you'll need to take some management action. A simple solution is to allow the bees to continue to rear brood there for the time being. Colonies in build up mode can always use a little more space for the kids, and it may help to reduce the swarming urge. As the season progresses and the time comes to add honey supers, place additional supers above the overwintered one with a queen excluder separating all supers from the deep brood boxes. The brood in the overwintered super will emerge, the queen will be unable to reach the frames to lay more eggs, and the bees will begin to fill the empty cells with nectar. Transformation accomplished. Of course, some beekeepers prefer not to harvest honey from cells in which brood was once reared. The presence of brood darkens the wax which, in turn, darkens any honey later stored there. This is another case in which there is no right or wrong answer, only

differences in management style and honey preference. I've always liked mine dark.

A beekeeper from Nevada writes:

Your column Ask Phil is the first thing I read when I get my copy of Bee Culture, and enjoy it very much.

My question is about queen excluders, I see on YouTube several videos condemning queen excluders. The videos show bees unable to get through the excluder. And I briefly put one on one of my hives and found dead bees stuck in the excluder and drones laying on the excluder. I don't think I will use them even though I just bought eight of them.

What are your thoughts on excluders?

Phil replies:

As far as I know, I have never appeared on any YouTube videos, but if I had, they most certainly wouldn't show me maligning queen excluders. I view a queen excluder in the way a woodworker might regard an old fashion block plane in his woodshop. It's a tool which probably doesn't get used every day, but for certain jobs it's just the thing.

I wrote about queen excluders in my June 2014 *Bee Culture* column. In brief, when placed between brood boxes and supers, they allow workers access to the honey supers, but prevent the larger queen from entering and laying eggs there. For this purpose, they're quite effective, and there are several situations in which they can be useful. Many beekeepers put them on three or four weeks before harvesting honey to ensure that no new eggs will be laid during the time it takes for any brood in the honey supers to emerge. Excluders can also be used to isolate a hard to find queen when re-queening or making splits. Some beekeepers keep them on as long as there are supers on the hive. Those who dislike them argue that they damage bees' wings, encourage swarming, or act as honey excluders. I am not aware of any research to support the first two contentions. Some studies do show that queen excluders reduce the amount of honey stored in supers, but in my experience this is minimal, and well worth not having to deal with brood in my supers when extracting. In the article from June I talked about steps which can be taken to encourage bees to utilize honey supers even with an excluder in place. Whether it is more important to maximize honey production or to prevent the honey in the supers from darkening and contamination from brood is a personal preference.

However, you bring up a point not addressed in my

earlier column: the issue of drones getting trapped in queen excluders. Drones, like queens, are larger than the spacing between the excluder wires. If there is no drone brood in your honey supers, this should not be a problem. On the other hand, if drone brood is present, the drones will get stuck as they try to pass through the excluder. This situation can arise if the queen got into the honey supers before the excluder was installed or if the beekeeper (as I sometimes do) moved frames of honey containing previously laid drone brood into the hive above the excluder. My inclination would be to ignore a few stuck drones. If there were enough to seriously clog the queen excluder, a simple solution would be to place a spacer (a small piece of wood would work) between two of the honey supers to provide the drones an alternative exit. That would basically create an upper entrance such as I discussed in my recent November column.

Even if you decide not to use queen excluders routinely in your supered hives, I wouldn't get rid of all eight. You might very well find them useful in the right circumstances.

(Bee Culture readers: in the above question and answer, I referenced the June and November issues. If you do not have those back issues, contact me and I will email copies of the columns to you.)

A beekeeper in Kentucky writes:

I had a small colony of bees last Fall, so I decided to put them inside of a building with heat for the Winter. I would move them outside when temperatures got 50 or better. I have 20+ hives, so this year I was going to start marking queens, but have never marked one before. It was a nice day Saturday, I had this hive outside, so I thought it's a nice day to try marking a queen. The first frame I pulled up, I saw the queen - this is going to be easy - and then out of corner of my eye I saw another queen on the next frame. Two queens, just a bee space apart! I marked both queens, and closed up the hive. About one hour later, I noticed bees flying in circles in front of the hive. I looked down and saw a queen with a green dot on the ground - one of my newly marked queens. I moved the queen just outside the entrance, and back into the hive she goes. How long do you think that two queens have been in that hive? I don't think it has sat outside more than three days in a row since November. Did I do such a pretty job on marking one, which caused the other to be jealous, so she tried to run off?

Phil replies:

I am sure that both queens have been in the hive since at least early last Fall, the most recent time when conditions were favorable for rearing a new queen. As for the simultaneous presence of two queens, we've all been conditioned by beekeeping classes and grade school biology teachers to believe that there can be only one queen at a time. We've seen the nature documentaries of queens stinging rivals to death in their cells to establish supremacy in the hive. But that isn't always the way it happens.

Bees produce three different types of queen cells in response to three different sets of conditions in the hive. In a teeming hive during a nectar flow, they may build swarm cells to provide the colony with a successor after the old queen leaves with a significant proportion of the colony to find other quarters and establish a new hive. In the event

of the sudden loss of a queen, they produce emergency cells in what, if they possessed human emotions, would be a panicked attempt to keep the colony alive. Supersedure cells appear when there is a functioning queen in the hive, but the bees sense that she is failing. Commonly, this occurs when her ability to produce queen pheromones declines with age and instinct impels the colony to provide for the future by supplying a successor. The fight to the death scenario only occurs when multiple virgin queens emerge from their cells at about the same time, either as part of the swarming process or in the case of emergency queens. The superseding of an aging queen by her royal daughter is much more civilized, with both queens co-existing for a period of time - sometimes for quite a long time - as you found in your weakened hive.

I'm certain that one of the queens you saw was a superseding queen, and the other her mother. The mother's end will eventually be determined and carried out by the workers. However, unlike a swarmed hive or one in which the queen has suddenly died, this colony has time on its side. In this case, two is better than one. I suspect that if she does not perform to the required standards, she will disappear and the old queen live on a while longer to produce another successor.

I suspect that the situation you encountered occurs more often than we realize. The only way I can tell when a superseding has taken place in my own bee yard is by finding an unmarked queen in a hive which my written notes record as containing one I had marked. I know then that, either the old queen was superseded, or the colony swarmed. The strength of the colony, the time of year, and the number of queen cells may help me determine which, or I may never know. This is the major reason I mark queens: to make me aware when they are replaced, which helps me keep up with genetic changes in the hives. (I'm glad you decided to try marking and had a successful first attempt.) Even when I realize that a queen has been replaced, I am not likely to notice if the hive contains, not one, but two. After all, we tend to see what we look for, and after finding one queen in a hive, we quit looking because that's all we expect to see.

As to one of your queens feeling jealous, I think that's an exclusively human emotion. However, when showing off my observation hive to children, I sometimes point out the marked queen and tell them that she is the only one who gets to wear makeup. Perhaps in marking one of your queens you smudged her makeup so that she got embarrassed and walked out. **BC**



BEAR ATTACK!

Jim Grupp

One early morning in late October, a Black Bear attacked one of my hives here in Highland Mills, NY. Woke up that morning, grabbed my cup of coffee, then did my usual look out the kitchen window to see how the bees were doing. Looked and looked and looked again, then it registered in my foggy brain that one of the hives was down and looked splintered.

My hives sit up about 10 feet in an old foundation; protection I thought from bears and other predators – well the smell of “Goldenrod” honey is a pretty powerful force when combined with the hunger of the upcoming Winter. So for the bear climbing 10 feet up the old foundation wall to enjoy some honey and bee brood was just what the “Call of Hibernation” ordered.

Stunned, I tried to come up with a “plan of action” to save the bees and put the hive back together. First, I remembered a story from a BOS (Beekeepers of Shawangunk) club member – “Saw my hive down and ran out to put it back together and got stung over 60 times.” So, my first actions were grabbing my bee jacket and hood, then the smoker, bee tools and I-pad (to record the mess). Climbed up the ladder to the hives in 40 degree plus temperatures and was “blown away” by the destruction.

There were bees (dead and alive), hive parts (smashed and

knocked down), frames (torn apart and devoured) and honey and sugar water everywhere. Honestly, the sight of this first year hive’s destruction, a hive I had nurtured “with loving care” from early Spring to late Fall, almost brought tears to my eyes. In fact, it was really a punch to the gut – took the wind right out of me.

That did not last long because the next thing I discovered was many very unhappy bees. Even with my bee gear on, they were attacking and they seemed to get in everywhere to sting. So I lit the smoker and smoked the “heck out of the place.” That did settle them down then got to work putting the mess back together.

The Bear totally knocked down the hive and in the process smashed the hive bottom. The lower brood chamber basically empty – only one torn up frame left, hanging off the edge of the foundation. The second brood chamber had all the frames in it, full of bees teetering on its side. The medium super which was once full of honey (left it on the hive for the bees for the Winter since this hive was thriving – Italian bees) was upside down with a couple frames and some stunned bees inside.

Righted the Brood box full of bees with bees swarming all over, then set the medium super on top followed by the hive top plus added some smoke just to settle them, which this did. Scooped up as many loose bees as I could (it was cold so I did not want them out in the open) then put these bees in the medium super. Literally ran to the garage made a new hive bottom brought it up the foundation and attached it to the hive stand. Finally, put the reconstructed hive back on the new hive bottom and took a deep breath. All that took about

four hours; it was cold and not a whole lot of fun!

Now I started looking for the missing frames from the bottom brood box. Found all but one scattered in the woods – all the wax foundation, honeycomb, brood and honey gone – empty frames with wires hanging from them. Also scattered amongst the leaves and sticks were a lot of “house bees”, clinging together totally “lost”! I literally, grabbed as many as I could, sometimes one at a time with my hand and returned them to the hive. Problem was every time I went to the hive; the bees went into attack mode – so lots more fun trying to get the bees back where they belonged. Also, looked and looked for the queen never saw or found her.

That night I set up two powerful shop lights and bathed the hives and foundation in bright light to scare away any returning bear. Then in the morning, I set up a powerful solar electric fence on top of the foundation. I hoped with all hope that the bear would come back and get the surprise of his life. Unfortunately, that did not happen! However, I did spend the next two days picking up bees and returning them to the hive. Needless to say picking up “lost bees” was perhaps the most “heartbreaking” experience of this bear attack.

The new beekeeper lesson from this hive destruction is quite simple. If you live in a bear area, do not take a chance or hope they will not attack your hives – eventually they will. The “call of the wild” with bears and honey is very powerful. When they are hungry and smell a hive, they will get it unless it is protected. So protect your hives! Electric fence is probably the best way. It may cost





some money, but in the end it doesn't compare to the destruction of a hive you have worked so long and hard nurturing and building. If there is such a thing as "grieving for bees", I felt it that day as I tried to put my hive and bees back together after the bear ate his share of it!

So far this hive has survived the Winter. I added all the pulled comb I had to the super and fed them as much 2:1 sugar water as I could. When I winterized the hive, I put in a bunch of sugar fondant in to help them through the Winter. The last warm day, the bees were out and about enjoying the sun and day.

Still don't know if there is a queen, but will wait till Spring to find out. An experiment of sorts, if they make it without a queen, maybe a nuc or new queen will save this colony. Right now my goal is to get them through Winter (hopefully with a queen), then tackle what comes up next Spring! All I can say is, "Thanks Mother Nature for giving me a good hard lesson in "New-bee" beekeeping called - Bear Hive Protection"! Just Do it for your bees! **BC**

Jim Grupp is a new beekeeper from upstate New York.



Growing Your Operation - How Big Do You Want To Get
 A New Look At Honey Production - Growing Your Own
 Royalty - Finding The Best Queens
 The Working Class - Managing Your Bees
 Wintering - Baby It's Cold Outside

X172 **\$29.95**
www.bee-culture.com

Established 25 Years

The Beekeepers Quarterly

The independent international magazine with the UK slant for all serious beekeepers

FULL COLOUR throughout • 56 pages of up to date information

- Regular articles by highly respected beekeepers
- Practical hints and tips
- Latest research and environmental matters

Only \$40.00 Price includes Surface Post and **digital edition at £15** - via Page Suite pay by paypal - **approximately \$22.50**

Subscriptions: 623 West Liberty Street, Medina, Ohio 44256, USA
Free Toll Number: 800.289.7668 ext 3220
Please make checks payable to Bee Culture

Gold Star Honeybees

Backyard beekeeping for the thinking beekeeper.

Treatment-Free Bees

A Guide to NATURAL BEEKEEPING TOP BAR HIVES

The thinking beekeeper

Top Bar Hive Kits
 Bees • Classes
 Tools & Accessories
 How-to Videos

GOLDSTARHONEYBEES.COM
207.449.1121

But, when sorting out the issues, not a lot has changed – poor weather during mating, unhealthy or stressed drones, poor nutrition during queen cell time, simply bad stock, diseases, pesticide levels in hives – it all comes down to sperm viability. It's the major factor in colony and queen losses he believes, with lots of causes leading there. . .

One of the most interesting speakers was someone new to the beekeeping crowd was Dr. Johathan Lundgren, a USDA Research Entomologist from Brookings, SD. He is a dynamic speaker who's been off our radar because he isn't just a bee guy, but a pollinator and cover crop guy, among other skills. But he is a biodiversity guy first and foremost. His message was very similar to that of Dr. Doug Tallamy, Univ. DE that I heard a couple of years ago at an EAS meeting. Tallamy's message was that a lack of diversity in the urban landscape was leading to a crisis in insect populations. That the invasive ornamental trees and shrubs being used didn't feed native insects, and their populations were rapidly declining. It's been his influence that has led me to work with Soil and Water Conservation offices to look carefully at what plants they are offering. With a bit of study, they are now offering plants that are a benefit to pollinators and native insects, and what is it that the local bird population eats...native insects. So with care...you can feed the birds, the bees, and the butterflies with the same assortment of plants.

Well, Dr. Lundgren has the same outlook, but he's not urban, but agricultural. His gig is that farmers should be providing pollinator strips alongside their fields using the right seed mix of course. And flowering cover crops should be part of the picture, which could be flowering biofuels certainly, so the farmer gets double duty out of them. Crops like flax, phacelia, canola, borage, calendula. Good advice...and his question is...what happens if we don't?

When looking, what he found was that between 25 and 40% of our land is devoted to crops. Moreover, the more crop land there was, the less healthy bees in the area were. How? He captured honey bees and measured life components. Lipids, glycogen, proteins and the like. Not surprisingly, the more perennial components in the landscape, the healthier the bees, the more crop – yup, you guessed, the less healthier the bees were. Biodiversity is the key. We can, he insists, conserve species and produce crops on the

same land. But we can't do it the way we are doing it now.

Next, he dives into neonicotinoids, definitely an agricultural mine field. He quickly undresses the topic though – are they as bad as they say? And what's the exposure opportunity for bees with these chemicals. For starters, he looked at guttation in a corn field with plants that had been seed treated – that's water that comes from the roots and is expelled from the tips of leaves on a corn plant. He found about 2000 drinking events/ac/hour and the drinking went on for about eight hours. What he didn't find out was how much chemical was present in that water, if any, and/or for how long if it was. That's next. He also found that at least some of this stuff was moving off site and contaminating milkweeds on the field edges. At least 51% of the plants had the chemical in the flower's nectar with an average concentration of .58 ppb/plant. Now six ppb apparently is toxic to a monarch butterfly – the main partaker of milkweed nectar, and even one ppb causes a sublethal reduction in adult size.

Other notes randomly taken as speakers came and went . . .

One researcher found that Amitraz was one of the problems with both worker and queen longevity issues. Another found that high Nosema spore counts correlated with low Varroa populations, and, not surprisingly, low deformed wing virus counts correlated with high Nosema spore counts. Something to keep in mind when examining your colonies this spring. And, in support of other speakers on the topic, lots and lots of pesticides in beeswax in a colony correlate with high, and rapid queen losses when new queens are put in that colony. That should tell you something, and that something is get rid of that old wax. And that is the \$64 question – where do you get rid of it? Candles and ornaments and soap, oh my? Or melt it down and trade it in – so when you get more foundation you get that same pesticide load right back home? I think fire starters are good, and I think candles are good, but I don't have a clue what to do with 1000 pounds of the stuff.

Progress from the Keystone Honey Bee Health Coalition is promising. This very diverse group is looking at hive management, forage and nutrition and cross industry collaboration in a variety of areas, including: Tech transfer investment, Varroa control tools summary, new Varroa control products, promoting

bee forage on agricultural lands, and promoting enhancements for nutritional supplements. Their goal is to control crop pests and safeguard honey bees, promote best management practices to safeguard honey bees, to promote reporting honey bee health incidents related to crop pest control, to improve by working together honey bee health with public/private education, and basically to improve communication. Lofty goals, but it's a pretty intense group, including, among others the CA Almond Board, ABF and AHPA, American Seed Trade Ass'n, Bayer Crop Science, Brown Honey, Canadian Honey Council, Canola Council, CropLife America and Canada, Ducks Unlimited, DuPont, Land O' Lakes, FL Fruit & Vegetable Ass'n, National Corn Growers, Pheasants Forever, Monsanto, National State Departments of AG, Pollinator Stewardship (the folks who write for us each month), Project Apis m, Syngenta, Unilever, United Soybean Board, MD Dept of Entomology, US Canola, plus a boatload of beekeeping and other conservation groups, and don't forget USDA and EPA. Basically what these folks are trying to do, as I understand it, is to take all the research that has been done finding out what's wrong, and doing something about what's wrong so it's not wrong any more. Fundamental research has found out, as I've said before, more and more about less and less, and the more we look the less we find. Well, this group is doing something about that, and it's about time someone did.

The Coalition will have their spring meeting here in Medina hosted by *Bee Culture* in May, so we'll keep you posted on progress in all these areas.

So, that's about half of what went on. But it's the half that did me the most good. I hope you have some insight to what's happening. Colony and queen losses – *Varroa* and pesticides in the wax and shipping temperatures, poor nutrition, low sperm counts, lack of biodiversity and a host of other issues. All fixable, but all still out there to fix.

It's February. Bees are in the Almonds. Florida's maples are about done blooming, and in Ohio we're still making snowmen. Get ready though, it's coming, so keep your hive tool sharp, your smoker lit, and your veil tight. As Mark Winston says, it's Bee Time.



SELECT SEEDS
SEEDS & PLANTS



FREE CATALOG

- Open-pollinated heirlooms
- Rare, old-fashioned fragrant flowers
- No GMOs or treated seeds
- Native perennials, organic selections & more!

1 (800) 684-0395
www.beefriendlyflowers.com

Don't Fall Behind the Times!



SUBSCRIBE NOW TO THE

AMERICAN BEE JOURNAL

THE BEEKEEPER'S COMPANION SINCE 1861

Save \$ By Reading the *American Bee Journal*

Many subscribers say they easily save the cost of an entire year's subscription from a single informative article in the *American Bee Journal*. Free sample copy upon request.

1-888-922-1293
www.americanbeejournal.com

HarrisHoneyBees.com

New World Carniolan Queens
Carniolan & Italian VSH Queens
Also selecting for hygienic behavior



Pollination • Honey Production
5 Frame Nucs • Packages

530-368-6293

P.O. Box 345
Meadow Vista, CA 95722
harrishoneybees@yahoo.com

Your Complete Bee Hive Supply Company



All wooden-ware available assembled and painted

Hives are constructed using precision box joints.

Our hand hold cutter leaves no tear-out!

Unassembled Frames
Assembled Frames
Wax Foundations
Shallow Super & Illinois Super
Hive Body
8 Frame Equipment
Deep and Medium Nuc Boxes
Honey Processing Equipment
Smokers, hive tools and much more.

Made with Eastern White Pine

Shipping Available

Forest Hill WOODWORKING
1985 Mine Road • Paradise, PA 17562
717-806-0193
Manufactured in Lancaster County, PA
www.ForestHillBeeSupply.com

Sign Up For
CATCH THE BUZZ
Get the latest news NOW!
Go to
www.BeeCulture.com/BUZZ

HIVE REPAIR MADE EASY

Do It All With FIXIT®!

USE FOR CRACKED, CHIPPED OR ROTTED FRAMES, PATCH HOLES, RE-BUILD CORNERS, MORE!
FIXIT® WORKS GREAT ON WOOD, METAL, FOAM, PLASTIC AND MORE!

- SAVE MONEY REPAIRING YOUR HIVES!
- 100% SAFE FOR YOUR BEES!
- PERMANENT, SELF-HARDENING - WATERPROOF
- EASY TO USE, BLEND & SMOOTH
- 2 HR. WORKING TIME
- HARD & DURABLE, GREAT ADHESION
- NO SHRINKING/CRACKING
- SAND, FILE, CARVE, & DRILL
- AVAILABLE IN 5 COLORS

ORDER NOW:
1-800-261-2837
ITEM SHOWN: FIXIT® 1 LB. \$20.00

WWW.AVESSTUDIO.COM

BEFORE

AFTER

AVES MANUFACTURERS OF FINE CLAY & MACHE
PO Box 344 RIVER FALLS, WI 54022
MADE IN THE U.S.A.

ASK ABOUT OUR AVES SAFETY SOLVENT FOR SMOOTHING & CLEAN UP. ALSO GREAT FOR SAP REMOVAL!

©2014 AVES® STUDIO

GLEANNINGS

FEBRUARY 2015 • ALL THE NEWS THAT FITS

OBITUARY

NC State University professor **John Thomas Ambrose**, well-known to students for his popular Introduction to the Honey Bee and Beekeeping class, died at age 70.

He was president of the NC Beekeepers Association at the time of his death.

Ambrose's interactive teaching methods drew many students to take his class. It eventually became one of the most popular biological science electives on campus, enrolling about 200 students each semester.

"By far, anyone will tell you the most memorable thing about the class was the swarm demonstration," says Kelsey Schmitz, a sophomore studying history and anthropology who took John's beekeeping class last Spring. "He would make bees swarm by picking up a big stick with them on it and flinging it around it in the air. It was cool. He was so comfortable around the bees."

Ambrose joined the faculty of the Entomology Department in 1975 as an assistant professor with responsibilities for developing both extension and research programs in apiculture.

In his research position, he developed and provided research-based information to support the important commercial and hobbyist apicultural interests of the state and the critical role that bees play in the pollination of many of its most important horti-



John in his L.L. Langstroth mode.

cultural commodities.

As part of his extension activities and through his close association with the NC Beekeepers Association and the NC Department of Agriculture and Consumer Services, Ambrose, in 1982, initiated one of the country's earliest and arguably strongest and largest master beekeepers programs.

Designed to teach beekeepers to train other beekeepers through a carefully structured, tiered educational program, it served as a model used by many other states as they developed their own master beekeeping programs.

In his research program, Ambrose focused initially on pollination biol-

BIG FINE FOR AUSSIE AFB OFFENDER

An Australian beekeeper was fined A\$6,500 (US\$5,321) for allowing his hives, infected with AFB, to be near healthy hives in Victoria state, an action officials say threatened the country's A\$300-million (US\$245.6 million) almond industry.

The unnamed 50-year-old New South Wales apiarist pleaded guilty at the Mildura Magistrates Court to four charges under the Livestock Disease Control Act 1994 involving exposure of diseased apiary materials to honey bees on two Victorian properties and failure to brand hives with a registered brand.

The maximum penalty for each offense is A\$8,856.60 (US\$7,248).

ogy and social behavior of honey bees, but the scope expanded over his 25 years in the department to include a wide spectrum of issues critical to bee biology, production and health.

Two years after joining the university, he added the teaching of basic and advanced courses in apiculture to his research and extension responsibilities. He developed a distance education version of the course in the mid-1990s which was offered each Summer with regular enrollments of 50 additional students a year.

Ambrose is survived by his wife Judith and daughter Caroline and son Zach.

Victoria Dept of Environment and Primary Industries apiary officer Daniel Martin says department officers detected 69 diseased hives while conducting routine apiary inspections during last year's almond pollination season.

"The apiaries were owned by the man and were being presented for commercial almond pollination services," Martin says in a statement.

"The hives were infected with AFB which is a highly infectious, notifiable, bacterial brood disease that weakens and kills beehives.

"AFB is highly transmissible between hives because diseased hives that have been weakened become susceptible to being robbed-out by stronger hives. As a result, nearby healthy hives owned by other beekeepers who are providing professional paid pollination services are vulnerable to disease spread."

"Beekeepers who suspect the AFB in their hives must notify the department within 12 hours.

"This man created a major biosecurity threat to commercial apiarists by delivering diseased hives to two separate commercial almond orchards, posing a high risk of transmission to healthy hives owned by responsible commercial beekeepers," Martin says.

"Almond pollination is compromised in situations like this where there are significant AFB outbreaks.

Fourth Generation Beekeeping and Queen Rearing Experience



(530) 671-6188
anbees@yahoo.com

Italian Queens

Strong Hives for California Almond
Very comparative for Honey Crop and Overwintering in Northern States
April-October & January

Queen Cells

Shipping and Local pick up
March-September

Langstroth Honeybee Brood Box



Excellent insulation



bpgrower.com

BEAVER PLASTICS

CALENDAR

◆ALABAMA◆

AL Master Beekeepers Certification will hold classes and testing February 4-6 at the Performing Arts Center in Clanton.

Visit www.Alabamamasterbeekeepers.com or David Kelton, 256.523.4767.

NEW LOCATION - The AL Cooperative Extension System's 20th Annual Beekeeping Symposium will be held at the Clanton Conference and performing Arts Center, 1850 Lay Dam Road, Clanton, AL 35045, February 7.

Speakers include Greg Hunt, Larry Connor, Jim Tew. Visit www.onetewbee.com or Paul Mask 334.844.4450.

◆ARIZONA◆

8th Annual Chemical Free Organic Beekeepers Conference will be held February 27 - March 1 in Oracle at the YMCA Triangle Y Ranch Camp and Retreat.

Speakers - Down Downs, Sam Comfort, Ramona Herboldsheimer, Bruce Brown, Michael Bush, James Fearnley, Jacqueline Freeman, and more.

The cost is \$200 for accommodations, plus meals, refreshments and access to the meeting.

Visit www.tucsonymca.org or contact Dee Lusby, 520.398.2474. Send payment in advance to Organic Beekeepers, Dee Lusby, HC 65, Box 7450, Amado, AZ 85645.

◆CONNECTICUT◆

Back Yard Beekeepers Association 2015 Speaker Schedule - February 24, Meghan Milbrath; March 31, Izzy Hill; April 28, Diana Sammatario; May 26, Wyatt Mangum; June 30: Dinner Meeting; September 29, Sam Comfort; October 27, Juliana Rangel Posada; November 17, Michael Fairbrother.

Information visit www.backyardbeekeepers.com.

◆GEORGIA◆

Georgia Beekeepers Association will hold their Spring meeting February 14 at the Lake Blackshear Resort and Golf Club in Lake Blackshear.

For information visit www.gabeekeeping.com.

Henry County Beginner Beekeepers Short Course will be held February 28 at the Public Safety Building, 116 Zack Hinton Pkwy South, McDonough, 8:00 a.m. - 4:00 p.m.

The cost is \$25. Children under 18 free with adult. Visit www.henrycountybeekeepers.org or 770.473.5434.

◆INDIANA◆

The IN Beekeepers' Association will hold its IN Bee School XIII February 28 at Decatur Central High School, 5251 Kentucky Avenue, Indianapolis. Folder pickup starts at 7:00 a.m., program starts promptly at 9:00 a.m.

Guest speakers are Jennifer Berry and Joe Latshaw. Sessions for beginners and advanced.

Visit <http://indianabeekeeper.com> or contact Mike Seib, 317.432.5342 or mike@seibshoosierhoney.com.

◆KANSAS◆

NE KS Beekeepers Beginning Class will be March 15 and 22 at the Douglas County Fairgrounds in Lawrence.

Clarence Collison will be the teacher on March 15. Visit www.nekba.org or contact 913.593.3562 or joli@heartlandhoney.com.



SUNSHINE HONEY BEES

Laying Queens Available This Spring!
Quantities

Up To 25 = \$18/Queen
26+ = \$17/Queen
Shipping Not Included

Now Accepting Credit/Debit Cards

318.794.6961

P.O. Box 1192, Lecompte, LA 71346

sunshinehoneybees@aol.com

KS Honey Producers will hold their Spring meeting in Manhattan March 13-14, at the Holiday Inn, 1641 Anderson Avenue. For reservations call 785.539.7531, use code khp.

For information call Joli, 913.593.3562 or joli@heartlandhoney.com or visit www.kansashoneyproducers.org.

◆MISSOURI◆

The Eastern MO Beekeepers Association (EMBA) will offer beekeeping courses for beginners and experienced February 7 at Maritz in Fenton.

Speakers include Deborah Delaney, Jeff Harris, Megan Milbrath and Sarah Red-Laird.

The cost is \$80 before January 18 and \$95 after that. Registration closes January 31.

To register visit www.easternmobeekeepers.com or 314.669.1828 or info@easternmobeekeepers.com.

◆MICHIGAN◆

The Kalamazoo Bee Club will host its annual Bee School February 21 at Kalamazoo Valley Community College.

Les Eccles will be the keynote speaker. For information visit www.kalamazoobeeclub.org.

◆MONTANA◆

Master Beekeeping Certificate endorsed by MT State Beekeepers Association; The American Honey Producers Association and Project Apis m.

For more information visit www.UMT.EDU/BEE.

◆NEBRASKA◆

Beginning Short Course offered by U of NE March 7 at the Christenson Ag Research Education Bldg near Mead. Registration is \$40 and includes lunch, and workbook.

To register send a check to Jeri Cunningham, Dept. of Ent, U of NE, 103 Entomology Hall, Lincoln 68583-0816.

◆NEW JERSEY◆

New Jersey Beekeepers will hold their annual Winter meeting February 14 at Nottingham Firehouse Ballroom in Hamilton Square.

For more information visit www.njbeekeepers.org.

◆NEW YORK◆

HoneybeeLives Organic Beekeeping Classes will be held February 21-21 in Brooklyn and February 7-8 and March 7-8 in Hudson Valley.

Visit www.HoneybeeLives.org or call 845.255.6113.

The Long Island Beekeepers Club will host Jay Evans February 22, 2:00 - 4:00 p.m. at the Frank Brush Barn, 211 E. Main Street, Smithtown.

Contact www.longislandbeekeepers.org or 631.265.8249.

◆NORTH CAROLINA◆

The NC State Beekeepers Association will host the joint NC and SC Beekeepers Spring Conference in Monroe at the Union County Cooperative Ext Center February 5-7. Speakers - Kim Flottum, Keith Delaplane, Jennifer Berry. Visit www.ncbeekeepers.org or 704.358.8075.

◆OHIO◆

Medina County Beekeepers Association will hold Beginning Beekeeper Classes starting in February for three consecutive Saturdays or six consecutive Tuesday evenings. Kim Flottum, editor of *Bee Culture* will be the instructor. For information visit www.medinabeekeepers.com.

Knox County Beekeepers Classes will be February 7, Beginners and March 14, Advanced at the Apostolic Church, west of Mount Vernon. Registration dates are January 31 and February 28. The cost is \$40. Make checks payable to Knox County Beekeepers, John Schmidt, 3270 Curve Road, Delaware, OH 43015.

Questions call Jeff Gabric 515.450.1359.

Tri-County Beekeepers Association Annual Meeting will be held March 6-7.

Speakers include Larry Connor, John George, John Grafton, Tammy Horn, Reed Johnson and more.

For information contact Randy Westfall, 330.801.1309.

Lorain County Beekeepers Association will hold beginners classes four Fridays beginning March 6 at 7:00 p.m. at First Church, 106 North Main, Oberlin.

For information visit www.loraincountybeekeepers.org.

◆PENNSYLVANIA◆

The Western PA Beekeeping Seminar will be February 13-14 at Four Points Sheraton, Mars.

Speakers include Jerry Hayes and Diana Sammatario, with break-out sessions. Registration is \$50.

For information www.extension.psu.edu/beaver or 724.774.3003 or Lyn Szymkiewica, lynszym@comcast.net or 412.855.0710.

◆VIRGINIA◆

Mid-Atlantic Organic Honey Bee Convention will be held March 28 at 4500 Kensington Ave., Richmond. \$50/person, \$90/family.

For information visit www.maohbc.com.

◆WISCONSIN◆

Beginners Classes Feb 28, Mar 28, April 11 and May 2 at Dane County UW Ext Bldg., 5201 Fen Oak Dr., Madison. 2nd Step Class will be March 21.

Contact Jeanne Hansen, 608.244.5094 or jeannieal-abeannie@yahoo.com.

Display Advertisers

Bees & Queens

A.N. Bees	93
B Weaver	40
Baldwin's Bee Bizz	79
Bordelon Apiaries	72
Buzz's Bees	30
Cedar Lane Apiaries	30
Gardner's Apiaries	11
Hardeman Apiaries	62
Harris Honey Bees	92
Hinton Apiaries	64
Honey Land Farms	72
KingBee Apiaries	16
Koehnen, C.F. & Sons	50
Miksa Honey Farm	16
Nucs, Hives & Equipment	86
Old Sol Apiaries	76
Olivarez Honey Bees Inc.	60
Pendell Apiaries	74
Roberts Bee Company	37
Rossman Apiaries	12
Selby Apiaries	48
Spell Bee Company	11
Strachan Apiaries	71
Sunshine Honey Bees	94
Taber's Queens	74
Velazquez Apiaries	48
Waldo Apiaries	9
Weaver, R Apiaries	53
Wilbanks Apiaries	86
Wilbanks, Patrick	64
Z's Bees	74

Associations/Education

American Bee Journal	92
American Beekeeping Federation	71
American Honey Producers	67
Beekeepers Quarterly	90
Farming Magazine	9
Heartland Apicultural Society	95
MT Beekeeping Program	62
Mother Earth News	19
OTS Queen Rearing	48
Pollinator Stewardship Council	55
The World of Bees DVD	75
Wicwas Press	3

Equipment

A&O Hummer Bee Forklift	6
Barn Hive	30
Bee-Z-Smoker	28
Bucko Gloves	40
Country Rubes	76
Cowen Mfg.	67
Dakota Gunness	76
EZ Pry Hive Tool	86

Forest Hill Woodworking	92
Gold Star Top Bar Hives	90
Golden Bee Products	76
Humble Abodes Woodenware	64
Langstroth Brood Box	93
Pierce-Mieras Uncapper	64
Pierco Frames	2
Ultimate Hive Top Feeder	76

Related Items

Angel Bottles	16
Apivar	10
Barkman Honey	40
BeeAmour Jewelry	86
BeeInformed.org	95
Beekeeping Insurance	64
BL Plastic Containers	11
Branding Irons	72
Casual Gal Jewelry	13
Draper's Pollen	64
Fixit Hive Repair	92
Freeman Beetle Trap	40
FrameUp	74
Global Patties	5
GloryBee	1
Help Wanted	48
Hive Tracks	72
Medivet	53
Microbials	94
Miteaway Quick Strips	17
Mother Lode Products	50
Nite Guard	4
Nozevit	67
Optima Food Supplement	68
Permaculture	68
Pollen Suppliers Wanted	64

QSI Bee Products Analysis	67
R. M. Farms	94
Sailor Plastics, Containers	9
Sugar Bricks	74
Thymol	62
Vita Europe Phone App	52
Z Specialty Food	55

Seeds & Plants

Applewood Seed Company	71
Ernst Seeds	72
Granite Seeds	68
Select Sees	92
Trees For Bees	30

Suppliers

Acorn Beekeeping Equipment	60
B&B Honey Farm	71
Beeline Apiaries	43
BetterBee	14
Blue Sky Bee Supplies .. Ins. Back	
Brushy Mountain....43, Ins. Front	
Dadant	35, 84
Jawadis Suits and Jackets	11
JZsBZs	76
Kelley, Walter	8
Mann Lake Supply	22, 49, Back Cover
Maxant Industries	86
Miller Bee Supply	49
Queen Right Colonies	74
Ross Rounds	30
Rossman Apiaries	12
Sherriff Beesuits	72
Simpson's Bee Supply	16, 76
Thorne Bee Supply	68
Valley Bee Supply	37



◀ Our **Emergency Response kits** are available to help you determine potential causes of colony crashes or weakening. We provide everything you need and these **\$80 kits provide detailed nosema, varroa and viral analysis** to help you rule out causes of death or dwindling.


Sign Up to Participate!

Sign up to Participate in **Next Year's Survey Now!**

Visit www.BeeInformed.org for more details!

Be Included. Be Involved. Bee Informed.

Using Beekeepers' real world experiences to solve Beekeepers' real world problems



Cats are a dime a dozen, until you need one. Mice rule the barn where I store my honey supers. They like to defecate on the top bars and eat the comb. I mean eat the entire comb, wax and all, leaving just the wooden frame.

I put out poison, until my gal Marilyn piqued my conscience, convincing me that the killing doesn't stop with the mice – it moves up through the predator food chain.

Mickey and Minnie laughed at my multi-mouse traps. Why would they be tempted, when there was honey stacked to the ceiling, free for the taking?

I like cats. Their diabolical inclinations don't faze me. That's Nature's way. But I don't like it that they kill songbirds.

Meanwhile, the mice not only destroy comb – they eat the stored surplus honey that I sometimes need to feed my bees. Honey bees keep a better and cleaner house than I do, so those mouse droppings vanish off the top bars once a super goes onto a hive, but don't tell that to the health department, OK?

This cannot continue. Why not find a lively cat or two, introduce them to the barn, provide food and water, and start counting mouse tails? That's the one part they don't eat.

But try to find a barn cat! The shelters all want background checks – yours, not the cat's – and assurances that you'll love and cherish your little adoptee. Of course they also want money. I just want a mean mouse-killing machine, preferably a free one. When a coyote or fox finally evens the cosmic score, I intend to replace said cat with another one just like it. I'm sorry about the birds.

If you belong to the People for the Ethical Treatment of Animals (PETA), this is pure savagery. If you're a farmer, it makes perfect sense.

Now watch the plot thicken. My gal Marilyn owns an ancient, half-remodeled house in town – a diamond in the rough, if there ever was one. She has the biggest heart. Her hard-luck tenant John-John lives there rent-free, in exchange for dog-sitting and a little remodel help.

The cat lady lives across the street. She feeds about 17 feral felines. So Marilyn and the cat lady both take care of the needy. Those two do-gooders don't normally speak to each other, however. The cat lady confines her communications to police reports filed against John-John's dogs.

But her cats are no angels, either. They find ways into Marilyn's basement to commit cat obscenities. The stench stops you in your tracks.

You see where I'm headed. Marilyn insists she's within her rights trapping a feral cat fouling her basement. She'd have to do it on the sly, but she's sick of the little trespassers.

This could solve my mouse problem. You can look at this two ways. It's the sneaky part I don't like. Is it even right? I'm not sure I can go through with it. I'm inclined to go back to the feed store and buy another five-dollar block of Bar Bait poison for my mice. Unless you have an extra barn cat . . .

It's early December as I write. Our western Colorado bees should be clustered up all cozy for the holidays. The mercury hit the 70s in October while we were on vacation. In November it got downright Arctic for a couple of weeks. Now it's blue skies with highs in the 40s and even 50s. Bees fly every day. Queens continue to lay. Some colonies powered through their winter honey stores. In a way, the warmth is a blessing, because I've been able get gallons and gallons of sugar syrup down them. This fall I got behind on feeding, and then I got pinched by the November cold snap and return to work

on the ski patrol.

I had priorities. First I tackled my bees headed for the almonds. In bleak November, Paul hauled my 40 California-bound colonies to his holding yard, along with hundreds of his own hives. I still wasn't finished feeding. I drove down to the holding yard bundled up like Santa Claus madly sticking honey frames into hives, before the big trucks came and hauled them away.

That done, I focused my attention on my stay-at-home colonies. Thankfully the weather broke. For a time, I couldn't get some bees – especially Carniolans -- to take their syrup. Did I mix it too thick? But the Italians were insatiable. Hives that wouldn't eat their syrup got an extra super of stored honey from the barn that the mice didn't devour.

I never dreamed I'd be doing this in December. I'm open-feeding pollen supplement powder, and the brood looks well-nourished. In December! This is so unnatural, in my mind so wrong. Do the bees think it's spring? What impact does all this artificial stimulation have on the production of fat winter bees biologically engineered to live through the long winter? Have I thrown off my little darlings' biological clocks?

I don't know. I do know that in this imperfect world you do what you have to. And I'm still looking for a cat.

Ed Colby

A Big Dilemma

Blue Sky

bee supply



Every Day
Low Prices!

MANY OTHER STYLES AVAILABLE! (price w/o caps)

- 1 lb inverted deco (364 ct) \$146.50
- 3 lb deco (126 ct) \$89.90
- 5 lb deco (72 ct) \$67.35
- 8 oz classic (600) \$159.95
- 16 oz classic (321 ct) \$119.95
- 2 lb classic (168 ct) \$94.95
- 6 oz panel bear (600 ct) \$164.95
- 8 oz panel bear (525 ct) \$136.90
- 12 oz panel bear (400 ct) \$109.55
- 16 oz panel bear (228 ct) \$89.95
- 24 oz panel bear (195 ct) \$83.95

NEW!

Rainbow Caps

Coming in January!

14 colors to choose from!

For plastic containers of all sizes
(includes 2 oz bear!)



NEW! Coming in January!

12 oz Glass
Skep Jar

Case of 12 \$10.95

*W/ LIDS INCLUDED



1 lb bear

Case of 50 \$27.95

Case of 228 \$89.95

*Caps not included



Dealerships Available!

Family Owned & Operated in Ravenna, Ohio 44266

(877) 529-9BEE | www.blueskybeesupply.com

PACKAGE BEES AND MARKED QUEENS

ORDER EARLY!

QUANTITIES ARE LIMITED!

Mann Lake's bee suppliers produce strong, healthy packages and queens year after year. Our packages and queens are calm, gentle, productive and are certified to be free of Small Hive Beetles by the State of California. This year for the first time ever, we will have both Italian and Carniolan bees available for pickup. Our 3 lb packages will include a marked queen in a JZBZ queen cage with a candy cap enclosure.

Mann Lake's queens are young and naturally mated. We don't require a cage exchange for our packages and have multiple pick-up dates available. We strive to make the process of buying bees as simple and straight-forward as possible while offering you the best chance at a successful season.

AVAILABLE FOR PICK-UP ONLY!

PACKAGE BEES

Italian & Carniolan 3 lb. \$119.95

MARKED QUEENS

Italian & Carniolan \$28.00



ALL ORDERS MUST
BE PLACED AND
PREPAID BY
APRIL 1ST, 2015.

WILKES-BARRE, PA

ESTIMATED PICK-UP DATES:

April 4, April 11, April 18 & April 25, 2015

HACKENSACK, MN

ESTIMATED PICK-UP DATES:

May 2 & May 9, 2015

We make every attempt to provide you with your choice of Italian or Carniolan bees, however, the breed provided is subject to change with availability at the time of delivery.



NC State Queen & Disease Clinic

APICULTURE PROGRAM

<http://entomology.ces.ncsu.edu/apiculture/queen-disease-clinic/>

QUEEN & DISEASE CLINIC PARTICIPANT



MANN LAKE

WE KNOW BEES

An Employee Owned Company

800-880-7694

www.mannlakeltd.com

