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JUNE 2000



# Bee Culture



## INSIDE

Back To School - 21

Stonecrops & Sedums - 28

Bad Backs - 36

Cremed Honey - 43

## MORE . . .

Inner Cover - 8

Research - 12

Dot-Corns - 18



# Bee Culture

THE MAGAZINE OF AMERICAN BEEKEEPING

JUNE 2000 VOLUME 128 NUMBER 6

## FEATURES

### GUEST EDITORIAL 7

*Does Lobbying Work? The numbers here indicate a 500:1 return.*

Donald Schmidt

### GOING BACK TO SCHOOL (AS AN EXPERT) PART 2 21

*This time, the focus is on the presentation preparation so that the students will learn.*

Raymond Lackey

### BEE CULTURE'S BEEYARD 25

*The inevitable sting.*

James E. Tew

### STONECROPS AND SEDUMS 28

*There are nearly as many varieties of sedum available as there are gardens.*

B.A. Stringer

### WHAT'S IN A NAME? 31

*What you call your product is as important as what's in the jar.*

Ann Harman

### MAKIN' CANDLES AND SELLIN' HONEY 33

*Duane and Wanda Waid make beeswax products and sell honey. And make money doing it.*

Mary & Bill Weaver

### PROTECT THAT BAD BACK 36

*Three ways to save your back.*

### AUSSIE BEES WANT IN 38

*Australia wants in.*

### NZ FINDS VARROA 39

*Searching every nook and cranny.*

Alan Harman

### MAKING CREMED HONEY 43

*Follow these steps for a perfect product.*

Roger Morse

### A MEMORABLE VISIT 46

Richard Bonney

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*This photo of a purple Liatris and visitor was taken by Catherine Kane, an amateur photographer from Bloomington, MN. She won First premium, and second place Sweepstakes with it at the 1999 Minnesota State Fair. And she isn't even a beekeeper.*

*Photo by Catherine Kane*

## DEPARTMENTS & COLUMNS

### THE INNER COVER 8

*Coming up roses.*

Kim Flottum

### NEW PRODUCT REVIEWS 9

*BeeSCAN Bee Counters.*

### WISE GUY 11

*Conflicts of Interest.*

### RESEARCH REVIEW 12

*How do honey bees measure distance?*

Roger Morse

### AN INVESTMENT OPPORTUNITY 15

*We are here for only a short time.*

Mark Winston

### DO YOU KNOW? 17

*What do you know about foraging?*

Clarence Collison

### BEEKEEPING IN THE DIGITAL AGE 18

*Here comes the Dot-Coms, Part One.*

Malcolm T. Sanford

### BOTTOMBOARD 56

*The Watersmeet & District Beekeepers.*

John Verran

### MAILBOX - 5; JUNE HONEY PRICES - 10; GLEANINGS - 49; CLASSIFIED ADS - 53

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BEE CULTURE



## KEEP IN TOUCH

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### Apitherapy Works

I failed to comment on Mark Winston's article on apitherapy before this because as a scientist I thought he might be trying to get some feedback from readers and played down apitherapy.

I am a pharmacist and worked in research before being drafted into the military service in 1951. One thing we emphasized in research is to not down play any possible information that might prove useful in the future.

My research was in the pharmaceutical industry and new drugs were being developed from plants. Most information about the medicinal properties of the plants came from natives that used them. Some proved to not have much value but others had the active components extracted and then synthesized into pharmaceuticals. One chemical that was synthesized was reserpine that is still used today after 50 years.

Stomach ulcers were not treated with antibiotics, and the researcher that said ulcers were caused by a bacteria was ridiculed but later proven correct. I am saddened by how this researcher lost his grants at the university he was affiliated with and later even his job.

My wife had a lipoma removed from her shoulder and nerves and muscle were damaged when removed. Therapy didn't help much so we tried acupuncture. She began to get some strength back. The doctor that gave the treatments knew I raised bees and told my wife that I could give her acupuncture with bee stings. She got one or two bee stings every few days and the pain got less each time and the strength in her arm began to return. After about four years she has 90% of her strength back. Whenever she begins to get a muscle spasm she gets a bee sting. The doctors, except for the one that gave her acupuncture, have no idea why apitherapy

# MAILBOX

works. Our family doctor tells her to do what works even though he doesn't understand it. Mark, step forward gently to apitherapy even if you don't understand it and patiently wait for new information to come forward. I now speak up when people tell me not to believe something just because they don't understand it.

David Mattichak  
Port Republic, VA

### Topsfield Tickets

As a result of your articles which have appeared in *Bee Culture* magazine about the Beekeeping & Honey Show at Topsfield Fair, we have received several inquiries expressing an interest in attending the fair and visiting the Beekeeping Building.

We can offer greatly reduced admission prices to those who might be interested in visiting us in 2000. The 2000 dates for the Topsfield Fair are September 30 through October 9.

The price of advance sale admission tickets are \$5.00 each; a saving of \$3.00 to \$5.00 per ticket over the regular admission price. Should anyone wish to take advantage of this offer, they may write to me at: Topsfield Fair, Beekeeping Department, Box 134, Topsfield, MA 09183-0234. They should send a self-addressed, stamped business-sized envelope with their address and a 33¢ stamp and we will send admission tickets to them. The deadline for ordering these tickets is Friday, September 15, 2000. (The admission tickets do not include a parking fee.)

William R. Wiley  
Topsfield, MA

### Aussie Bees

I read with interest your recent comments concerning the proposed entry of New Zealand queen bees into the U.S. market.

You will no doubt be aware that Australia has also recently submitted a draft pest risk assessment and I assume that your comments would also apply to Australian bees.

I know that American queen producers do an excellent job in supplying the U.S. market and I can assure them that the entry of Australia into the market will not threaten them. The Australian Bee Breeding Industry is relatively small and supply will principally be at a time when U.S. queen breeders are unable to supply. Furthermore because of the Nth hemisphere/Sth hemisphere seasonal differences there already is a big demand for Australian queens to parts of Asia and Europe during the same period as the U.S. market.

However there are some benefits for your industry that your readers may like to consider.

Australian queens for the U.S. market would be bred in our Summer (Dec-Feb) and this is a time when the drone populations are high, weather conditions are stable for good matings and Spring nosema levels have disappeared.

Also Australia has some unique genetic material that your readers may find attractive. Breeder queens are permitted to be imported into Australia from many parts of the world using a unique government quarantine system. These breeders are introduced into colonies in total confinement (i.e. in large flight cages). The importer is allowed to access only grafting material from which to reproduce the line. Although Australia does not have mites at this time I understand that some recent European imports have shown a high degree of mite resistance.

Africanized bees are probably not seen as a threat to your beekeepers however the use of known non-africanized queens in

*Continued on Next Page*



# MAILBOX

packages may allow your shippers to service markets that they are currently unable to supply.

So, although I understand the fears that your local queen breeders may have I believe that they are unfounded. And yet your beekeepers will have the opportunity to access early queens of good quality, new genetic material that may prove beneficial in disease control and all this at a price that is competitive.

Admittedly I am the seller but from where I sit I can see nothing but economic benefits for your beekeepers.

Warren Taylor  
Richmond NSW Australia

## Good Guys

Yes, beekeepers are generally big-hearted (see letter from Leland Larson, April *Bee Culture*) and sharing of time and money to promote bee culture, to educate those seeking knowledge. But it is done quietly and without publicity by thousands of us.

I am a bee venom therapist (BVT) mentor to many multiple sclerosis (MS) and arthritic people statewide. One MS young lady, Karen, from distant Mobile was tested in my home and found immune from anaphylactic shock and allergy to bee venom. Today, some 160 miles away, the Mobile (AL) County Beekeepers Association has taken Karen under its wing. Several couples are doing the stings on a rotating basis. One member is donating a hive to Karen so she can observe bee activity. The Association is constructing a concrete pad so she can propel her wheelchair to the hive. Beekeepers are caring.

I have for several years conducted annual all-day beekeeping workshops sponsored by the Alabama Cooperative Extension Service, without remuneration. This service is extended to schools (above third grade), churches and civic organizations for bee talks using an observation beehive. The audiences have responded with thank-you letters, many with bee-related color drawings, proving that

the information is understood and appreciated.

Internationally, my Baptist church has attempted to begin a beekeeping cottage industry in the roadless villages of southern Mexico mountains, where there is no employment opportunity or income. Problems were encountered in translation to the Indian language, as well as building woodenware where there is no electricity; the small missionary aircraft has higher priority freight. This project is on hold.

A benevolent idea to promote honey: my church invites first time visitors attending worship services to accept a gift in remembrance of the occasion - an eight-ounce fruit jar of honey (printed skirt under the jar ring). No label, of course.

Beekeepers are service oriented.

Fred Fulton  
Montgomery, AL 36106

## How Much Honey?

As a small hobby beekeeper I can get very upset when the word **honey** or **honey bee** is used on products that contain little or sometimes no honey. See the item I came across recently, which I am sending you. Truth in labeling allows too much freedom in the listing of the contents and their use on the label.

Present cases: Ruby Tuesday has a single serving labeled as **Honey Spread**. When I opened it I found a single serving of Oleo and I was unable to detect any taste of honey. The second item is the front of a four-pound bag of sugar, which is called Honey Bee Sugar. The only thing listed in the table of contents is - Sugar.

I am wondering, if I put a set of Cadillac Hub-caps on a Ford Escort, could I label it as a Cadillac Escort?

Robert L. Plants  
Ashtabula, OH



## GMOs - A Response

In response to your question on the opinion of beekeepers on the topic of GMO products, I submit the following:

It is my opinion that these groups are made up of sensationalist, self seeking, irrational, immature, rabble. They seek out hot button emotional causes they can use to drive fear into the heart of people and draw attention and resources to themselves. I mean, gosh, if you don't think too hard about it who wouldn't be against *Genetically Modified Organisms* created by big Corporate Agri-Business!! But if you calmly evaluate the facts, Cargill and many others (including us bee folks) are doing nothing more than carrying on what was described by Gregor Mendel and his peas back in 1866. If, as I am sure these groups want, we get rid of every GMO, then we destroy or quit using every plant and animal in agriculture. There is not one animal or plant that we utilize that has not been intelligently genetically modified by a full range of methods from simple selective breeding to sophisticated scientific hybridization. Not one! And don't kid yourself, if it brings in the bucks and draws a crowd they won't stop at corn!

For centuries, man has made a constant effort to improve the varieties of plants and animals that supply our daily needs. One of the most successful beef cattle, a breed known as the Santa Certrudis, was bred over a period of 30 years on the King Ranch in Texas. We have chosen Italian, and recently are trying Russian bees over others. We do so for very good reasons. But don't let these groups know, they will be burning beehives down all over the country. Many of the new GMO plants require significantly less, if not any, use of pesticides. This should be good news to beekeepers who often struggle with pesticide losses. And great news to families who worry about pesticide residue on their foods.

Robert Gates  
Pasco, WA



# Does Lobbying Work?

Donald Schmidt

*Voluntary investments into the anti-dumping action against low priced honey from China resulted in a very substantial return to U.S. producers.*

About five years ago the American Beekeeping Federation and the American Honey Producers Association agreed on a way to slow the importation of low priced honey from China into the United States.

Voluntary contributions invested into that action were directly responsible for a substantial increase in the price of honey in 1995, 1996, 1997, 1998 and 1999. Some claim that other factors were responsible for the increase in honey prices dur-

ing that period of time. I feel, even if other factors came into play, had it not been for the anti-dumping action being filed with the U.S. Department of Commerce, little or no meaningful price increase would have occurred during that same period of time.

The market price for white honey was in the 52 cents per pound range in the Spring of 1995. Other grades realized a lower base, price, however, enjoyed comparable increases. My estimate on the increased income realized by United States honey producers, for the following four and one-half year period is as follows:

Crop Year	Av. Price	Increase Over 52¢	Extra Income
1995	85¢	33¢	\$66,000,000
1996	95¢	43¢	\$86,000,000
1997	83¢	31¢	\$62,000,000
1998	70¢ early sales	19¢ ½ sold	\$19,000,000
1998	60¢ late sales	8¢ ½ sold	\$8,000,000
1999	60¢ early sales	8¢ ½ sold	\$8,000,000
<b>Total increased income to U.S. producers</b>			<b>\$249,000,000</b>

I submit, a 249 million dollar return, over a four and one half year period, is rather respectable on a half-million dollar "investment". About 500 to 1.

I remember many trips to Washington when I, and other leaders of the American Beekeeping Federation and/or American Honey Producers Association "lobbied" members of Congress and of the Department of Agriculture. What for? For the good of the Honey Industry. Two special areas close to my heart have been higher honey prices to producers and honey bee research.

So, I must admit, it does bother me a little when I see a research person writing "Strong Words" in the recent April issue of *Bee Culture* magazine saying "The result of the lobby efforts were worse than nothing." And, "The amount of money collected and spent on these lobby-


ing efforts is staggering and in my (this research person) opinion a great waste . . ." And I quote: "The problem we are faced with today is not the price of U.S. honey or any foreign honey imported."

I do not agree with these three statements and I trust this negative attitude is not prevalent among our respected scientists in honey bee research.

I also personally do not remember meeting people, who make their living in honey production, who would in any way agree with these statements written by Mr. Taber. Few beekeepers think that the wholesale price of honey was too high during these past four years. Of course, it may have been better, had the price increase of 1995 been accomplished over the prior half-dozen years instead. However, that is the time period when increased

imports of honey from China unfairly held U.S. honey prices down and why the antidumping action was necessary.

As I write this, I have good reason to believe that the U.S. producer is again at a disadvantage in the market. This time not only because The Suspension Agreement with China is coming to an end, but additionally, due to trade practices involved with imports of Argentine honey. Is the U.S. market now 10 cents per pound lower than it would be, except for the present Argentine trade policies which favor the Argentine producers and exporters? If so, then the U.S. honey producer is giving up another estimated \$20 million of market value on an average annual crop.

I feel honey producers should not only maintain a status quo, but they should, whenever practical, strengthen their presence in Washington, D.C. to help maintain a viable industry through good "lobbying efforts." 

## History of the Reference Prices On Select Grades Of Honey From China

The reference prices are calculated FOB foreign port and are 92% of the FOB prices of imports from other countries. In their original petition, the U.S. producer organizations estimated that a minimum of 7¢ must be added to the reference prices to determine price to U.S. honey buyers; an importer of Chinese honey has estimated that a minimum of 11¢ must be added.

Date	Ex. Lt.	Light	
	White	Amber	Amber
8/4/95	\$0.41	\$0.62	\$0.42
10/1/95	\$0.42	\$0.39	\$0.42
1/1/96	\$0.47	\$0.45	\$0.45
4/1/96	\$0.55	\$0.53	\$0.53
		Ex. Lt	Lt.
		White	Amber
7/1/96	\$0.62	\$0.61	\$0.60
10/1096	\$0.66	\$0.66	\$0.66
1/1/97	\$0.70	\$0.69	\$0.70
4/1/97	\$0.73	\$0.71	\$0.73
7/1/97	\$0.71	\$0.71	\$0.71
10/1097	\$0.69	\$0.69	\$0.67
1/1/98	\$0.64	\$0.61	\$0.60
4/1/98	\$0.60	\$0.58	\$0.57
7/1/98	\$0.57	\$0.54	\$0.52
10/1/98	\$0.52	\$0.51	\$0.49
1/1/99	\$0.51	\$0.49	\$0.47
4/1/99	\$0.54	\$0.51	\$0.39
7/1/99	\$0.49	\$0.49	\$0.46
10/1/99	\$0.43	\$0.40	\$0.39
1/1/00	\$0.42	\$0.39	\$0.38
4/1/00	\$0.41	\$0.39	\$0.38

Reprinted in part from *Speedy Bee*





# INNER COVER

**T**he future looks rosy for the price of honey. China and Argentina may be slapped with extra duties on the honey they export to the U.S., a loan deficiency payment program and a permanent loan program are receiving favorable reviews in Washington and exports of U.S. honey to once off-limit countries is increasing.

Add to this that farmers in general are getting second, and third looks from congress and some internal

USDA policies that have hampered fair treatment are being overruled at the highest levels and this industry should be rolling in clover in a matter of months.

Is there more? Yes. The referendum for the change in the National Honey Board will in all likelihood pass overwhelmingly. This will result in additional funds for research, marketing and the development of exceptional quality assurance standards for not only U.S. honey, not only honey imported into the U.S. but for all honey, everywhere. This, we are told, will ensure a fair and level playing field for U.S. beekeepers.

Let's take a look at these a bit closer and see what all the fuss is about.

The American Honey Producers have forged ahead alone in pursuit of an antidumping action against Argentina and China. That dumping is taking place in our market is the question, that harm is being done is a given, and that anybody cares is remotely pondered. All three need to be proven to make the action work. Proven beyond doubt, by the way. All three were last time. As far as the caring thing goes, yes, there are some who care - those who buy honey from Argentina and China, mostly. The public doesn't seem to have much input, other than not buying Chinese honey off the store shelf.

Importers and packers will, in fact, probably lobby against this action. The last time this happened, goes the thread, they suffered due to the fact that they had future contracts at set prices, and when supplies ran low and the price went up they were caught short. Yes, harm was done. The plan is to buy lots when the price is rising so you don't have to pay more, and then sit on it. Then, when the price falls, don't keep any in inventory at all. Producers will recall this.

But since hindsight is 20/20, you'd think a forewarning that this action was again being pursued would trigger some preventative measures, right? Start price increase warnings now so when they come (if they come) the ground work has been laid. At least shorten those contracts. We'll see.

The permanent loan program, in an election year, has a better than even chance to pass. By adding the word permanent this now-temporary program may last longer than it takes the next president to recite his oath. Maybe. Maybe not. We'll see.

The loan program we have now isn't a bad thing, all things considered. It's not great, but at least it keeps cash flowing when the rest of the river is dry. But, even with the one in place now the

bleeding hasn't stopped. We checked the figures of a company that tracks the commercial beekeeping business in this country. Not every commercial operation they said, but more than half do business with them. For operations with 500 or more colonies, in 1996, two went out of business; in 1997 just under 15; in 1998, 45 folded; in 1999, 71 gave up the ghost; in the first quarter of this year 37 are already gone. You can do the math. Larger operations are in trouble, loan program or not.

Most of these were bought out by another operation so the number of colonies doesn't change much, and the amount of honey produced doesn't change either. But like all the rest of agriculture in this country, only the biggest survive. So, does the loan program work?

The loan deficiency payment is a much different beast. A price of \$1.15/lb. has been calculated as the price U.S. producers need to stay in business. Taking a reasonable 70% of that, or \$0.80/lb. as the target, any price a pro-

*Continued on Page 48*

## Coming Up Roses



# Look What's New

The BeeSCAN counter has been developed to study normal bee colonies in the field. The counter is placed in front of an existing beehive so that it does not disturb the normal behaviour of the colony. Therefore some arrangements have to be taken into account to avoid changing the bee movements in and around the hive, avoiding obstruction of movement, or over attraction to other bees.

There are 32 identical channels where the bees can enter or leave the hive. These channels have a length of only 1 cm and have a special shape in order to let the insects pass easily.

The counter is able to distinguish incoming bees from outgoing bees because of two infrared beams in every channel. The passing bee obstructs these infrared beams. The different sequence of interrupting the beams determines the direction

of movement. A sophisticated algorithm is used which allows the elimination of erratic bee movements in the channels. When there is a high activity, the danger exists that two bees are following each other too close, and the electronic sensors are not able to separate these two insects. Counters are able to recognise two bees, as soon as the distance between them is 1 mm. The BeeSCAN counter is powered on by a solar panel and a 12V battery and is completely independent. The counters are equipped with an internal non volatile memory for logging the flight information.

More information on this counter and other counters like ApiSCAN (a low budget counter) and BumbleSCAN (a specially shaped counter for Bumble Bees) can be obtained by contacting the distributor for North America: Bee Services, Borman Ave 2211 Mesquite TX75150



Frontal view of beehives on a sunflower crop, equipped with a BeeSCAN counter.

([aerts@airmail.net](mailto:aerts@airmail.net)) or on the Belgian manufacturer: Lowland Electronics bvba.

## Bee Cool™

A member of the International Bee Research Association patented

### Bee Hive Ventilators

For Serious Beekeepers! • Increase Honey Production by 33%

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**Bee Cool™** is solar-powered and thermostatically controlled. It's ultra-quiet and pulls cooler air inside and stale air out. It can be used on your existing equipment!

#### Consider This!

How much would it cost you to add 33% more hives? How about 33% more mite control, 33% more labor, 33% more winter-kill, 33% more upkeep and repair? And remember, you have no honey to sell the first year.

If you have 30 hives, you'd have to add 10 more to achieve a 33% increase. 10 new hives, including bees (2 deep, 4 shallow, complete), that's \$2,600.00 where I come from. Add 20 hours of labor, per hive, at \$11.00 per hour (\$7 plus benefits), that's \$2,200.00. Bee care products, mite control, etc., will add, on average, \$110.00 for 10 new hives. Your additional cost for new hives is \$4,910.00! With no extra honey the first year!

If you bought 30 units of **Bee Cool™** (only \$112.48 each, discounts included), total \$3,374.40

You Saved at least \$1,535.60 the first year! With 33% More Honey! Order Now! Direct from the Manufacturer: Just try one and compare.

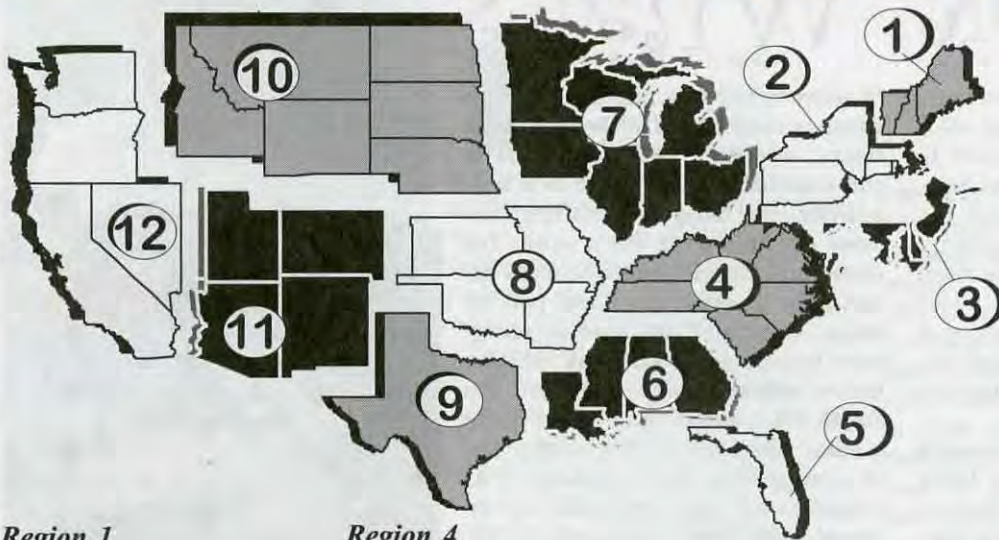
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# JUNE - REGIONAL HONEY PRICE REPORT



## Region 1

Prices steady since last month. About 10% Winter loss this year, but only an average to light buildup. As of 5/1 - about 80% strong, 15% average and 5% weak. Most are optimistic about the season.

## Region 2

Less than 10% Winter loss on average, but a poor buildup season. On 5/1 about 80% strong, 12% average, 8% weak. Prices down a bit since last month.

## Region 3

Prices only steady to down a bit. Good overwintering success, average buildup means most colonies in the same shape. Cautious is the word.

## Region 4

Averaging a 25% Winter loss, with only an average Spring buildup. About 60% strong, 30% average and 10% weak. Cautious is the word. Prices stable to down a bit.

## Region 5

Prices up a bit, especially retail. About 10% Winter loss, with an average buildup means about 30% strong, 50% average and 20% weak as of 5/1. Cautious is the word.

## Region 6

Prices fairly stable across the board. 13% Winter loss this year, with a mixed early season gives about 90% strong, 5% average and 5% weak as of 5/1. Not a lot of optimism, but some.

## Region 7

Averaging a 24% Winter loss this year, but north higher than south. A pretty good Spring buildup in April/early May has given about a 50% strong, 40% average and 10% weak situation. Most are only cautious. Prices up just a tad.

## Region 8

About 10% Winter loss, a pretty good Spring means about 75% strong, 18% average and 7% weak colonies on 5/1. Not a lot of optimism around, and prices are down, only a little, across the board.

## Region 9

About a 17% Winter loss in the region this year, and only a modest Spring buildup has produced about 50% strong colonies, and about 50% only average. Strong optimism for a good season though. Prices up a bit.

## Region 10

Nearly a 30% Winter loss on average, with an average, or worse buildup has resulted in about 43% strong, 55% average and some weak colonies - these on non-migratory only. Prices steady and sales slow.

## Region 11

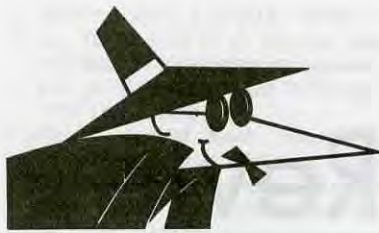
About 30% Winter loss this year - worse than many years, and a poor to average buildup has left about 75% of the colonies at average strength, while about 10% are strong and 15% weak. Prices steady.

## Region 12

A 25% Winter loss was far higher than average and a poor Spring buildup has left most - 60% - in average condition, only 10% in strong and 30% in poor shape. Prices, too are down across the board.

	Reporting Regions												Summary		History	
	1	2	3	4	5	6	7	8	9	10	11	12	Range	Avg.	Last Month	Last Yr.
<b>Extracted honey sold bulk to Packers or Processors</b>																
<b>Wholesale Bulk</b>																
60# Light (retail)	70.99	65.00	88.59	74.20	75.00	65.15	62.25	65.50	80.00	62.00	95.00	88.59	54.00-95.00	71.78	68.26	58.22
60# Amber (retail)	65.53	60.58	75.10	69.20	57.80	62.15	63.58	56.50	74.31	62.00	80.00	75.10	38.40-80.00	66.89	64.32	55.93
55 gal. Light	0.59	0.60	0.65	0.65	0.62	0.65	0.62	0.65	0.65	0.60	0.62	0.65	0.52-0.79	0.63	0.65	0.69
55 gal. Amber	0.53	0.65	0.59	0.58	0.45	0.59	0.59	0.59	0.59	0.59	0.61	0.59	0.42-0.78	0.58	0.60	0.63
<b>Wholesale - Case Lots</b>																
1/2# 24's	27.54	25.18	28.69	31.59	29.00	23.65	33.88	28.69	28.69	28.69	23.00	28.69	19.60-37.20	29.26	29.19	30.50
1# 24's	41.17	38.55	42.01	44.37	37.70	40.50	44.67	42.40	45.00	38.40	42.50	50.40	31.00-52.58	42.45	43.34	43.27
2# 12's	37.35	33.94	40.16	42.69	39.60	36.00	39.55	40.30	41.25	31.20	33.00	42.00	29.40-52.58	38.51	39.34	39.15
12 oz. Plas. 24's	36.93	34.38	42.97	39.39	34.80	32.80	37.29	35.27	42.48	27.60	38.50	38.40	26.40-65.00	37.50	36.93	37.21
5# 6's	39.96	36.89	42.84	45.63	42.84	48.80	42.73	39.00	42.84	32.50	39.00	42.84	26.00-61.00	41.53	42.37	41.45
<b>Retail Honey Prices</b>																
1/2#	1.55	1.48	2.83	2.17	0.99	1.82	1.69	1.61	2.83	1.49	2.83	2.83	0.52-2.50	1.62	1.76	1.81
12 oz. Plastic	2.12	1.93	1.89	2.13	2.41	2.02	2.05	2.08	2.62	2.14	2.59	2.25	1.40-3.00	2.18	2.23	2.23
1 lb. Glass	3.99	2.17	2.17	6.13	2.65	2.88	2.50	2.58	3.00	2.39	3.30	3.00	1.48-3.50	3.43	2.68	2.66
2 lb. Glass	6.47	3.82	7.70	6.68	4.12	4.12	4.18	4.82	5.17	3.41	7.00	5.00	3.19-8.20	5.70	4.41	4.51
3 lb. Glass	8.21	5.83	17.81	10.79	6.00	6.89	5.60	6.19	6.94	4.79	6.89	17.81	3.49-12.50	7.45	6.26	6.35
4 lb. Glass	9.84	6.73	15.57	15.63	15.57	6.05	7.73	4.00	15.57	15.57	15.57	15.57	1.99-15.50	9.22	7.90	7.93
5 lb. Glass	11.59	8.54	11.78	16.15	10.00	8.15	8.65	11.49	21.78	7.90	11.50	21.78	7.50-17.00	10.83	8.66	9.35
1# Cream	2.96	3.03	3.33	3.24	3.33	2.50	2.74	3.37	3.95	2.29	3.99	3.00	2.00-4.95	3.05	3.27	3.16
1# Comb	3.88	3.69	4.32	3.41	4.32	4.00	4.17	3.77	4.32	4.32	7.00	4.50	1.95-7.00	4.01	4.22	4.17
Round Plastic	3.64	3.11	3.92	3.50	3.92	4.50	3.60	3.99	5.00	3.92	4.63	3.50	2.95-5.00	3.82	3.79	3.65
Wax (Light)	2.63	3.11	3.15	3.35	1.40	3.25	1.70	1.88	2.00	3.15	2.00	3.15	1.25-5.50	2.69	2.47	2.16
Wax (Dark)	2.41	2.38	3.30	3.11	1.30	3.00	1.48	1.15	3.30	3.30	1.50	3.30	1.00-6.50	2.39	2.18	1.94
Poll. Fee/Col.	36.34	39.40	28.00	33.58	35.00	32.50	40.43	40.00	33.80	33.80	47.00	33.00	8.50-55.00	37.91	36.87	38.20





# THE WISE GUY



It seems the battle lines have been drawn. U.S. honey packers don't want any more blame for the poor economic conditions for the U.S. honey producers. This was most recently brought on by an article written in the *American Honey Producers* magazine saying that the American Beekeepers Federation actually should be called the American Bottlers Federation. How could any one even think this could be true? Let's take a look.

The Honey Packers and Dealers is a closed organization that meets in private. There have always been rumors that they set prices at these meetings, or at least set the low price. And price seems to be the only motivation for most of them (not all of them, but most). There seems to be little desire to introduce quality into their product as evidenced by the continued importation of poor quality Chinese and Vietnam honey. Check out how quickly the Germans got rid of cheap Chinese honey and replaced it with Mexican and U.S. honey, which, by the way is *higher* priced and a *better* quality. American packers have chosen to compete using poor quality honey based solely on price.

Now how could you say these folks have any influence over an organization (ABF) that has a mission statement talking about bettering the beekeeping and honey industry? Or is there a connection? This organization (like most organizations) has a dues structure that allows for different levels of contributions. And, like most groups the amount of recognition you receive is influenced, officially or unofficially, by the amount you pay. The largest contributors in this organization are packers, packer's employees or family members.

I have sat through numerous

ABF annual business meetings when the subject of anti-trust lobbying came up and it seems that as a group beekeepers don't have enough money to influence politicians in Washington. So using that thought why would packers be giving so much money to the ABF? Do you think they want influence?

Now, the ABF is not even considering backing the anti-dumping study at all. Who put the pressure on to get this done? Could it be the largest contributors that have paid for their influence? Could it be board members that import Argentine honey?

Now the article comes out in the *American Honey Producers* magazine and some packers are wild. Almost immediately one called anyone that would listen telling them he is tired of taking the blame for this market. The past president of the ABF is also calling beekeepers, saying the article was in poor taste and hints to some about a rumor that packers are not going to buy honey from the board members of the AHPA.

You know after I think about this

I believe there is a connection between some honey packers and the ABF. How could two organizations (The Honey Packers and Dealers and the ABF) with such different views be so close? The American producer just wants to sell his quality produced honey to a bottler in the United States for a fair price. But some packers only want the name honey to appear on their products and the cheaper the product the more money there is to be made. Beekeepers understand that they drive Fords because someone else is driving a Cadillac. Packers, it seems to me, want to wring all of the money from our industry and don't care if we even exist as seen by the amount of cheap imports they are getting.

So you make up your mind. Who do you want running your organization and who do you want controlling your board? Conflicts of interest can sometimes be difficult to spot, but to me, these are obvious. You look for yourself and let your wallet do your choosing.

*Wise Guy*

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Roger Morse

# Research Review

“How do honey bees measure distance?”

It has been widely accepted that honey bee scouts measure the distance to a food source they have found as they fly from the hive based on the amount of work (flying) done. However, there have been several papers in the 1990s and another published this past February, all using ingenious experiments, that reject the energy consumption hypothesis and indicate that the distance is measured visually by the bees as they fly over the landscape.

In 1990, Goller and Esch trained bees to two feeders that were 158 meters (about 158 yards) away from their hive. However, one of these was at ground level and the other on the top of a 50-meter-high building. Certainly it took more energy to reach the top of the building. If the energy consumption theory was correct, the bees should have indicated the food source on top of the building was farther away, but they did not. No differences were found in the distances signaled in the dance for the two feeders. In these and subsequent tests, the dances were video-recorded so that they could be measured accurately.

In another experiment, bees on the top of a 50-meter-tall building were trained to a food source on another building that was 34 meters tall and 228 meters away. The flight of the foragers as they moved back and forth could be seen for only part of their journey, but the bees “left their hive in level flight” and “approached the feeding station in level flight” so it is assumed they did not fly lower as they moved between the two buildings. The waggle dances done by successful foragers under these circumstances indicated the distance was about half the length that was indicated by bees that foraged at equally distant sites on the

ground (Esch and Burns, 1996). Based on these and other experiments, Esch and his colleagues have proposed an “optical flow hypothesis” to explain how bees measure distance as they fly to and from a food source. In other words, the bees apparently measure the distance they have flown using landmarks they see.

In the new paper, Srinivasan and colleagues (2000) trained bees to a food source several yards into a well-lit tunnel. The inside of the tunnel was painted with vertical black and white stripes that the bees could see as they flew down the tunnel. Thus, as the bees flew across these stripes they could see the changes as the landmarks under them changed. When they were trained to a food source in the middle of the tunnel, they knew where the feeding station should have been when it was removed, and they searched in this place for it. However, if the tunnel was painted with horizontal stripes that did not change as the bees flew parallel with them, the bees did not know where the feeding station should have been when it was taken away. They responded to this last situation by searching for the station over the whole length of the tunnel.

The way in which the tunnel was marked had an effect on the dance the foragers performed after they returned to the hive, too. When the stripes in the tunnel were horizontal, so that the landmarks did not change, the bees performed a round dance that indicates the food source was close to the hive, which, indeed, it was. However, when the tunnel was marked with vertical stripes, so that the bees would see changes as they flew, the foragers used the wagtail dance. There are some differ-

ences in the way in which different races of honey bees respond as the distance changes but these are relatively small. Under normal circumstances, bees that fly more than 100 meters to a food source indicate the distance to recruits by using the wagtail dance. However, when the food is less than 100 meters away, the bees use the round dance to indicate the distance.

These new data explain several questions that have been raised about the dance language over the years. For example, in 1957, Ana Ruth Boch (nee Bisetsky) found that foragers would use wagtail dances after walking only a few yards in a tunnel (under a glass plate) to obtain food. These observations, too, rejected the energy consumption hypothesis, but at that time no one understood how this fit into the whole scheme of things.

Von Frisch himself had observed that bees flying over a calm lake indicated that the distance was less than it really was, but when these same bees flew over water rippled by the wind they indicated the distance was greater than it actually was. A curiosity in this experiment was that when the water was calm the bees flew lower, in fact, so much so that some of them hit the water and drowned. Presumably these bees were flying low in search of landmarks but made the mistake of flying too low.

I expect we will be hearing and reading much more about the honey bee dance language as a result of these new data. ☐

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Mark Winston

## An Investment Opportunity



**"All of us are here for a short time, and when we go all that's left is what we have managed to accomplish and leave behind for those who follow."**

I've been dealing with investments lately, trying to balance risk and gain, growth and income, cash equivalents and equities. And no, I didn't win the lottery, and personally my own financial situation doesn't warrant spending too much time with bankers and fund advisors. However, I am responsible for what I think is quite a bit of money, close to half a million dollars, but it isn't mine; it's being managed for the beekeepers of Canada, and it's theirs.

The story of how our Canadian beekeeping community raised over \$500,000 in three years for bee research is an inspiring one, and in these days of grousing about government or digging at who is responsible for low honey prices, it's a lesson to us all in how much we can do when we work together.

The story does begin with government and complaining, and in the common situation where beekeepers go to the trough and come up empty. In this case it was beekeeping research, and the government well was drying up fast. Our Canadian government overspent their budget, a lot, and by the mid-1990s even our profligate legislators in the capital city, Ottawa, knew something had to give. Many things did give, and one of them was Agriculture Canada's research branch.

In a desperate bid to make red ink flow black, the government in its wisdom decimated a once-proud research service, and beekeeping was

only one of many victims. During my 20 years in Canada, Agriculture Canada went from five to one research scientist working on honey bee management, and an even more precipitous drop in scientists working full-time on pollination, down to zero. All of this occurred simultaneously with the arrival of two of the most problematic honey bee pests we've ever seen, tracheal and *Varroa* mites. The need for research was at its highest, and the resources had bottomed out.

There were innumerable meetings, letters and lobbying efforts, but to no avail. At some point it became clear that we had failed, and that if bee research in Canada was to continue, we had to make it happen ourselves. The first attempts involved the obvious direction of developing a checkoff system so that we could invest a bit of the profits from honey sales into research, but this was more difficult than it might appear.

There was a general consensus across Canada that some type of checkoff system for research and promotion would be useful, but there it ended. The checkoff foundered on two rocky coasts. The first was how to do it. Consensus could not be reached on who should pay, whether the assessment should be on honey or hives, what the role of packers might be, etc. Even this obstacle might have been overcome, but our Canadian government system does not provide for an easy checkoff at the federal level. Each province would have had to introduce its own legislation, and given the varying opin-

ions across Canada as to how a checkoff should be structured, it quickly became apparent that a checkoff was a non-starter.

If Canadian beekeepers were to see any research continuing in Canada, we had to find another way. Our solution was to start the Canadian Bee Research Fund, a strictly voluntary fund in which we would ask beekeepers to contribute. This was a bold idea for normally placid Canadians. For us here in Canada, our passions are reserved for things like drinking Moosehead Beer while ice fishing in minus 30° temperatures during the Winter, and it takes something equally inspiring to get Canadian beekeepers worked up to the point they will reach into their wallets and donate.

The idea for the Canadian Bee Research Fund (CBRF) was not hatched during ice fishing, but did gradually develop over a series of depressing meetings in which we were seeing bee research disintegrate before our eyes. Finally, we decided to do something about it, and three years ago the fund was launched at the annual meeting of our national beekeeping organization, the Canadian Honey Council, in Winnipeg, Manitoba, held jointly that year with the Manitoba Beekeepers Association.

Our concept was simple. First, the fund would be directed by equal representation from the Canadian Honey Council (CHC) and the Canadian Association of Professional Apiculturists (CAPA), organizations that are roughly equivalent to the American Beekeeping Federation and

*Continued on Next Page*



## "We also included another important clause in our grant competitions, favoring projects for which matching funding could be found."

the American Association of Professional Apiculturists. Second, grants and administration would be conducted by the Honey Council. Third, research grants would be distributed based on priorities set by the industry. And finally, donations to the fund would be strictly voluntary, although tax-deductible.

Oh, yes, one more thing: We set a goal of raising \$1 million over 10 years, a small part to go directly toward bee research, but the majority to be used in establishing a long-term endowment that would leave a legacy of income for generations to come and would be available to support research nationally.

I have given hundreds of talks in front of beekeeping groups, and thousands of lectures before classes, and for some unexplainable reason I am never nervous when faced with an audience. Almost never; when I got up to launch the CBRF in January 1997, my usually tame stomach was full of flying butterflies. It's not difficult to get up and talk about research, issues, etc., but getting up in a room full of beekeepers, none of whom are making a particularly large amount of money, and asking them to give some of it away, voluntarily, that's a bit different.

I remember one moment vividly. I had talked passionately about the situation we were in, explained the research needs and the way we hoped to structure the CBRF, and reminded beekeepers that when work needed to be done out in the beeyard, they would roll up their sleeves and just get the job done. At the end of my plea, sermon, table-thumping oratory, or whatever you want to call it, I asked them to roll up their sleeves, get out their checkbooks and kick off a million-dollar fund-raising campaign.

The moment was this: The room was deadly quiet when I was done, and for a terrifying instant I thought no one would come forward. I was mistaken; two of our prominent and

most highly respected beekeepers stood up, walked up to me checks in hand, and we were off. Within a few minutes we had raised \$12,000, and the fund was born.

This was not the end of the journey by any means, and the next event was equally inspiring, and also illuminating in illustrating a key element in fund raising, serendipity. The Canadian Honey Council sends out a newsletter, *Hive Lights*, and all CHC members receive it. One of the members was a woman from Toronto, a hobby beekeeper named Wendy Rebanks, who also happens to serve on the board of directors for one of Canada's most esteemed philanthropic organizations, the W. Garfield Weston Foundation.

She read about the fund kickoff and our objectives and contacted us to find out whether the foundation could help out. We corresponded, met and within a few weeks the Weston Foundation had committed \$110,000 to support the CBRF. These funds were especially important because they stipulated that \$90,000 be used to provide research grants over three years, rather than going into the endowment. In retrospect this was a wise condition on their part, because it allowed us to provide immediate funding for research projects and demonstrated to the beekeeping community that the CBRF could be effective in supporting research that was important for Canadian beekeepers.

We also included another important clause in our grant competitions, favoring projects for which matching funding could be found. Our Canadian government did feel guilty about decimating agricultural research, and to compensate instituted a number of matching funding programs, in which they would double or even triple any grants from industry. Thus, for every dollar the CBRF invested in a project, we have been able to partner with government to increase its value considerably.

The directors of the fund have traveled widely across Canada over the last three years, explaining its operations and exhorting Canadian beekeepers to contribute. Also, we were able to set aside some revenue from the 1999 Apimondia meeting, and both CAPA and CHC decided to donate the vast majority of that money to the CBRF. Today, we have raised about \$550,000 for the fund, and are now exploring the long-term investment options for a \$450,000 endowment, the interest from which will be used to provide research grants for as long as there is beekeeping in Canada. Further, fund raising is continuing toward our \$1 million goal.

My involvement with the Canadian Bee Research Fund has been one of the most profound experiences in my life and certainly one of the most personally rewarding. All of us are here for a short time, and when we go all that's left is what we have managed to accomplish and leave behind for those who follow. Today's Canadian beekeeping community has left a legacy for beekeepers to come, and we will continue to grow that legacy and manage it to the long-term benefit of beekeeping.

We owe our deepest gratitude to every one of the beekeepers who have donated to the fund, setting a fine example for all of us about what we can accomplish when together we set out to fulfill a dream. **BC**

*Mark Winston is a professor and researcher at Simon Fraser University, Burnaby, B.C. Canada.*



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# ? DO YOU KNOW ?

## Foraging

Clarence Collison  
Mississippi State University

As we go from the Spring to Summer season in many areas of the United States, colony management changes from developing strong colonies and swarm management to honey production. Honey production is related to many different factors associated with apiary location, colony strength, floral sources, colony health and the weather. The beekeeper has some control over the factors that regulate colony development and is always

searching for the ideal apiary location. Unfortunately, the environment has a greater influence on honey production than does the beekeeper.

Please take a few minutes and answer the following questions to determine how well you understand the factors that regulate foraging behavior and honey production.

*The first nine questions are true and false. Place a T in front of the statement if entirely true and an F if any part of the statement is incorrect. (Each question is worth 1 point.)*

- \_\_\_ Alfalfa is an excellent source of nectar and pollen.
- \_\_\_ Sunflower honey is white in color with a mild flavor.
- \_\_\_ The greatest danger associated with honey bees visiting cotton flowers is the application and residues of insecticides necessary for cotton production.
- \_\_\_ Gardstar®, a formulation of permethrin, was recently approved for treating the soil around honey bee hives to control pupating small hive beetles.
- \_\_\_ When a colony experiences reproductive swarming, the old parent colony normally is headed up by a new queen while the old queen leaves with the primary swarm.
- \_\_\_ When a worker begins foraging in the field, she initially begins collecting pollen, and as she ages, she switches to the collection of nectar.
- \_\_\_ Apicure® is the trade name for the slow-release gel form of formic acid recently registered for the control of tracheal mites and for the suppression of *Varroa* mites.
- \_\_\_ Colonies typically produce more queen cells when they are superseding their old queen than when they are preparing to swarm.
- \_\_\_ Swarms normally issue from a hive while the new queens that are being reared in preparation for swarming are still in the larval stage.
- \_\_\_ A nectar/pollen source with floral structures called pollina that may entangle foraging honey bees, resulting in the death of the bee.
  - Milkweed
  - Saw Palmetto
  - Catclaw
  - Mesquite
  - Canadian thistle
- \_\_\_ The Demaree technique is used for:
  - Raising queens
  - Controlling swarming
  - Making mead
  - Introducing queens during requeening
  - Sampling adult bees for tracheal mites
- What explanation would you have for a hive that was ejecting adult drones in the middle of the Summer? (1 point).
- Describe how to stop robbing in the apiary once it has started. (3 points).
- What are three advantages of top supering over bottom supering? (3 points).
- List three characteristics you would expect to observe in a colony with laying workers. (3 points).
- Explain why it is more difficult to find a virgin queen than a laying queen in a colony. (2 points).

### Multiple Choice Questions (1 point each)

- \_\_\_ A honey plant that is considered to be a noxious weed.
  - Milkweed
  - Locoweed
  - Prickly pear
  - Yellow star thistle
  - Horsemint
- \_\_\_ A floral source that supplies bees with only

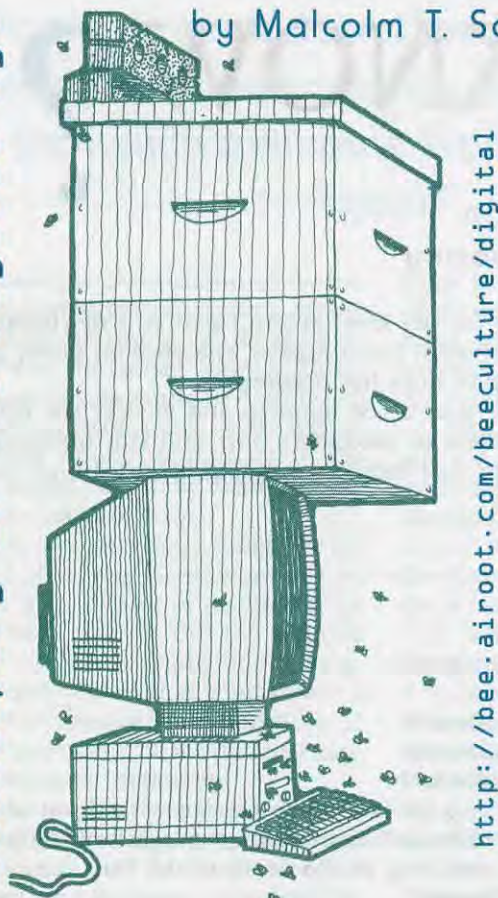
pollen.

- Tulip poplar
- Corn
- Goldenrod
- Basswood
- Dandelion

ANSWERS ON PAGE 47



by Malcolm T. Sanford



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Anyone watching the Super Bowl could not have helped seeing **commercials** put on by dot-coms. This year, 17 dot-coms, ranging from Monster.com to newcomer Computer.com, spent an estimated \$25 million for commercial time. That's almost half of the 37 advertisers who bought time during Sunday's game and almost 20 percent of the \$130 million in ad revenue reaped by ABC. Moreover, the rush of dot-coms forced up the average price of a 30-second Super Bowl spot to \$2.2 million, with some Net companies paying as much as \$3 million for their half-minutes of fame. Two years ago there were no commercials by these organizations. This phenomenal growth has also helped to fuel the rapid increase in the **NASDAQ** market, driving the composite index in these stocks to record highs over the past few months before precipitously crashing lately.

This growth has also been mirrored in beekeeping. The first dot-com I wrote about was the megasite **beekeeping.com**. I also mentioned these when discussing **finding information** about apiculture. Of specific interest in March 2000 was the search site, **google.com** and the **about.com** site, which features guides on many topics, including beekeeping. The latter company (NasdaqNM:BOUT) currently **trades** at \$28 per share, with a 52-week high of \$105 and a low of \$19.

Mirroring dot-com proliferation in other areas, a raft of apicultural dot-coms have recently come over the transom. One is **honeyonline.com**. It advertises itself as your online resource for locating producers of honey, hive products and hive-related services. There is a menu on the home page for various links to honey, pollen, beeswax for sale, and pollination, speakers, bee removal and other services. Clicking on any of these links brings up

## Here Comes the Dot-Coms, Part One

a form to search using state or province, area code or ZIP code information. Producers of honey or products containing honey, beeswax, pollen, etc. are welcome to be listed in the honeyonline database. Prospective clients are asked to send an **e-mail**, and a link to the information and application page is returned. Prices for obtaining a listing range from basic information for \$12/month, a map can be included for another \$6, to a deluxe package featuring a home page for \$24/month. If you want a custom design and other features, the cost can be over \$50. This site is also planning to host an online discussion forum for producers.

Then there is honeycombers, which appears to be oriented to smaller, more local firms. According to this site, "Got honey? Welcome to **Honeycombers.com**, your World Wide Web source for local honey providers! We're committed to bringing you the most extensive listing of U.S. beekeepers and honey providers available anywhere on the Internet." It continues, "Who is Honeycombers.com for? It's for those of us who use locally produced honey for medicinal purposes (e.g., allergy treatment for hay fever), or who just like to support local food producers and need a convenient directory with which to find their local honey providers. It's for farmers who are in need of local pollination services, particularly in light of the decimation of America's feral bee populations in recent years due to the *Varroa* mite. And it's for beekeepers (apiculturists) who would like to take advantage of the easiest, cheapest way to advertise their services and products on the Internet." That pretty well covers the waterfront, and some of this will also be competition for honeyonline.com. It concludes, "If you are a beekeeper in the United States and would like to be included in the Honeycombers.com database, click the Register button on the left. You will be taken to the Honeycombers.com online registration form. Honeycombers.com registration is simple, quick, and, until June 1, 2000, FREE!" It's not immediately clear what the cost will be after the June deadline.

A different kind of dot-com has the URL: **http://www.jayhosler.com/**. Dr. Jay Hosler is a post-doctoral research associate at the Ohio State University's Rothenbuhler Bee Laboratory, where he studies smelling (olfactory) activity by honey bees by examining their antennae and training them to various odors. His vita includes **education** at Notre Dame and Depauw University, as well as Ohio State. There is a **list** of publications, various **academic awards and invited presentations** and other categories typically found in academic résumés. Dr. Hosler also has developed a **slide show**, which discusses his use of conditioning in honey bees similar to that done by Ivan Pavlov on dogs. The site is well-constructed and interesting, but why is it a dot-com? The answer lies in Dr. Hosler's **secret life** as a cartoonist. A click on a bee gets the following message, "Welcome to the *Clan Apis* Web page. *Clan Apis* is a comic book that chronicles the life of a honey bee named Nyuki in five chapters. Written and drawn by biologist Jay Hosler, *Clan Apis* was funded by a grant



from the Xeric Foundation and focuses on different aspects of honey bee natural history and biology. To learn more about *Clan Apis*, choose one of the following links and explore the site." The **Xeric Foundation** is a dedicated, non-profit foundation for comic book self-publishers.

One is given a glimpse of the quality of the cartoons by looking at a **preview slide** entitled Nyuki's Metamorphosis. It shows the musings of the larva as it begins metamorphosis ("I guess I can't avoid this any longer," day 1; "Here goes nothing," day 2; "Filling out nicely," day 6; "Almost there," day 12; and "That wasn't so bad . . . now what?" day 13, as emergence begins). A glimpse of five chapters of *Clan Apis* are provided on the site. "In the opening chapter, we meet Nyuki and her sister Dvorah. Nyuki is a larva and Dvorah is preparing her for metamorphosis. But Nyuki isn't very happy that her lap-o-luxury life as a larva is about to end, especially when Dvorah tells her that metamorphosis will radically reorganize her body!" The science explained by the cartoons is also described. For example, the following topics are covered within the context of the story in chapter one: Invertebrates (and insects in particular) were on land and evolving long before vertebrates crawled out of the sea. Insects comprise half of all animals on the planet. Also included: a brief overview of the early jobs a worker performs in the hive (e.g. cleaning and capping brood cells). How a queen lays an egg and the fact that bee larva don't have eyes (see above) or much of anything else except a mouth and a gut is detailed. The prodigious growth of larvae prior to meta-

morphosis is also described, including what larvae are fed as they grow, how a larva spins a cocoon and the materials it uses. The internal cellular changes that occur to rearrange muscles and internal organs during metamorphosis are also covered. Finally, cuticular hardening and the importance of eating pollen for newly emerged adults are described.

The value of these cartoons as both education and entertainment is obvious, and therein lies the commercial potential of Dr. Hosler's work and, thus, the dot-com moniker on his Web site. The distinguished cartooning career of Dr. Hosler is noted in the **news section**, as is ordering information. One can get copies of *Clan Apis* from: The Laughing Ogre, A Comic Shoppe, 4258 North High Street, Columbus, OH 43214-3048 **email:** [theo@mindspring.com](mailto:theo@mindspring.com), Phone: 614.A.MR.OGRE (267.6473). The following are current prices and availability:

- Clan Apis* #1: "Transitions," 24 pages, SOLD OUT
- Clan Apis* #2: "Swarm," 28 Pages, \$2.95
- Clan Apis* #3: "Hide and seek," 24 pages, \$2.95
- Clan Apis* #4: "Homefront," 24 pages, \$2.95
- Clan Apis* #5: "The Plan," 32 pages, \$2.95
- SPX mini-comic: *Killer Bee*, 6 pages, 50 cents

I will take a look a some other dot-coms in my next column. **EC**

*Dr. Sanford is Extension Specialist in Apiculture, University of Florida. He publishes the APIS Newsletter: <http://www.ifas.ufl.edu/~mts/apishtm/apis.htm>*

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# As An Expert, Go . . .

## BACK TO SCHOOL, PART 2

Raymond Lackey

People love puzzles. Honey bees are an enigma to man, stimulating both attraction and fear. Beekeepers present a similar conundrum, being either brave, having subdued the fear of stings, or crazy. Having a beekeeper talk about honey bees allows the audience to work on both puzzles, double the fun! This is why the kids at your local school would love to have you visit. But, if you don't provide sufficient information for them to draw some conclusions, you become frustrating.

In the first part of this series, the business aspects were discussed. The teacher was identified as the customer. You are there to help the teacher to teach the subject. The methods of getting into schools as a professional for presentations were outlined. Here the focus is on the presentation preparation so that the students will learn.

### Learning The Ropes

I started my first hive in a suburban area as an extension of the large garden of a displaced farm boy. I read a book from the local library and then the equipment and bees were purchased through Sears & Roebuck's Farm and Ranch Catalog. My oldest child was two and I quickly started teaching him, and the entire group of neighborhood kids all I knew about bees. Fortunately, I found out that there was a local beekeeping club and joined their novice course so that I was able to keep ahead of the kids' questions.

I started participating in the club's educational outreach programs at fairs and flea markets. I regularly make presentations in my paying job so I applied the normal good presentation rules to the hobby and worked at making my presenta-

tions interesting and informative. I sought out trivia to spice up the presentations and make them more interesting so that the education was hidden.

My first school presentation was to my son's Kindergarten Class and they expanded from there. Our club tried providing free presentations to the schools but there was a lot of variability of speaker's ability, knowledge, materials, and thus quality. Shared materials were never in the right place at the right time. The good speakers were overloaded with no compensation for time, which may be fine for a retired person but for someone working at making a living and needing to take limited vacation time from the job to go to a school caused the program to wither and die. Those 'free' programs taught us a few things about what the schools and the teacher wanted.

### Teaching

Teaching kids is always a challenge. They seem to guard against it so you need to slip it in when they think they are having fun. Teaching is best described as providing the information in a manner in which it can be understood and learned.

There are several steps associated with learning, that is, to make it personal knowledge that can be recalled when desired. Each of us has different methods of learning. Some can learn just by reading, some need to hear, some need to see, some need to touch, and others need to do. Each new input leaves a track. If the same path is taken multiple times, the track becomes part of a trail through the brush, then a road, and then a highway with endurance. The more paths that lead to a point, the easier it is to get there. Recall in

the brain is similar in that information can be approached by a number of different paths only if they have been mapped previously. A good presentation will teach using a number of different senses to establish a number of paths to access the knowledge.

### The Subject

Your experience may have provided you with a lot of knowledge on honey bees but they are a very broad subject, which many have studied for a whole lifetime. As discussed in part one of this series, there are many presentation subjects using honey bees as the starting point. You need to focus on what the teacher has indicated as the focus for the class, at a level appropriate for the class. The general program for elementary school may be "Our Friend the Honey Bee." Fourth graders studying insect life and social insects may want a program entitled "Honey Bees, a Social Insect." High school biology classes may want a presentation on "Pollination." Once you have a subject, focus on the subject. Don't take the same presentation and only change the name.

### The Audience

Be aware that the audience to which you are going to be speaking has grown up in the TV age. That means that they are used to high-speed entertainment. A scene in a child's program is measured in sec-



Continued on Next Page



onds, in the order of 15! They are smart, knowledgeable, and impatient.

Remember that they don't often get to see animals, insects, and especially bees up close! Their mother would faint if they came in carrying bees. So even with all of those educational programs they have seen on bees, they haven't really seen them up close or gotten to ask their questions of an expert. Who? You, of course.

### Know Your Material!

Write out a presentation, record it, and play it back a few hundred times, re-recording it after every 10 to make it flow smoothly and so you know it well. Prune it! Get rid of anything that doesn't enhance the presentation and point toward the subject. Outline the points to be covered so that you can refer to it during, or check near the end, of your talk. **Never read a presentation!**

Be ready with extra related material in case of no questions or a longer class. I've had escorts to four classes say that they learned something new in every class because no two of my presentations were identical. **Keep it light, fast and fun!**

### Dress The Part

The kids have a picture of a beekeeper. He isn't dressed in a business suit in their minds. I find the best attention-getter is to go into the school wearing a bee suit. It lets all the other kids know that some class is having a special presentation and they will want to find out about it. You must dress coolly under the bee suit. It can certainly get hot wearing it indoors for several hours.

### Pack Light and Tight

Going to a school often requires moving your show from one room to another, often up and down stairs. You need to have your materials organized and easily carried. I have not yet figured out how to avoid two trips or using helpers between classes. Posters and pictures need to be in a portfolio case to protect them and make it easy to carry. A tote box, for carrying other miscellaneous materials, and the observation hive completes your load. I have been in

arrange with the teacher ahead of time that you will refer disruptive students to the teacher for action.

I often start by telling them to hold questions until later because I may answer it in the presentation. Explain what you are going to do, how it will be done, and that disruptions of the process will take away from their opportunity to see everything.

I normally establish a passing flow for material and explain that they will each get to see everything and will go up to the observation hive

later near the end of the session, so let's get the other things done. You want them to learn but enjoy it. They will have younger siblings and friends that you want to 'wish they could have been there' so that they prod the teacher, or other teachers, to get you back.



### Materials

Don't skimp on materials. They will pay you back many times over. They need to be robustly protected, in good shape, and be educational.

Number one - Have an observation hive in good shape, loaded with a healthy colony of bees. That is the number one attraction you will bring to the presentation. It doesn't matter the age, people are awed by bees up close. The queen should be marked with a bright paint dot on her thorax. If possible, have a few drones marked as well with a different color.

Posters need to be mounted and/or laminated to make them easy to handle and protect them against damage. Large posters should be mounted on foam-board for strength and lightness. Smaller posters and

schools where all classes were on one level and they were able to provide an audiovisual cart for moving between classes. Sometimes the presentations are all in one room and the classes rotate through so there is only one setup. Discuss this with the school coordinator ahead of time.

### Organization and Discipline

It is important to maintain order and that is accomplished by establishing order from the beginning. Keep your audience seated and insist on raised hands for recognition before talking.

They will all have a story to tell and will take over the time if you allow it, no matter the age. You need to maintain control and authority but



pictures can be laminated. Photo shops will perform both of these services for reasonable fees. Lamination and mounting extends the lifetime of posters and photos by a factor of at least 10.

#### Pass-around Material

Good pass-around materials are necessary, especially for younger audiences. This may include empty natural honeycomb, a piece of foundation wax, a beeswax block, a filled honeycomb section, **plastic** jars of honey, pollen, propolis, a queen cage with a queen bee, a set of bees embedded in plastic, a mounted and labeled collection of the honey bee family, and possibly another of other stinging insects. Try to involve all of their senses: hearing, seeing, smelling, touching, and taste. (Taste is the most difficult in a classroom setting.)

Natural honeycomb shows the way the bees build it from scratch. It is light but evidently very strong. You can point out the hexagonal shape and explain the engineering aspects. (You have to know them of

course.) Inquisitive fingers easily damage it so you need to plan on a new piece for each presentation. Collect and store it throughout the year so that it is available.

You may have to force the bees to make it for you by removing a frame from the brood nest under the inner cover for a few days in Spring. As it is drawn to the size you want, lift it out attached to the inner cover, replace the frame, an inner cover, and an empty box with the inner cover with the attached comb on top of the empty box. The bees will quickly empty any cells of nectar and honey.

The caged queen is good for older audiences, allowing a real close-up view before getting to the observation hive. Younger kids often don't want to handle the cage with a bee in it. The bees embedded in plastic are available from biological supply houses and have the family casts of worker, drone and queen or larva, pupa, and adult in the block. These are expensive (\$50 - \$75) but are great to show the differences or development stages. Remember that you are

there to educate.

#### Improve Yourself

Each time you do the presentation, record it. I have a little pocket dictation recorder that has very good pickup. I can record a presentation on a tape and then play it back on the way home or later. This way I get to review my performance and identify weak spots. Make each presentation better than the last.

#### Keep It Fun

Adjust the material and presentation style to the audience and situation. Focus the presentation on the desired subject. Give them information at the appropriate level in an organized fashion so that they can learn. Know the material well. Lay down many paths for access. But, always keep it fun. ☺

*Ray Lackey is a beekeeper on Long Island, NY, an EAS Master Beekeeper, and past president of Long Island Beekeepers' Club. Visit his web page at [www.tianca.com](http://www.tianca.com) or email to [raymondj@cleanweb.net](mailto:raymondj@cleanweb.net)*

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## Bee Culture's Beeyard

### *The Inevitable Sting*

I recently went to the bee yard to set up an observation hive – a contrivance which I could easily love to hate. Though on one hand they are great teaching tools, on the other hand, they are usually a pain to set up and a bigger pain to maintain. This one was needed for a Saturday school program. It would need to be set up on Friday morning and broken down late Saturday evening.

I planned on using one of the nucs that I have discussed in previous articles. It was a three frame unit with a Caucasian queen and not particularly packed out. How hard could it be to find the queen and move one frame over to a single frame observation hive? I could be in and out before the bees knew it. (*This story's ending is so predictable.*) With such a small hive on an early spring day, why would I need anything more than a loose veil? As you are expecting, this little hive instantly killed me. I barely had the nuc opened before I was taking hits. I worked faster . . . as did they. I took even more stings. Experienced beekeepers know the routine. In these situations, everything stops in mid battle – except the beekeeper – and he/she makes a fast retreat, leaving the hive in disarray. First priority is to get away from the bees and secondly to get the protective gear and smoker that should have been in use in the first place. In a bit, with smoker blazing, I returned to the hive, fully armed, and won the war. The observation hive, sporting a marked queen, went to the grade

school and was a hit – as usual – and was put back into the hive later Saturday afternoon as planned. Note that I used protective gear to put the bees back in the colony.

Why am I telling you this little story? As beekeepers, we all have similar tales of bees being forced to remind beekeepers of the basic rules of hive entry. I broke the rules and the bees rebuked me. It really wasn't terrible. I took about ten stings, but I was expecting none, so ten was entirely too many.

As I was taking the stings and dealing with the small hive, I was aware that I was alone with the hive and could deal with the situation in ways most comfortable to me. What if someone else had been there – say a visitor not well known to me? Would I have reacted in the same way? Probably not. Therefore, I postulate that there are two types of stings – those taken publicly and those taken privately. They're not the same.

**Private Stings.** Private stings are the stings with which you must contend when you are alone or with another beekeeper who has already seen it all. These are the common stings of a beekeeper's life. These are the ones where you say your special little phrases or words and get on with things. The ones where you smash the offending bee and throw smokers, all the while talking to yourself and to the bees. These are the stings that build up your sting immunity and increase your

confidence in beehive management.

But in the early years of beekeeping experience, these can be frightening stings. "Is there a bee in my veil?" If no one is around to help, you must decide if, in fact, there is a bee in your veil. If you pull the veil around to look, no doubt you will pull it open at the throat and only make things worse. Private stings prepare you for public stings – both psychologically and physiologically. Obviously, learning to take stings privately is far easier than learning to take stings publicly.

**Public Stings.** Why in the world would I ever take stings in public? If you keep bees long enough, rest assured, that one day, you will be in a situation where you may be stung before people you don't know. At that moment, you have both your reputation and the reputation of the beekeeping industry in your gloved hand.

Right up front, I need to say that there is no glory in a run-away stinging episode. You don't appear brave or tough to non-bee onlookers, but rather may look like someone all together unhinged. Maybe you need the services of a specialized hospital. On the other hand, if you are the only one who is wearing protective clothing while the crowd is in harm's way – again you don't look tough or brave, but cowardly. What to do?

As an aside, a short story, if I may. Both years ago and recently, I had need to speak with OSU lawyers

*Continued on Next Page*



concerning bees and bee stings. How can I, as a University employee, protect myself and the University from litigation caused by the occasional accidental bee sting at public gatherings? The answer was the same both times - though given years apart: Short of being hyper-protective, there is no way to predict all the parameters of a bee sting episode. *Each case will need to be evaluated on its specific merits. Use common sense and reasonable protective measures.*

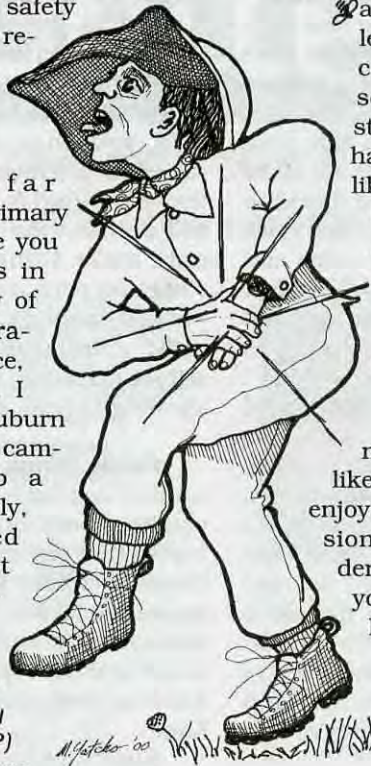
Now back to my theme - If you are working bees in public, *Each case will need to be evaluated on its specific merits. Use common sense and reasonable protective measures.*

Two primary issues are at play: (1) observer safety and (2) apicultural respectability.

**Observer Safety.** I'm

wandering too far afield from my primary topic, but anytime you are working bees in public, the safety of bystanders is paramount. For instance, many years ago, I was called to the Auburn University central campus to pick up a swarm. Immediately, a crowd gathered and began to shout the requisite questions from afar . . . (Are you getting stung?? Where's the queen?? Are they making honey??)

Though the bees seemed docile and manageable, I was still uneasy about the ever-encroaching crowd. What to do? If I admonish the crowd to back up, I would leave the impression that something dangerous is on-going, yet by not warning them, I would become responsible for extraneous bees flying about within the crowd. What else could I do? I told them to back up and give me and the bees room to work. They did and the story had a happy ending; however, I did take one public sting - but with grace and dignity.



**Apicultural Respectability.**

Though clearly second to Observer Safety, maintaining control of your bees in public is the primary requirement for apicultural respectability. While working bees in a cage at a hypothetical farm show, which of the following scenarios leaves a better impression?

- a. While pulling out a frame, you take a sting in the hand, while grimacing, you grab your hand, drop the frame, and make some comment like *Wow! That hurts!* Bees begin to fly all about the cage. Rest assured that no one in that crowd is going to become a beekeeper; plus, they consider you to be a curious sort for being in the cage in the first place.
- b. While pulling out a frame, you take a sting in the hand. You lean the frame against the colony, walk to the cage screening, and show the sting still attached to your hand. You make comments like, "This is a bit painful, but not excruciating." And you assure people that beekeeping training makes managing bees uneventful - for the most part.

In the second scenario, beekeeping looks like something that might be enjoyable and you look professional. What is not in evidence are all the sting gigs you danced and the peculiar things you did in private while learning to take the occasional public sting.

**To the new Beekeeper**

Though each of our pain thresholds vary, we must all learn to deal with bee stings in our own way. Initially, there is no harm whatsoever, in smacking, jumping, shouting, and even running so long as you regain your composure and complete the hive manipulation with some degree of control. Some hives are worse than others, some days are worse than others, and some beekeepers are worse than others. There are variables everywhere in learning to accept stings with aplomb. But if you keep working bees, you will gain ex-

perience and confidence. Take your time. There's no beekeeping gold stars for rushing your early years. Wear protective clothing as long and as often as you want. It's suppose to be fun.

I recently asked a graduate student on a written exam how the beekeeper's world would change if honey bees didn't sting. I wasn't looking for any particular answer, but just trying to stimulate thought. He responded, that while it may be good for beekeepers, it would be absolutely terrible for bees. With no method of defense of their honey crop and brood, what few remaining wild honey bees remain would be annihilated by any honey bee pest. We, as beekeepers, would be left with an insect charge, a stingless honey bee, that would be completely unable to survive in the wild. Though this is all conjecture, I do suspect, that given the choice of honey bees never stinging and honey bees stinging occasionally, I would choose the latter. I just don't want to get stung a lot.

**In the Yard Okay,** I admit it. I'm behind with my hive manipulations. I'm feeling what I have repeatedly told you not to feel about your bee project - Guilt. Old-fashioned guilt. The spring season has been just that - a spring season. Wet and erratically cool days while other days have been warm and dry. Caused by scheduling difficulties, I couldn't be there on the warm dry days and did not want to be there on the wet, cool days. I have tried to justify this shortage by telling myself that I should keep bees on my schedule - not on the bees' schedule, but bees wait for no beekeeper. They move on. I suppose it's good that one of us stays on schedule. The irony is that my shortages are not things that **must** be done - like supering - but were rather things that a good beekeeper **would have** done - like scraping bottom boards and reversing deeps. I will keep trying to improve. I will heed my own tidings ... If I could put time in a bottle ... **EC**

Dr. James E. Tew, State Specialist, Beekeeping, The OH State Univ., Wooster, OH 44691, 330.263.3684, Tew.1@osu.edu; www2.oardc.ohio-state.edu/agnic/bee/ www2.oardc.ohio-state.edu/beelab/



# STONECROPS

B.A. Stringer



The Stonecrops, *Sedum* species, contain a large number of hardy plants bearing nectar-producing blossoms from Spring to Fall. Their leaves are thick and fleshy, and each flower cluster comprises a multitude, even hundreds, of small crown-shaped flowers producing copious amounts of nectar. Low-maintenance plants which need little moisture, Stonecrops do well in sun or part shade. Consider planting some of these succulents in a sunny garden spot, as their tiny flowers are very attractive to honey bees.

Stonecrops are native to many regions of the world, and are grown ornamentally in rock gardens, on walls and steep banks and as ground cover. They are easily propagated from stem cuttings, or even from leaves which will take root, so you may wish to plant them away from plants that are sensitive to competition.

The *Sedum* genus was named from the Latin *sedo*, 'to sit,' probably descriptive of the plants' ability to perch on walls and rocks. They are in the Crassulaceae family which includes those plants with thick, juicy leaves such as Houseleeks (*Sempervivum* species, including Hen and Chickens), jade plants and other succulents. Check your plant nursery for locally suited varieties, which may include some of the following kinds.

In late Spring, Goldmoss Sedum, *Sedum acre*, bears heads of bright yellow, starry flowers above five-inch tall plants. This spreading species is very hardy and may be suited to a difficult, rough corner of the garden that still drains moisture well. The specific name of this plant refers to the acrid, pungent taste of its leaves, leading to common names of Biting Stonecrop and Wall Pepper. The plant was historically used in herbal medicine to stanch internal and external bleeding. It was also boiled in beer and taken to lower fevers and expel poisons!





# AND SEDUMS



If you prefer white or pale pink flowers for Spring bloom, try the creeping succulent *S. album*. A vigorous grower, it is good as a confined ground cover. Local plant nurseries may stock other early blooming varieties suited to your area.



To fill a floral gap in your garden in Summer, look for later flowering Stonecrops. *Sedum spurium*, "Dragon's Blood," grows five inches tall with spectacular red flowers and red foliage. Some of the taller Sedum species are native to China and Japan. Varieties of *S. spectabile* produce dense flower clusters on 18-inch stems in late Summer and are very attractive to honey bees for nectar. Look for the deep red flowers of "Brilliant," or the rose-colored "Carmen," or the bright carmine red of "Meteor."

Even later in the year, varieties of *Sedum seiboldii*, natives of Japan, may be found in bloom. Their rose-pink flower clusters are always well-worked by bees and other nectar-seeking insects in the Fall. Also, consider a closely related variety of the large-flowered wild *S. telephium*, "Autumn Joy," which bears knee-high copper-colored blooms late in the season and is particularly attractive to bees. Detractors of this plant maintain that it looks like a tinted broccoli, but when you see the extent of honey bee activity on the flowers, you may well choose to ignore this comparison!

For a dry garden area that is inhospitable to other plants, try introducing some Sedums. They require little maintenance and will attract bees to their prolific bloom early and late in the bee year.





# WHAT'S IN

Ann Harman

Everything gets a name. You have one. Your dog and cat have names. Some race horses have really strange names. But take a walk through a marina sometime to find the most fanciful names. Boat owners really take boat naming seriously.

Now, how about your honey? True, you are required to have the word "honey" legible and prominent on your label. But a name given to that honey will distinguish it from just ordinary honey. Federal regulations state that you can only give a floral source if the honey is predominantly from a known source, for example, orange blossom, tupelo or clover. If your honey is truly a mixture or from unknown floral sources, the only source you can use is "wildflower."

So that means that lots of honey produced in the United States is wildflower. Now the problem is how to distinguish your special blend of wildflowers from all the others. The answer should be obvious - with a name. By this I do not mean using your own name, for example, Ann's Honey. That does not make it very special. Besides, my name and address are already on the label. You need a special, unique name.

Many interesting sources exist for a good name. But before we investigate those, here is something to keep in mind during your search for a special name. Long words, unusual spelling or words nobody can pronounce won't work. Customers want to feel comfortable with a name. They should be able to ask

for your honey by its special name without stumbling over how to say it.

So first let us look at geographical names. Are your bees in a beautiful valley? What is the name of that? In my part of the country, the Shenandoah Valley is considered beautiful and somewhat magical. For centuries this valley has been the subject of songs and verse, books and poetry. Furthermore, Shenandoah is also the name of a national park. So, although the spelling may seem a bit tough, the word has very good connotations for use in naming honey.

How about rivers? Some of them have impossible names, others romantic names. Is there such a river near your beeyard? How does its name blend with your honey? Mountains can have names ranging from silly to uninteresting to rugged. Perhaps "honey from the gentle slopes of Mount Whatever" (you supply the mountain name) would be appropriate.

Another place to look for special names is in the old deeds to property. You can see these at the courthouse in your county seat. The old deeds are quite fun to read. Old property borders were set by measuring from "the oak tree along a line to the schoolhouse." Well the oak tree probably blew down in a storm and the schoolhouse probably got turned into an equipment shed decades ago. But carry on and see if your property was part of a farm or village with a suitable name to accompany your honey.

In such a search through deeds going back about 200 years for my property, I found that every old deed mentioned "from a point by the rock ford to . . ." and also mentioned "Water's Mill" being on the property. The mill really didn't have an interesting name. But the rock ford sounded rather nice. There is a bridge there today, but in the not too distant past the Rappahannock River had a ford right next to a huge rock outcropping, thus the "rock ford." So I named my place The Farm by the Rock Ford and gave the name Rock Ford to the apiary. Perhaps it is not so elegant, but since I sell my honey locally, the name seems suitable.

Some towns have a historical society. This is a wonderful place to find names. Old maps along with books describing the history of an area are good sources of names. Who knows, your beeyard may be on a site with some historical significance. If so, and the name is suitable for your honey, then you may wish to have a little hangtag describing the historical significance of that name. Perhaps a drawing of such a landmark can be added to the hangtag. Little details such as this can make customers stop, read and then buy your honey.

Tourists are always looking for something that pertains to the places they visit, whether it be for their own use or as a gift to those back home. Have the state or local tourist bureau send you leaflets describing various attractions. Perhaps in those leaflets you may find a

*Continued on Next Page*

# A NAME?



beautiful waterfall, a state park or a national forest with an interesting name. Natural attractions such as lakes are a great source of names. Wilderness areas, even deserts, canyons and cliffs all have possible names. Start investigating these.

If you have separated your honey by color or season you can include that in your special name. People associate light colors with Spring and warm, darker colors with Autumn. Bright, distinct colors indicate Summer. Some of the months have nice associations: April, May and June carry the thoughts of Spring, and September sounds like Autumn. See how these words can be used in naming your wildflower honey.

There may be a local landmark that is instantly recognized. See if

*Quotations.* You certainly do not need to use any of those quotations, but if you take a few minutes to leaf through the book, you will find some nice combinations of words that may help you describe your honey. Here in just a short time I found phrases like "wild forest," "blackberry dew," "windy hill," "American gold."

Names that prompt questions can be excellent if you are present while selling your honey. People are curious, and their questions easily start conversations. But be careful of names that require a very complicated answer. People do not always have time to listen to your long explanation. Keep in mind that you may need more than one name for your special wildflower honey, depending on where you sell. Farmer's markets and craft fairs generally require your presence. But in food shops and gift shops the honey will have to sell it-

open-air museums. Many non-beekeepers do not recognize a modern hive. They do not need to. They are not beekeepers. So let's leave the beekeeping themes behind. That goes for bees, too. Remember never, never put a realistic bee on your label. A flower signifying your honey source does not need a cartoon bee.


So if you feel you need a picture on your label, take a clue from your wildflower name. Instead of a lawn with a hive, how about putting that mountain in the background, or the river, the waterfall or an old mill, some canyon colors? Work with your label printer for an effective design that does not detract from the word "honey" on your label. Do not get so carried away with a picture that the word "honey" disappears.

If you cannot find a suitable picture to copy for your label, use a drawing. Can't draw? Neither can I, but I can find someone to draw what I want. So can you. The drawing does not have to be perfectly realistic - it can just be a simple sketch that conveys the thought, the item.

If you are using the hexagonal-shaped jars you have a wonderful opportunity to use a descriptive phrase on one of the panels, along with a drawing that helps describe your wildflower honey. Bears are a bit more difficult, but hangtags work well on bears. A bear can have a simple label and a hangtag and still look quite respectable. Actually, a jar can have a hangtag as well as a label, too.

You can make some test runs on your wildflower names with hangtags to see if customers have a preference. After all, your customers are the best indication of what is appealing, not your beekeeper friends. They are not buying your honey; they are producers, too.

You now have a project ahead of you. Take some time out while working your bees and look around at the scenery. Is there something there that you wish to describe? Look at your town in a new light. What does it have to offer in the way of a name?

We beekeepers can do as well as boat owners in finding elegant names. Let me know what you have chosen for your wildflower honey. 

*Ann Harman is a sideline beekeeper and international marketing consultant.*

## Don't let your ego get in the way when picking a name. "JOE'S HONEY" or 'SWANSON'S HONEY' tells about *who*, but 'SPRING BOUQUET' or 'FALL BOUNTY' tells about *what* the customer is buying.

that would work with your wildflower honey. States have mottoes that may have possibilities. Think carefully here - I would never use the one for Virginia - "thus always to tyrants." However, for sales in a tourist shop, some connection to the state may be appropriate.

Suppose your sales are only "from your back door." Fine. Is your house distinctive? Some old farmhouses have wonderful shapes and are quite recognizable in your local area. Go ahead and use a drawing of your house. It's much better than a drawing of a hive.

Now if you have really decided you live in an area where nothing ever happened and there are no natural features, all is not lost. You may have decided that prairies are endless expanses of grass and wildflowers that produce no inspirations. You can find descriptive words and phrases in a number of places. Look for the use of words in quotations and sayings. Poetry - even if you claim you do not understand it - uses combinations of words that may prove useful.

Make a visit to your public library and ask for *Bartlett's Familiar*

self.

Once you have collected an assortment of names, you can try them out on your customers. Yes, you can ask what names are appealing. But you can also make some small labels with different names on each. Although the honey color (and taste) may be the same, different names will have different meanings to your customers. See which names sell and which ones do not. Make no suggestions to your customers. Just let them choose which jar of honey they want. Keep track of their choices. That will help you decide what names are best for your area and place of sale.

Now that you have picked a name, or several names, for your wildflower honey, see how that theme can be worked into your label. So often beekeepers get stuck on a beekeeping theme: a skep, some flowers, a bear with honey pot, a hive, someone in a bee veil. Such items may mean honey to you, a beekeeper, but the non-beekeeping customer does not always understand beekeeping themes. Skeys are usually understandable, but, of course, not used today outside a few



# DUANE & WANDA WAID

## Makin' Candles, Sellin' Honey

Mary & Bill Weaver

### Farm Markets and Mail Order Mean Success

Beekeepers who lack a plan for selling their own bottled honey, and are stuck with the current low, by-the-barrel rate, are having difficulty making ends meet. Beekeepers like Duane and Wanda Waid, of Interlaken, New York, on the other hand, who have gone to the time and trouble to find ways to sell all their honey bottled, are still able to make a decent return on their investment in their hives.

Duane has worked out a marketing plan to bottle and sell all the honey from his own 160 or so hives, in addition to honey bought by the barrel from other beekeepers.

He isn't crying the blues about low beeswax prices either. He makes and sells molded and dipped tapers and a variety of figurines and beeswax ornaments, using all his own wax and some bought in bulk from other beekeepers.

Duane used to make a beeswax hand cream using beeswax, mineral oil and borax, but he got too busy to keep up with the demand. So now he buys beeswax hand cream to sell at his market stands from fellow beekeeper and friend Bob Kime, who finds making the hand cream an excellent – if somewhat time-consuming and sometimes frustrating – way to add value to the wax from his own hives and that bought from other beekeepers.

Developing the markets for his honey and wax products has not been a quick or easy matter for Duane. He has not gone the grocery store route, developing instead more non-traditional honey markets, such as tourist

stops on the Finger Lakes Wine Trail, where he sells gift packs of three jars to tourists. His gift packs contain one jar each of his basswood, Fall flower and buckwheat honey. The buckwheat honey is a local specialty which, he says, many people are unfamiliar with.

To be able to offer a variety of types of honey, Duane marks supers of, say, locust honey or apple blossom honey. (He moves bees for apple pollination, set up to produce honey with a single deep and a 6-5/8" super over a queen excluder.) He goes to the trouble to extract marked supers of specialty honeys separately, so that, when a customer says, "All honey tastes the same, right?," Duane can offer several samples to show the customer the differences.

The tourist sales from the Finger Lakes area outlets have gradually built up a mail order trade for Duane, from tourists who bought his honey in New York, liked it and want to buy more. He usually ships plastic five-pound jars by UPS or parcel post, charging the regular price for the honey, plus the shipping cost, plus a couple of dollars for packaging.

"We ship honey all over the country to former tourists," said Duane, and the above shipments have become a significant part of his honey marketing.

Cornell University's Hotel Administration School has also become a steady customer, buying honey in six-ounce salt and pepper mugs. "I suspect they probably give them out as gifts," Duane commented.

He has also developed a market for heated, strained

*Continued on Next Page*

Four-pound blocks of beeswax are removed from half-gallon milk cartons.



Equipment used to pour candles includes a crock pot, pouring pitcher and polyurethane and metal molds.







The finished product.

honey by the 60-pound can, selling 10 or 12 60-pounders a month to a Mennonite store, four or five 60-pound cans a month to a yogurt maker and several cans at a time to area bakers, and gets a far better return than the current by-the-barrel rate.

Several area fruit stands also sell his bottled honey in quantity. Each of these markets is a necessary part of Duane's current marketing plan, and each had to be approached and convinced to carry his products, and then, over the years, given quality honey and good service to keep his honey on the shelves.

Duane's biggest sales for honey and beeswax products, though, come from the two local farmers' markets where he and his wife Wanda spend their Saturdays from April through December.

Duane tends a stand at the Ithaca Farmers' Market, which attracts both tourists and local customers, from 9:00 to 2:00 each Saturday. Wanda serves customers at a stand at the Windmill Market at Pen Yan from 8:00 to 4:30 each Saturday.

Although Wanda's hours are longer, she is in an indoor booth, and does not have to load and unload all the honey each Saturday, as Duane does at the outdoor Ithaca market. Her market, however, Duane said, "is an hour's drive each way, and in November and December, it's dark when she leaves and dark when she gets home."

When we visited Duane at the Ithaca market last November, the temperature was teeth-chattering cold, but Duane took that in stride, chatting pleasantly with customers who braved the cold to attend the outdoor market.



Duane Waid's Market Stand.

Some beekeepers might not enjoy spending every Saturday at a farmers' market, Duane pointed out, but he and Wanda enjoy meeting people, and for them, this is a satisfying way to sell their honey crop for retail prices. Plus, people they have met there have led to a lot of sales outside the market.

At the Ithaca market, which has about 100 vendors at the peak of the season, the fees come to about \$32 a Saturday. At the Windmill Market, where there can be 240 vendors, an inside booth rents for \$40 a Saturday. Their average weekly gross at each market, Duane estimates, is probably around \$350, but, he says, "We have \$500 weeks and \$100 weeks."

Both markets attract tourists for future mail order sales. The Windmill Market, for example, can average 15,000 people a day during the Summer, with many coming in bus loads. The Ithaca market built a dock last year and contracts with a tour boat to make regular stops.

There are a lot of people of Oriental heritage in Ithaca, and in the Orient, honey is very expensive, Duane explained – a rich man's food. So they buy his honey in quantity to ship home to Korea and Vietnam.

"Some people at the Ithaca market won't buy honey until they see crystallization starting," Duane continued. "They don't want what they call 'cooked honey.'" To cater to that trade, Duane only heats his honey to 125 or 130° for bottling, "which doesn't give a very good shelf life," he adds ruefully. "With my stores," he said, "I have a standing agreement to reliquify honey that crystallizes on the shelf."

At their two market stands, beeswax candles sell well. "I can't make molded and dipped candles fast



Duane's honey at his market stand.



*Colored rolled candles are always a moneymaker.*

enough to meet the demand," says Duane.

In molded candles, he produces 10-inch tapers in three styles: standard tapers, his best sellers; hexagonal tapers, his second-best sellers; and colonial tapers, of which he sells about one-fifth the number of standard tapers. All tapers are natural beeswax color.

Most tapers are sold in a white cardboard box that holds two tapers, with a clear cover and a divider, that he buys from a local supplier. The 10-inch tapers go for \$5.45 a pair boxed, or \$45 for a dozen pairs wholesale. "I figure I get about eight tapers from a pound of beeswax," said Duane.

Duane uses metal and polyethylene molds, bought from BetterBee, for the tapers. "I spray them with mold release once every five or six uses," he said. "You don't want to use too much mold release," he cautioned, "or the candles can feel greasy."

To make hand-dipped candles, Duane rigged a device made from two coffee cans soldered together. He makes only nine-inch dipped candles, and these are usually sold unboxed, for the same price as boxed, molded tapers.

Finding customers were asking for colored beeswax candles, Duane began making hand-rolled tapers in a variety of colors that vary by the season. The hand-rolled tapers bring \$3.45 a pair for eight-inch size, \$3.95 for 10-inch size, or \$4.45 for a pair of 12-inch.

"I haven't found any colors that haven't sold well in the rolled candles," said Duane. "I use Fall colors and Christmas colors in season. Two years ago, I made a lot of black and orange candles for Halloween and had some left over after the holiday. They sold out soon after. They happened to be the school colors for a team that was playing Cornell!"

He also uses a mold to make a pillar candle that looks just like it's been hand-rolled, four inches by 3-1/2 inches in diameter, which he sells for \$5.95.

In figurines, molded little bears sell well, as do skeps, and he also makes a variety of Christmas ornaments.

With his many types of candles and beeswax products, several kinds of honey in six-ounce salt and pepper mugs, and eight-ounce, one-pound, two-pound, five-pound and gallon jars, honey sticks, plain and cinnamon creamed honey, and a sign that offers, "Please taste our honey," Duane's market stand is an attractive, inviting display.

To clean up his raw beeswax for candle making, Duane first puts the wax in a little water – about one part water to 10 parts wax. "I bring the mixture to a boil," he said, "stir it, then turn off the heat and let the impurities settle out in the water."

Then he ladles out the wax, straining it through sweatshirt material, and pours it into milk cartons.

He then melts the wax blocks from the milk cartons again, straining it through the same material. "With wax cleaned this way, I haven't had any problems with



candles not burning smoothly," said Duane. He estimates he uses about 300 pounds of beeswax a year in his molded and dipped candles and figurines.

Duane got interested in bees through a print shop he used to own. "We printed Richard Taylor's books and a book or two by Roger Morse," he said, "and I thought maybe someday I'd get a colony."

He bought four colonies advertised in the paper, then purchased an extractor along with six more hives and started picking up swarms. "Before I knew it, I had a couple hundred," he said.

That was before the terrible Winter kill that devastated so many beekeepers' hives in the Winter of 1995 to 1996, when his colony numbers dropped from about 200 to a heartbreaking 17.

"I had good markets when I had 200 hives, and I didn't want to lose the customers," he said. So like many beekeepers faced with the devastation of their bees, he set to work to patiently begin to pick up the pieces.

Going into last Fall, he had about 160 colonies, although when we spoke with him in mid-February, he indicated he was finding some Winter kill.

Duane is a busy man, although he seems quite relaxed and easygoing. In addition to taking care of his hives, bottling honey, making candles and spending his Saturdays at the Ithaca Market, he works three days a week selling advertising for the *Pennysaver*, where his labels are printed.

And he stocks his wife's shelves at the indoor Windmill Market each week when he's in the area selling for the *Pennysaver*.

Of special satisfaction to the Waids is the fact that their four children, Dan, Roxanne, Jerry and Craig have all, in one way or another, participated in the beekeeping business. Craig, now a teacher, has bees of his own, and has taken over the comb honey production.

The Waids have accumulated a large collection of slides and enjoy presenting programs about honey bees to local groups. "There are so many interesting things about honey bees, their biology and their contributions to society, that we never have to present the same program twice," explains Duane. **EC**

*Mary & Bill Weaver are freelance writers from PA.*





# Protect That BAD BACK

## GOLF CART HELP

I would like to enter your bad back contest with a thing I made out of an old EZ-GO Golf Cart. On this golf cart I mounted a five-foot Bee Boom right in the center behind the bench seat. This boom will swing 360 degrees and the boom is just long enough to reach out and pick up a super from a hive of bees, if you drive up along side of the hive leaving about a foot of space between the cart and the hive. Just room enough so you can swing your legs out to the side and put your feet on the ground, side saddle. So now you can swing the boom out over the hive and

pick up the top super. All the while you are sitting side saddle on the bench type cushion of the golf cart. Then by pushing the fork like cradle, in under the hand cleats of the super with a push of a button the electric winch picks up the super, as you pry it loose with your hive tool in your other hand.

The boom has a barn door type trolley that allows you to easily line up the forks with the hive. As the winch lifts up the super then you can swing the boom around and place the super on the ground, or onto a truck, or you can just let it dangle in the air until you finish working the brood nest. Then you can just swing it back and let it down in place. All of this while sitting down, and not having to lift a thing except the frames you pull out of the brood nest in making any correction you see fit.

To be able to swing our legs and feet to the side saddle position we had to remove the safety handle bar on the left side of the golf cart cushion. On the left side of the steering column we mounted a sheet metal shelf to set the smoker on, so you will always have it near you and handy as you move from hive to hive. So it will not be apt to fall on the ground and get run over.

We made an eight by 24-inch rectangular hoop, out of five-eighth-inch square tubing to push the forks into to anchor the boom from swinging during empty running, and mounted it just in front of the steering column above the dashboard. This held the boom from swinging when we did not want it too.

We also mounted a small deck back of the seat, capable of hauling 12 empty supers or eight full supers of honey.

Then we converted a light duty two-wheel utility trailer with some ramps so we could drive the golf cart upon it and easily haul it from beeyard to beeyard.

By positioning the hives of bees



Working the brood nest with the top super dangling, while sitting on the golf cart. (photo by Larry Watts)



Loading a super of honey on the truck. Push button ease, no lifting. (photo by Larry Watts)



Even a 60-pound pail of honey can get heavy if you have a bad back. Loading it on a pickup, or in a customer's car trunk. It's not only easy but fun. (photo by Larry Watts)



on four hive per pallet, we lined up the pallets with the entrances facing each other so we could go down one side of the double row and then back up the other side.

All of this might look like the lazy mans way of beekeeping, and I guess it is. It is sometimes so inviting just to lean back in that warm sunshine and let the working bees sing you to sleep. Any way for a retired beekeeper it has made beekeeping fun once again.

I might add that most of the material for the cart was resurrected from the shop scrap pile. The old three wheeler golf cart was given to me, I did have to buy a couple of

batteries for it. The 12 volt electric winch was one from a boat trailer. The boom trolley was an old sliding barn door. The square and round tubing was purchased new from a local metal supply house. The push button switches were bought new from a local electrical supply house. We could have obtained used ones from the local wrecking yard but these have a tendency to temporarily stop working when they are used continuously and get hot.

Many beekeepers thought we would just tip the golf cart over sideways, with the heavy supers of honey out on the end of that boom. So far, and even working it on a side

hill this has not happened. With those seven big heavy batteries in the golf cart, we were all surprised how staple it was.

This boom car does not make the bee work go any faster than hand lifting, but then, what's time to a retired beekeeper. My old truck just cannot pass up a coffee shop and the golf cart in the parking lot is a great conversation piece. I think that just about everybody has an uncle or a relative that was once a beekeeper.

As a back saver its just darn nice to go dancing once again.

*Ansel Goolsbey*

## EXERCISES

While in my 30s I had several bad back episodes. These came after long periods of sitting or working bent at the waist. The muscles of my lower back would cramp up and I could not stand upright for several days. I am not a commercial beekeeper, but do quite a bit of heavy work involving lifting and carrying.

I am now 54 and have had no further problems since that time. I developed my routine by trial, and noticing what worked. I have not spent a cent on doctors or chiropractors.

I determined, or guessed, that my problem was muscle cramping, and not a bone or cartilage problem, such as a collapsing disk. Muscle cramping is much more common. Then I started doing exercises to strengthen the back and abdominal muscles. Here's the latest and best version of what I do every morning, before getting out of bed:

1. Thirty abdominal "crunches," which are sit-ups, except that the knees are bent, kneecaps towards the ceiling, and you only lift your shoulders off the bed. You don't sit up entire.
2. Five real sit-ups, slowly, knees still bent. I hug my knees for 10 seconds and relax my back, to let the back muscles stretch out.
3. Thirty "tummy arches." Keep legs in the same position, and arch your belly toward the ceiling, with your weight on your feet and head. You can put your

hands by your head to take part of the weight.

4. Repeat 1 and 2.
5. Repeat 3.
6. Repeat 1 and 2.

This takes me less than three minutes. I have done it for over 20 years and have had no further problems. On the rare day I don't do it my back doesn't feel as good. An added benefit is that it gets my metabolism going and I am ready for the day, no coffee or other stimulants required.

I described this routine to a friend who is a Physical Trainer. I

asked him, "If 100 people of middle age have back problems, and then did these exercises for a year, how many would still have them a year later?" He said, about 15. These would be the people who have a structural problem, such as a collapsing disk or a bone abnormality. He said it takes time to strengthen these muscles, and the younger you start the better. He was also assuming these 100 people are not much overweight. And the earlier in life you start, the better.

That's all there is to it!

*Dick LaForge*

## HIVE HOIST



*Submitted by  
Don Rena*

Our hive hoist consists of a tripod supporting a lever with a spring activated grasp able to lift one to two medium supers or one full depth super. We built it last Winter and used it on the bees all Summer, finding it quite useful. It is primarily designed to be used by two people; one operating the lever while the other guides the supers during transfer maneuvers.



# AUSSIE BEES WANT IN



The Animal and Plant Health Inspection Service of the USDA has received a request from the Government of Australia to allow the importation into the U.S. of adult honey bees, specifically queens and package bees, and honey bee germ plasm from Australia. The request was made in accordance with the GAAT and in part by NAFTA.

To determine whether the risk associated with such importation is low enough for APHIS to initiate rule making to implement this change to U.S. regulations, APHIS has prepared a Draft Risk Assessment: Importation of Adult Queens, Package Bees, and Germ Plasm of Honey Bees From Australia, in consultation with the government of Australia. The draft pest risk assessment identifies quarantine pests associated with the importation of honey bees and honey bee germ plasm from Australia and qualitatively assesses the likelihood of the introduction of these quarantine pests into the U.S., as well as the consequences of introduction. This draft pest risk assessment is available to the public for review and comment. In particular, APHIS requests feedback on the risk factors, methodology, and documentation used in the draft pest risk assessment. All comments will be considered until July 3, 2000. You can obtain a complete copy of the assessment at [www.aphis.usda.gov/ppq/prahoneybees/](http://www.aphis.usda.gov/ppq/prahoneybees/), or by contacting Wayne Wehling, Entomologist, PPQ, APHIS, USDA, 4700 River Road, Unit 133, Riverdale, MD 20737.

Following are excerpts from the assessment...

The honey bee is not indigenous to Australia and was first imported into New South Wales in 1822 and Western Australia in 1866. Australia allows, with proper permits, the commercial importation for honey bees from Austria, Canada, Canary Islands, Czech Republic, Slovakia, France, Germany, Italy, New Zealand, Norfolk Island, Poland, the United Kingdom, the U.S., the Newly Independent States of the former Soviet Union, Croatia, Slovenia, former Yugoslavia Republic of Macedonia, Bosnia and the Federal

Republic of Yugoslavia.

The African honey bee and its hybrids are not known to occur in Australia. The Asian honey bee, *Apis cerana*, spread to the Australian islands in the Torres Strait in January 1992. An aggressive quarantine program has contained the Asian honey bee and it has not been introduced into mainland Australia. The Asian honey bees in the Torres Strait are more than 1200 km from the nearest commercial exporter of queen and package bees.

The Australian apiculture pest risk is very similar to that in New Zealand, differing only by the addition of EFB to those diseases and pests found in New Zealand.

Canada has allowed the importation of honey bee queens and packages from Australia since 1973. In addition, the movement of honey bees from Canada into the U.S. has not been regulated or restricted since Canada first allowed entry of Australian honey bees. There have been no adverse events in either Canada or the U.S. since this began.

If you have comments on this action, you must make them to the office listed above by July 3, 2000.

## IN OTHER NEWS . . .

Australia's A\$65-million-a-year farm gate value beekeeping industry has been warned that it faces down-sizing in the next two or three years. Honey Bee Industry Council chairman Laurie Dewar said this will come about because of the introduction of quality assurance and food safety programs that will be enforced by the Australian and New Zealand Food Authority.

It will also happen because of increasing restrictions on access to national and state parks. "Eighty percent of our honey comes from natural resource and because we are having less access to the natural resource eventually we are going to have to limit the number of beekeepers in Australia, if it is to stay viable," he said.

Dewar said the restructuring is likely to occur naturally with the introduction of stringent food safety

requirements and a requirement for certification.

"Beekeepers will have spend money to keep trading or health departments will put them out of business," he said.

Dewar based his prediction on what happened when higher health standards were required of the country's beef industry. "Small operations closed down because they didn't have the money to upgrade to meet the new standards," he said. "That's going to happen to us. Small beekeepers will not be able to sell unless certified."

He said beekeepers traditionally have a good record in food safety but "it's a good thing to be forced to go down the safety road."

There are around 673,000 registered hives in Australia and about 467,000 are operated by beekeepers with a minimum of 200 hives. Managed honey bees are found in all Australian states and territories. A report prepared for the industry two years ago estimated that an average of at least 30,000 tonnes of honey are produced each year. Between 9,000 and 12,000 tonnes of this are exported.

The 1,780 beekeepers in the Australian state of Victoria fear for the future of their A\$10-million-a-year industry after the state and federal governments signed the last of five 20-year contracts for unlimited wood chip exports. A spokesman for the Victorian Apiarists Association said of particular concern is an area known as the Lakes Entrance.

Terry O'Kane said the tourist area has poor quality timber but a rich mix of tree species suitable for honey. He told the Melbourne Age newspaper that while the eucalypts flower and fruit irregularly every few years the variety of species concentrated in a relatively small area meant there are flowers at "almost all times and every year".

Gippsland's beekeepers wanted the area protected, telling the government the area had supported honey production as well as logging for more than a century because of the use of selective logging. **EC**



# NZ FINDS VARROA

Alan Harman

APRIL 11, 2000

The honey bee mite *Varroa jacobsoni* was confirmed in three beehives on a property in South Auckland on April 11, 2000. Hives on three other properties have been inspected, and are showing signs of infestation. A full-scale survey to determine the extent of the spread of the mite will begin April 12, 2000.

At this stage it is unknown how the mite arrived in New Zealand. The evidence suggests it may have been present and undetected for up to five years. Spread is commonly by live bees, and there have been no live bee imports permitted into New Zealand for at least 40 years to protect our bee health status.

A controlled area will be declared under the Biosecurity Act, and will include Rodney District, North Shore City, Waitakere City, Auckland City (excluding Great Barrier Island), Manukau City, Papakura District, Franklin District, Waikato District, Hamilton City and Hauraki District.

The controlled area will mean that the movement of any bees (live and dead), beehives, supers of honey intended to be extracted, used beekeeping equipment and appliances will be prohibited within the area, or from the area to other areas. This will remain in force until the survey has determined the mite's distribution. There will be further controls on movements of these items from the North to South Islands.



APRIL 11, 2000

New Zealand's NZ\$1.8-million live bee export industry is on hold - and under threat of closure - after varroa jacobsoni mites were found in three beehives on a property in South Auckland.

Ministry of Agriculture exotic disease response co-ordinator Matthew Stone said in a statement that an inspection of hives on three other properties showed signs of infestation. Stone said the evidence suggested varroa may have been present and undetected for up to five years. All the suspected infected premises were non-commercial operations with a total of 14 hives within 10-kilometers of each other. Eight of these hives were dead with others showing low populations and other typical symptoms of varroa mite infestation.

The ministry said the pattern on the properties suggested that natural dispersal through bee movements - abandoning and robbing of crashed hives - the likely means of dissemination.

"Exports of live bees out of New Zealand have stopped, even though some of our major markets of bee products - Canada, South Korea and Europe - have varroa present," the ministry said in a statement. "Because of this, bee exports are not expected to be halted for long. New Zealand has a large live bee export market with 17,500 packages of one kilograms of bees exported to Canada and Europe in 1999."

The country's largest beekeeper, Arataki Honey said a shipment of bees worth NZ\$100,000 had been due to leave for Canada on Wednesday, April 12. The ministry's national manager for international trade Jim Edwards said the ministry had identified consignments that are in transit and was in the process of notifying the importing countries concerned.

Five teams of apiarists led by ministry staff are inspecting beehives within the controlled area. The smooth implementation of the emergency response was the result of years of preparation. Authorities had a response system in place that is activated if a honey bee exotic disease or pest was found. It is designed to identify the extent of the disease or pest and provide factual information necessary to undertake control or eradication measures.

Until now New Zealand and Australia have been considered the only major

beekeeping countries free of the mite. This resulted in New Zealand becoming a major exporter of live bees and queens to the northern hemisphere. In 1998 live export production was 46,537 queen bees and 38,583 kilograms of bulk bees. The ministry said this annual \$1.8 million trade is threatened by the discovery of the varroa mite.

In Australia, Honey Bee Industry Council national chairman Laurie Dewar said the New Zealand outbreak would mean a change to the trading relationship between the two countries.

"Quarantine surveillance was minimal under free trade," he said. "We will now need to increase surveillance at airports."

New Zealand has 4,914 beekeepers who keep 302,988 colonies. The Italian bee - *Apis mellifera ligustica* - is the predominant bee kept commercially.

The European Black bee - *Apis mellifera mellifera* - is also present, generally as feral colonies.

Most of the hives are owned by a few people or businesses. Semi-commercial or commercial businesses - more than 50 hives - make up only nine percent of the beekeepers, but between them they keep 90 percent of the hives.

National honey production in 1998-99 was 9,069 tonnes for an average 29.9 kilograms a hive. The industry earns NZ\$48.2 million from honey and related health products. The value of honey bee pollination to primary production was put at NZ\$3,088 million - 64 times the value of beekeeping products and services.

Until now, the only disease of consequence in New Zealand was American foulbrood (AFB). Thanks to an efficient control program, in 1998-99 AFB was found in just 0.31 percent of beehives and 2.6 percent of apiaries. There is an active surveillance program for exotic bee diseases carried out by AgriQuality New Zealand. Hives in apiaries in "at risk" areas - such as ports, garbage dumps and tourists areas - are sampled for European foulbrood, internal and external parasitic mites and Africanization. Samples are collected and tested from all beekeepers supplying queens and bulk bees for export. The ministry's Quarantine Service also carries out extensive surveillance for imported live bees and bee products at all border points. They also carry out surveillance of all incoming goods, including commercial consignments and mail. Its officers are specifically trained to be aware of the beekeeping industry and the likely means of introduction of exotic bee diseases.

Government personnel inspected apiaries throughout the country, for visual symptoms of European foulbrood. At least 100 drone pupae in each hive are also visually inspected for the presence of varroa and *tropilaelaps* mites.

An on-going education program is carried out with beekeepers to explain the threats to the New Zealand beekeeping industry posed by exotic bee diseases.

Honey bees have been kept in New Zealand for more than 150 years and the country has been recognized as one of the world's most advanced beekeeping countries and is a leader in several important fields. The earliest record of a successful shipment was of two basket hives of bees which arrived in 1839. The first New Zealand beekeeping book was published in 1848.

New Zealanders consume an average of about 1.5 kilograms of honey a person a year. Breaches of quarantine are treated seriously. A year ago, the managing director of a health food company was jailed for the maximum 20 months for illegally importing bulk bee pollen from the U.S. falsely labeled as cornflour. The operations manager was jailed for 15 months and both men were ordered to pay NZ\$2,500 in court costs.

APRIL 13

New Zealand's Ministry of Agriculture said the varroa mite now has been found in nine properties in the controlled area in South Auckland and two properties outside of the controlled area are suspected of having the mite.





The long-shot chance of eradicating the mite received a setback with the news one of the properties suspected of having the mite is in well away from Auckland and in the Bay of Plenty and the other in the South Island.

One property confirmed as having the mite is a commercial beekeeping operation - with about 90 hives at two locations - selling honey bees throughout New Zealand. A trace back of live bees from the commercial property led the ministry to a property in Otago in the South Island.

The ministry now has inspected 21 apiaries with a total of 660 hives checked. Of these, 163 hives were found positive on nine properties.

All the South Auckland apiaries are within a 12-mile radius.

Apistan strips now are being used after a successful trial. The Pesticides Board fast-tracked approval for the use of Apistan which is not registered for use in New Zealand. It will not be available for sale and can only be used under ministry control.

#### APRIL 17

The National Beekeepers' Association executive is seeking a mandate from its members to negotiate a varroa mite eradication campaign that could see millions of bees destroyed. Under the proposal, bees from registered, unregistered and feral hives in the areas surrounding the mite outbreak would be killed and then apiaries restocked with bees from mite-free areas of New Zealand in time for crop pollination next spring.

"We need your input as to whether this general principle is supported, and will probably have very limited time before our position needs to be communicated to the authorities," the executive said in a message to beekeepers.

The association wants the government to fund the multi-million-dollar cost of such a program. The estimated cost of the present mite control program is NZ\$40,000 a day.

There are more than 5,000 registered beekeepers in New Zealand, but only about 600 of them make a full-time living with 50 or more hives.

Beekeeping earns about NZ\$50 million annually while its value in pollinating crops is estimated at NZ\$500 million a year. The Ministry of Agriculture now has declared the entire North Island a controlled area in a bid to stop the spread of the mite.

A ministry spokesman said the decision was taken in consultation with the National Beekeepers' Association. The ministry expects the control provisions will be reviewed by April 28 when the results of the hive testing in a number of regions will be known.

Meantime, New Zealand beekeepers had their first good news since the varroa mite was discovered in hives in a wide area near Auckland, the country's biggest city. Three apiaries outside the original control area immediately surrounding the outbreak that had been suspected of having the mite now have been cleared although ministry officials will continue to monitor the locations. With no new mite finds since last Friday, the National Beekeepers' Association spokesman Lin McKenzie said he is becoming more optimistic the outbreak has been contained. "We may well have caught this earlier than anywhere else in the world," he said. "We are starting to feel confident that it is not a countrywide outbreak."

The ministry said 21 apiaries owned by 16 beekeepers have been diagnosed as having the varroa mite. Between them the apiaries have 252 hives. Thus far ministry-led teams have inspected 1,847 hives in 196 apiaries.

#### APRIL 18

Test results for the presence of varroa in bees exported to Canada from New Zealand - prior to it being found there - are showing no infection. However, the New Zealand Ministry of Agriculture said testing in all areas where bees were exported has not been completed.

The ministry now is using Apistan strips to test whether the varroa mite found in New Zealand is resistant to Apistan when used as a control tool. It is unknown whether the varroa mite in New Zealand originated from an Apistan-resistant area.

A spokesman said if the mites are not resistant to Apistan, then it is likely that exporting may resume. There are now 25 apiaries diagnosed as positive for the varroa mite.

#### APRIL 20

New Zealand authorities said 28 apiaries now have been confirmed with hives

infected with varroa mite. Thus far search teams have inspected 8,117 hives on 520 apiaries. No infestations have been confirmed in other parts of the country.

The teams were to work through the Easter holidays in an effort to complete the mite survey.

#### APRIL 23

Optimism is rising in New Zealand after the Ministry of Agriculture said tests on an apiary in the South Island and at Ohope and Rotorua in the North Island had shown no evidence of varroa mites. But the optimism is tempered by new reports of visual sightings of varroa by field teams at two apiary sites within the northern boundary zone to the known infected area.

Ministry program co-ordinator Matthew Stone said Apistan diagnostic strips were placed in the suspect hives to allow laboratory confirmation and results were expected in about two days.

"Until we are confident that the mite has not spread beyond the South Auckland/Hauraki area we must continue testing all suspect areas," he said. "We are not at that stage yet. Thousands of results have still to be processed in the laboratory."

Some 38 apiaries have been confirmed with hives infected with varroa mite after laboratory results confirmed nine new infected sites. Stone said the ministry would contact all 1,300 South Island beekeepers to establish if there have been any high risk movements from the infected areas of the North Island. Thus far the New Zealanders have inspected 10,022 hives on 655 apiaries.

#### APRIL 25

New Zealand's National Beekeepers Association said it wants the varroa mite eradicated even though such a program will mean the destruction of hundreds of hives and an estimated cost of NZ\$1 million. The association held a meeting in Auckland at which members decided to tell the government of their preferred option over the alternatives of creating an infestation zone with movement controls on bees or learning to live with the mite.

Spokesman Lin McKenzie said allowing the mite - believed to have been in an area surrounding Auckland in the North Island for five years - to remain would see half the country's bee hives destroyed and result in an industry restricted to exporting bees to infected countries.

The beekeeping industry earns about NZ\$50 million annually while its value in pollinating crops is estimated at NZ\$500 million a year. Thus far, Ministry of Agriculture-led teams have inspected 10,022 hives on 655 apiaries and have found varroa mites in 38 apiaries.

#### APRIL 26

New Zealand officials found 14 more varroa-infected locations but all were within the established "hot spots" in the established control zone near Auckland. Ministry of Agriculture program co-ordinator Mathew Stone said the number of infected locations now totals 85 - all inside the control zone established over two weeks ago.

#### APRIL 28

The New Zealand government made its first estimate of the cost of eradicating varroa mite and said it could exceed NZ\$50 million.

Agriculture Minister Jim Sutton made the estimate in announcing the government has authorized another NZ\$1.35 million to cover the cost of the Ministry of Agriculture's on-going survey to find the extent of the outbreak.

The survey, which started April 11 when varroa was confirmed in a region near Auckland, has already cost NZ\$928,000.

Thus far varroa has been found at 103 locations in an area about 200 kilometers long and 100 kilometers wide - 125 miles by 62.5 miles. The outbreak now involves 32 beekeepers. Ministry teams have inspected 23,673 hives on 1,290 apiaries.

Officials also said the mite now had been found in wild bees.

"That means eradication, if it is attempted, will be difficult and expensive," Sutton said.

The \$50-million eradication program would include eliminating the bee population from the infected area for six months and applying strict movement controls around the area.

Sutton said the alternatives are ongoing management with permanent movement controls, permanent reliance on chemical treatment - or doing nothing.

He said while no country with varroa had been able to eliminate the mite, "if anyone in the world is capable of eradicating this plague, we're the people to do it."





But Sutton said no decision on eradication or control would be made until the infestation survey is completed. The government is expected to receive advice on the next step from the ministry by the end of May.

Sutton said because options cannot be finalized until the mite survey is completed, the ministry is not requiring beekeepers to destroy infested hives.

He indicated there would likely be compensation for beekeepers forced to destroy their hives in any eradication program.

"The precedents are that when the government of the day has required primary producers to destroy livestock for the purpose of the public good then the government has paid," he said.

Stone told *Bee Culture* the estimate for the length of time varroa had been in New Zealand was from two to five years.

"Our service did detect the infestation, but obviously the lag between infestation and detection is being considered," he said.

"It is impossible to give 100 percent assurance of immediate detection and our biocontrol system is by strict import controls. New Zealand's isolation helps in that there is no continuing incursion."

#### MAY 1

New Zealand's Ministry of Agriculture said it would retain movement controls on bees and beekeeping equipment in the North Island as it continues to assess the area of a varroa mite outbreak.

Since the honey bee mite *Varroa jacobsoni* was detected in beehives in South Auckland on April 11, ministry-led inspection teams have found 96 infected apiary sites – owned by 29 beekeepers – in four clusters in the infected zone.

Thus far 22,142 hives in 1,233 apiaries have been inspected and the ministry has spent NZ\$850,000 on the surveillance program.

On Monday it asked the government for another NZ\$1.35 million to fund the inspection work and to continue examining the technical, logistical and economic feasibility of the various control options.

Meantime, the embargo on live bee exports is beginning to take its toll.

Rotorua-based exporter Arataki Honey gassed 10 million bees worth \$100,000 and said it had lost NZ\$500,000 in business since the trade was April 11.

The destroyed consignment had been destined for Canada. The bees had been sourced from a number of sites, including known infected apiaries.

While Canada now has lifted its suspension of bees from New Zealand the consignment that was destroyed did not meet Canadian conditions, which require certification of origin from apiaries not known to be infected with varroa.

They were destroyed to allow decontamination of the premises in preparation of further export consignments scheduled for next week.

#### MAY 3

A setback for New Zealand in the fight against the varroa mite after a hive on a property on the Coromandel Peninsula tested positive. The Ministry of Agriculture said it appeared that two adjacent hives on the same property had also been infected at very low levels.

Elsewhere, eight more infected sites were confirmed within the Infected Zone. The latest finds of varroa mites takes the number of inspected hives to 112 in apiaries owned by 36 beekeepers. Some 24,516 hives have been tested in 1,341 apiaries.

#### MAY 4

New Zealand inspection teams continue to find more hives infested by varroa mites. The Ministry of Agriculture said six new sites have been confirmed and program co-ordinator Matthew Stone said they were close to the epicenter of what is thought to be the original source of infection.

The latest finds take the number of infected hives to 118 in apiaries owned by 37 beekeepers. Inspection teams have checked 1,398 apiaries.

#### MAY 4

The Auckland branch of the National Beekeepers Association called a meeting of members to discuss the future of beekeepers after the outbreak of varroa mite.

The meeting, set for May 8, follows indications beekeepers are becoming restless over the time being taken to map the area of the outbreak that was first discovered April 11.

Association spokesman Lin McKenzie said a fast decision is needed on what to do with the mite.

He said drones are being evicted from hives (it's fall in that part of the world) at this time of the year and there's potential for a faster natural spread if eradication is

not decided on soon.

The meeting will update beekeepers on the varroa situation, brief them on the economic impact on the two options of elimination or endemic control and discuss compensation for affected beekeepers.

Meantime, the Ministry of Agriculture reported 13 new varroa infected locations had been detected.

The latest finds took the total to 131 hives in apiaries owned by 44 beekeepers. Some 26,889 hives now had been tested on 1,453 apiaries.

#### CORRECTIONS FROM NEW ZEALAND...

First, the people who are finding the varroa are not directly government officials, they are members of a state-owned enterprise contracted to government to carry out this work and beekeeper volunteers. The system isn't the same as you have in the United States, and your readers shouldn't assume that it is.

Second, and more importantly, these people are not finding the varroa "everywhere they look". The findings are almost entirely within the Infected Zone, and you would expect that as more inspections are carried out within that zone that more varroa will be found. The Thames find is an isolated one, and comes from a hive that was moved from the Infected Zone to the Thames site earlier this year (before varroa was discovered). The apiary was surveyed as a result of traceback information supplied by the beekeeper.

An extensive survey has been carried out of almost all of the North Island, with inspections centred on apiaries of beekeepers who move bees to pollination in the Bay of Plenty or migrate their hives elsewhere in the north half of the North Island. Traceback inspections have also been carried out in the South Island based on queens supplied from within the Infected Zone. No mites have so far been found in that survey.

The New Zealand government two days ago (May 2) appropriated another NZ\$1.2 million to begin a intensive survey within the Infected Zone, to determine the likely number of hives that would have to be depopulated if eradication was attempted, and through mite population levels in the hives and tracebacks of hive movements to determine the initial area where the mite incursion took place and where major mite populations are present.

Finally, plans for eradication are "not on hold" for the present. In fact, there has been no change from the initial timeline set at the beginning of the response. The process is being carried out in a careful and very well-planned way, with a technical committee making recommendations to government on likely control options (including possible eradication). As you can imagine, the final determination of whether eradication can be attempted will very much depend on the outcome of the intensive survey within the Infected Zone, and also whether any hives are found with infections well outside the Infected Zone. The government is purposely not jumping in "boots and all" to begin eradication before this determination is made because we have learned from mistakes made elsewhere in the world where hive depopulation began before the extent of the problem was fully determined.

New Zealand beekeepers and the emergency response system for bee exotic diseases we have here in New Zealand is a very well developed and trialed system, and is based on extensive field exercises over the years. The people who are doing the work are very well trained. There is also an outstanding effort being made by beekeepers here who have volunteered their time to take part in the response. This is not a "government" vs "beekeeping" system that may be prevalent in some places overseas. The New Zealand system is very much a partnership, and indeed would not work at all without the major volunteer commitment of labour by the country's commercial and hobbyist beekeepers. Regardless of the final outcome of the response, this is the real story being played outright now in New Zealand, and it is at least one positive aspect of a very sad event in the history of New Zealand beekeeping.

There are lots of figures being tossed around about the cost of eradication, but none of them are correct. They can't be, since no one knows at this point how many hives would have to be depopulated, or what the final size of the zone would be for poisoning ferals. That won't be known until AgriQuality completes its intensity ("in-fill") survey within the Infected Zone in about two weeks time (about the third week in May). All the technical questions and figures needed for a cost/benefit analysis will be ready before that time, but it won't be until the number of hives and the zone size is determined that they can plug those figures into the equation to come up with the likely dollar figure. Obviously, the government also won't make any final decision until the likely dollar figure is known.



*Cliff Van Eaton*



# MAKING CREMED HONEY

E.J. Dyce patented this process in 1935, but you can use it today.

Roger Morse

*We recently ran an article by Dr. Morse talking about creamed honey. The response to his offer to send instruction was overwhelming, so we provide the technique here. Make some creamed honey this season for increased sales and profit.*

It is natural for honey to granulate since it is a supersaturated sugar solution. Unfortunately, under natural conditions most honeys form large, coarse crystals that are objectionable because they are gritty. Most honey users prefer granulated honey that has small crystals. The granulation of honey has been studied extensively and the process can be controlled as was discovered by the late Professor E. J. Dyce and upon whose research this article is based. Dyce found that pasteurization and temperature control during the time the crystals are growing are the keys to making good crystallized honey.

Properly made crystallized honey spreads like butter at room temperature and does not drip. The crystals should be so small that they cannot be detected with the tongue and the product should be kept at room temperature, not in the refrigerator.

## How to make crystallized honey

The honey that is to be forced to granulate (crystallize) should be strained to remove any dark specks of comb or other material. It does not need to be filtered. It is next heated to 140°F. for 30 minutes or 160°F. for one minute or a combination in between these two. This pasteurizes the honey and kills the yeast cells that are always present in any honey. The next step is to introduce and mix in ground up pre-

viously granulated honey, which provides nuclei on which the new crystals (seed crystals) may grow. The seeded honey is then placed in a cold room at about 57°F. Under the best conditions the honey will be crystallized and firm in eight to ten days.

## The best temperature

Dyce made a number of experiments to discover that 57°F was the best temperature for crystal growth. The temperature should not be allowed to fluctuate, which is sometimes suggested. Honey held at 60°F and above does not form small crystals and below 40° there is almost no crystal growth. From a practical point of view, Dyce advised setting the temperature in the granulation room at about 55°F to compensate for any temperature fluctuations that may occur as honey and people move in and out of the cold room.

## Pasteurization

All honeys contain yeasts, which can be seen only with a microscope. They cannot grow in honey with less than about 19 percent water but they remain alive waiting for their environment to change so that they might do so. If the water content rises above this amount they will grow and produce carbon dioxide and alcohol and undesirable odors and flavors. The yeasts that live in honey are not the same as those we use to make bread and alcoholic beverages.

Honey yeasts are called osmophilic yeasts and are not suitable for making honey wine or beer.

There are two primary sugars in honey - glucose and fructose. When honey granulates only the glucose crystallizes and forms a latticework within the honey that traps the water and the fructose. There can be some water in the glucose crystal but only a maximum of 9.09 percent, which is only half of the moisture content of normal honey. Thus, the liquid portion of the crystallized honey that surrounds the glucose crystals may rise to 19 percent or more when granulation occurs. And, even though the crystallized honey can be rock hard it is still half-liquid and it is in this liquid portion that the fermentation may take place. Honey that is to be crystallized must be pasteurized to kill the yeast cells or it may ferment on the grocery store shelf. The carbon dioxide gas that is produced during fermentation may create such pressure as to cause the honey to leak from the container. Fermentation is usually the cause of leaking jars of honey on a grocery shelf.

The late Professor Gordon Townsend of Guelph University (1939) studied the time and temperatures required to kill the yeast cells in honey. It was he who found that it is necessary to heat the honey to 140°F for 30 minutes or 160°F for one minute or some gradient between these two to kill the yeast cells.

*Continued on Next Page*



Nothing less will do the trick. Unfortunately, dark honeys, that is those that contain a great deal of protein, are easily burned at these higher temperatures. This has led some people to think that only light colored honey should be used to make crystallized honey. Unfortunately, it has also caused other people to suggest a lower pasteurization temperature, which is not practical and may lead to fermentation and disaster. Because the glucose crystals are white the granulated honey appears to be lighter in color than the original liquid honey.

### Spreadability

Newly granulated honey is often so hard that it will not spread. It should be kept at room temperature for several days during which time it will slump and become spreadable. A problem during the warm part of the year is that the crystallized honey may become too warm and be runny, like liquid honey. Placing such honey in a refrigerator will not cause it to become firm again and there is nothing one can do to return the product to its firm and crystallized state.

During the warmer parts of the year it is best to lower the moisture content of the honey to be crystallized, most packers aim at using 17.5 percent moisture for summertime and 18 percent for winter. They usually do so by blending various honeys with different moisture contents. Honey that contains only 16 to 17 percent water should not be used to make granulated honey as it will be too hard to spread.

Most grocery stores today air condition their buildings in the sum-

mer but my experience is that this is often not enough to keep high moisture crystallized honey in good condition. It is also a fact that in the summer, warm trucks and warm warehouses may allow the temperature of the honey to go too high and cause it to partially or wholly liquefy.

### Seed crystals

Crystals must have a surface (nucleus) on which to grow. The temperatures required to kill yeast cells are high enough to also destroy the crystal nuclei that may cause honey to granulate. Those who pack liquid honey in jars for the retail trade hope to keep their honey liquid for at least

that is often overlooked. The crystallized honey that is to be ground to make seed crystals must be firm and hard and must not have been allowed to slump. When honey slumps the sharp crystal edges become rounded and lose their sharpness so the new crystals will not grow on them. It has been written that you may use already made crystallized honey from a grocery store for seed. This will work if the product has not been allowed to slump and soften.

### How much seed to add?

It is usually suggested that the amount of seed honey that is used should be about ten percent of the total volume. However, if you have a high quality seed, that is crystallized honey that has not been allowed to warm and slump before it is ground, you may use even less. Some grinders work better than others. In the laboratory, and under the best of conditions, we can use as little as one-percent seed. This means, of course, that a crystal in the original crystallized honey that is used as seed is broken into at least 100 parts.



An opaque plastic or glass container is suggested so the crystals on the side, and foam on the bottom will not show through.

six months and thus they heat their honey both to pasteurize it and to destroy the crystal nuclei that are present. The period of time a jar of honey remains liquid is called its shelf life. Unfortunately, many honey users think that a jar of partially granulated honey is spoiled, which is not true, as heating it will return it to its liquid state.

To make granulated honey with a fine grain it is necessary to add seed crystals. This is done by grinding and fracturing the crystals in already granulated honey. However, there is an important consideration

**Foam**  
There should not be a layer of white foam on the top of any crystallized honey. The foam is not harmful but it is unsightly. It is formed as a result of air bubbles rising to the surface while the honey is cooling. Bees don't put air bubbles into honey! The air that causes the foam is put there by the beekeeper. It is there as a result of too much stirring when the seed honey is added, running a honey pump to fast so it sucks in air, or some similar event.

The best way to avoid foam is to not put it there in the first place.



Check all of your equipment to eliminate places air bubbles might enter. Honey pumps should be run slowly, usually less than about 150 revolutions per minute. It is also important to mix the seed into the honey at as low a temperature as is possible so that any air that is present is trapped in the honey. You may also turn the newly packaged crystallized honey upside-down in the cold room and in this case the air bubbles are trapped on the bottom of the container when it is turned rightsideup.

One company that produces crystallized honey puts the newly seeded honey in a large container when it first starts to granulate. Before it becomes firm it is homogenized and then packed. This is not easy and requires special machinery, as the honey is stiff and moves slowly. Those considering making granulated honey might buy and examine the product that is made by Sioux Bee and which is widely distributed in this country. In my opinion it is an excellent, high quality pack with no foam on top.


Another method of ridding the honey of at least some foam is to allow the honey in a bulk tank to sit and settle for several hours after the seed has been added. This will allow some of the air an opportunity to rise to the surface where it may be skimmed off.

### Packaging

When honey granulates it shrinks a very small amount. If crystallized honey is packed in clear glass it may pull away from the side of the glass leaving a very small air space between the honey and the glass. This exposes some of the glucose crystals that are on the surface of the side of the package. These crystals are white and not honey-colored. Because they are different customers sometimes wonder what is taking place. Unfortunately, a few people have thought the white crystals was mold, which, of course, it is not. However, we get around this potential problem by packing the crystallized honey in opaque glass or plastic containers. If a clear glass container is used you may use a label that wraps all around the package but this may not fully do the trick.

### The Dyce process

Professor E. J. Dyce, originally from Guelph University and later Professor of Apiculture at Cornell University, studied honey granulation when he was a graduate student starting in 1929. He later patented the process, which is described here (U. S. Patent 1,987,893 dated January 1935). The patent has expired so that the method may be used by anyone. Dyce wrote only a few papers about the process, probably the best one is that published in the book on honey edited by Eva

Crane and is cited below. I wrote a detailed report in 1983 about the process that is also listed below. 

### References

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- Morse, R. A. *The Dyce process for making crystallized honey*. *Gleanings in Bee Culture* 111:441-442. 1983.
- Townsend, G. F. *Time and temperature in relation to the destruction of sugar-tolerant yeasts in honey*. *Journal of Economic Entomology* 32: 650-654. 1939.

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# A Memorable Visit

Richard Bonney

*Bees were flying, crawling, swimming, engorging . . .*

You never can tell what you will find when you visit a beekeeper. I stopped by to see Fred one afternoon. I don't recall why but it was an interesting experience. Fred was a sideliners and had quite a few hives at the time, and he had an extracting operation to go with it—big radial extractor, power uncapper, sump, storage tanks, the works. His extracting operation was in the basement of his house in a good-sized room where he could also stack supers, pails, and all of the various paraphernalia of the business. The day I was there he was in the middle of an extracting run. He had done part of it the evening before and had planned to finish that evening. There were fifty or sixty supers stacked to the side, some full, the others already extracted. The stacks were uncovered, the extractor had been left with its top open and the uncapper and sump had no covers. Lots of honey was exposed. (Bear with me here. I'm setting the scene.)

The honey room did not take up the entire basement, but it was necessary to pass through it to get to the rest of the basement when coming in from the outside. This was not a problem ordinarily. The honey operation was a part of the family's life and they all participated in the total beekeeping operation. This day was different, though.

That morning there had been a plumbing problem in the other part of the basement. The plumber was summoned and the family left for their daily activities—work, school, whatever. The plumber came, he plumbed, and he left. No problem—a relatively simple job. Of course, he

entered through the outside entrance, the cellarway, and passed through the honey room. No problem there, either.

However, this plumber knew nothing about bees. He noticed that some bees were buzzing around the cellarway as he went in and out, and there were even a few in the honey room. He thought nothing of it. After all, bees and honey go together, and there were a couple of hives right over there across the yard, so these bees must live here. The problem came after the plumber left. He left the door open so those bees in the honey room could *escape*.

I arrived late that afternoon. Those bees had escaped all right but they came back—they and thousands more. Fred had those two hives there in his yard, a neighbor across the street had three more, and another neighbor down the road had a couple more. All those bees had stopped by to visit Fred's honey room and sample his wares. Bees were flying, crawling, swimming, engorging—just having a grand time. Unfortunately, most of them were having trouble leaving. They were massed on the windows (which were non-opening) and around the lights, but relatively few were finding the still-open door.

Fred had only just arrived home when I got there, and he was still in shock. I stayed long enough to commiserate and then left. By then his wife and daughter had arrived home, and I felt that if I stuck around I would just get in the way. Wouldn't you have felt the same? I wonder if the two neighboring beekeepers ever found out why the population of their hives declined so abruptly?

## Games Beekeepers Play

Looking for something to do at your next meeting? Contests are always a good idea . . . good natured and all in fun certainly. These ideas were pulled off the net recently, plus a few from other sources. Try some next time.

- The three bees in your suit fastest field strip event.
- Fastest frame construction using all 10 nails (winner gets the frames?)
- Hive lifting – how much does it weigh total, and how much honey is inside, really?
- Smoker lighting the fastest.
- Smoker burning the longest without attention.
- Queen finding – unmarked naturally, in a full hive.
- Most workers stuck in a queen cage, (does being stung disqualify you?)
- A honey bucket toss (like the Olympic hammer toss). Buckets full? Winner gets any buckets not destroyed?
- Wheelbarrow race with full hive on board (anything falls off and you have to re-assemble before moving on)
- Honey ID. What is the 'primary' floral source?
- Wax lifting – how much do all those blocks of wax weigh, really?
- How many frame nails in the jar (a 1-lb jar works well).

Some of these ideas were taken directly from Bee-L, others from there but embellished and some from games beekeepers have played at meetings for years. Have fun.



## ?Do You Know? Answers

- False** Alfalfa is considered to be an excellent source of nectar, but bees do not find the pollen attractive. It is considered to be one of the best honey sources in the United States, especially in the West.
- False** Sunflower honey is amber in color and strong in flavor.
- True** Cotton has the potential to be one of the leading honey plants in the southern states. Nectar is secreted both by the large flowers and by nectaries on the bracts beneath the flowers and by the leaves. The honey is white to extra light amber and has a good flavor. The greatest danger to bees working cotton is the amount of insecticides necessary to produce the cotton crop. As a result, many beekeepers avoid having colonies in cotton growing areas.
- True** Gardstar was recently approved for treating the soil around beehives to control pupating small hive beetles. The active ingredient in Gardstar is a synthetic pyrethroid known as permethrin.
- True** The process of reproductive swarming normally involves the replacement of the old queen in the parent colony. Typically the primary swarm issues from the hive after one or more queen cells have been capped.
- False** The type of forage collected by an individual worker is dependent upon the needs of a colony and the type of forage available. Individual foraging patterns are not related to forager age. Foragers often collect pollen on some trips and nectar on others during the same day.
- True** Formic acid gel is a slow-release formulation of formic acid in a plastic pouch for control of tracheal mites and suppression of *Varroa* mites in colonies of honey bees. It was recently registered for use in the United States and is called Apicure.
- False** A colony that is making preparations to swarm normally has more occupied queen cells than a colony of the same size and strain that is preparing to supersede its queen.
- False** The emergence of a swarm normally occurs a day or so before the first of the queens being reared emerges from her cell. Swarming thus occurs while the new queen is in the pupal stage.
- D) Yellow star thistle
- B) Corn
- A) Milkweed
- B) Controlling swarming
- Drone production and tolerance are related to food stores and nectar flows. When flowers cease to provide nectar for the colony (nectar dearth), either in the fall or more rarely at any time of the year, workers no longer tolerate the drones and begin forcing them from the colony.
- The best way to control robbing is through prevention. Upon noticing robbing in the apiary, the beekeeper should: 1) close up the hive he or she is currently working; 2) reduce the entrances of all colonies; 3) close all cracks and openings in the equipment; and 4) lay a board from one side of the bottomboard to the other or throw a large bunch of grass or weeds in front of the entrance.
- There are two ways of adding honey supers to colonies: top supering or bottom supering. Advantages of top supering are: 1) requires less work; 2) only have to check the upper super to see if more supers are needed; 3) bees finish filling up a super before moving on to the next one; and 4) once a honey barrier is formed, queen excluders are not needed.
- Only drones are reared in worker-sized cells. Usually find multiple eggs per cell (2-15). Eggs are usually laid on the sides of the cell instead of at the base, where they are placed by a queen. No evidence of a queen present. Large population of undersized drones.
- The older laying queen is larger since she is swollen with eggs and thus moves slower. Virgin queens are likely to be running rapidly from place to place, often fanning their wings as they run and burrowing into clusters of bees to get out of sight. The laying queen, unless severely disturbed, will be found only in the brood nest area.

There were 25 points in the test this month. Check below to determine how well you did. If you scored less than 12 points, do not be discouraged. Keep reading and studying – you will do better in the future.

Number Of Points Correct	
25-18	Excellent
17-15	Good
14-12	Fair

Clarence Collison is a Professor of Entomology & Head of the Department of Entomology & Plant Pathology at Mississippi State University, Mississippi State, MS.

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ducer receives below \$0.80 is made up by the government. For instance, if a producer gets \$0.50 from a packer, he receives an additional \$0.30 from some deep pocket in Washington (up to some dollar cap, not yet known). And, like I said, it's an election year, the treasury is flush, and if honey producers and all the growers who benefit from pollination pressure their respective delegates it will probably pass. We'll see.

Now U.S. packers will support this, no doubt. They can pay the global rate (and that, now, depends on the antidumping outcome) to any and everybody, and nobody cares. Packers have low cost honey (even low cost U.S. honey) to fill those long term contracts and stay competitive in that quarter-cent margin business, and U.S. beekeepers can continue to operate and pollinate at a reasonable \$0.80/lb.

Yes, the future is rosy for the price of honey, isn't it?

All of this leads to some other ag related facts, if you're interested. These were gleaned from a discussion I had with Kathleen Kelley, the VP of the Ranchers, Cattlemen Action Legal Firm, a group working to equalize prices on imported beef. She's also the Co-Vice Chair of the National Commission on Small Farms, an appointed USDA study group. She knows her stuff on food, food production and imports into the U.S.

According to Kelley the U.S. now imports 40% of its food. That's more than honey bees contribute, by the way, and that dollar amount, \$50 billion, exceeds the dollar amount of imported oil by about \$3 billion a year.

If, according to Kelley's data, you took the absolute production volume of food in this country and overlaid it with the average population growth, we won't be able to feed ourselves by 2010. Add immigration and we're hungry by 2005.

Now the policy wonks have it figured out as that 'competitive advantage' thing they always talk about. If Mexico can produce beef cheaper than U.S. producers can then we

should be buying it from Mexico. And we are. Since NAFTA took over, beef imports from Mexico have increased 1200%. And cattle imports from Canada, up by 3500%.

The January issue of *Dollars & Sense* has documented these and many other facts regarding food imports. One that stands out that beekeepers should consider is this. The industry with the most controlled vertical integration, (the chicken industry in this country litterly controls it from egg to plate), does not suffer import competition. There isn't any, anywhere. No one can touch them. Is there a lesson here?

In the back of this issue are two articles that deserve mention. Australia is looking at our queen and package market with the same competitive gleam New Zealand did recently (there is a letter in the Mailbox on the same subject).

And, since our open door policy seems in vogue at the moment, I'm pretty sure we'll have Aussie queens and packages here soon, too. A couple of comments, if I may.

First, read the letter. Australia doesn't allow bees into their country, really. Bees come in, are contained and isolated, reproductive material extracted and the bees dispatched. And, because they are so fussy, we don't have to be. Mighty nice of them, wouldn't you say?

But second, they have perfected a package that will travel, well, anywhere. We did a story on it here awhile back. The bees come in a tube with a jelled sugar solution sock suspended inside. They are far more efficient and effective than the traditional packages used here, and they work. Why they aren't used here is beyond me, but perhaps U.S. shippers are using them for overseas shipments. If you buy an Aussie package, it will come in a tube. Be ready. I don't know about the bees.

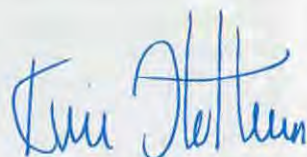
Our 'New Zealand Finds Varroa' story was put together by our correspondent in the region who had day-by-day input from all the parties involved. It's a sad story. Varroa anywhere is a sad story. The mobilization of both industry and government to both contain if possible and document at all costs is admirable. If, as they say, eradication is ever

possible, they are the ones to do it seems likely. We all wish you well. The world needs someplace that wins one for the Gipper.

The theme this month is pretty clear, wouldn't you say? Honey and bees from every quarter want part of this market. That beekeepers and honey consumers have the right to this choice is the order of the day. Such is life. And if the ultimate consumer gets value for the money spent they will continue to spend their money where it does the most good. That's what competitive advantage is all about.

But if the ultimate consumer is only interested in the lowest price, hang quality, it's no contest...imports win. Well, they win most of them. But I'd like to think that given a choice, (and herein lies the heart of the problem - give them a choice) at least some would choose quality over price. Honey is NOT a commodity like corn or soybeans. It's just not. Nor are bees and queens. We'll see, won't we.

Until next time, and especially now, be sure to keep your smoker lit (are you listening Dr. Tew?), and your hive tool sharp - the propolis is getting thick.





# GLEANNINGS

JUNE, 2000 • ALL THE NEWS THAT FITS

## ABF WITHDRAWS FROM ANTIDUMPING ACTION

The American Beekeeping Federation is withdrawing from the proposed antidumping duty case against Argentina and will not pursue an extension or renewal of the antidumping case against China.

The decision to withdraw was made during a conference call of the ABF Board of Directors on April 14.

After careful consideration of the antidumping case against Argentina and China, the Board determined that ABF funds and resources would be better utilized in legislative work on Capitol Hill for permanent relief for beekeepers," said ABF President Clint Walker. Avenues being studied by the ABF include an LDP (loan deficiency payment) for honey, inclusion of honey production in crop insurance, and reinstatement of a permanent honey loan program. "Our members have made clear in continuing resolutions over the past three years that they overwhelmingly support the passage of the National Honey Board referendum. We will work for those changes, which include funds for beekeeping research and a honey quality assurance program."

The cost of carrying the cases against Argentina and China through to the end is estimated to total \$700,000. It has been projected that a successful prosecution of the case could add from 16% to 20% to the F.O.B. price of Argentine honey exported to the United States, which is now about 45 cents per lb.

While there is universal concern among the ABF Directors for the plight of the U.S. honey producers,

Walker noted, that, given the high cost and the modest benefit, there was very little sentiment among the ABF Directors to continue along the antidumping course. In the end, the decision to abandon this action was unanimous.

The ABF has been involved in the antidumping case from the start, filing as co-petitioners with the American Honey Producers Association on the action against China and providing a majority of the funds to pursue the case. ABF jointly funded with AHPA the currently-discussed research into the honey trading practices in Argentina. Earlier, ABF and AHPA sought Section 406 relief against honey from China; the U.S. International Trade Commission recommended relief, but President Clinton declined to order it.

AHPA President Richard Adee says his organization will continue to pursue the antidumping program without the ABF. A fund-raising letter sent to the AHPA membership asks donations and pledges towards the estimated cost of \$35,000 for the initial, exploratory stage of the cases.

"While the ABF is not participating as an organization," noted ABF Vice President Pat Heitkam, "we encourage our members to consider the issues and contribute to the antidumping effort if they are so inclined. And, if the new cases get to the point that official questionnaires are sent out to producers, we urge ABF members to cooperate fully."

joined the National Honey Packers and Dealers Association and the National Honey Board itself in requesting that the referendum be held no later than September.

## NHB REFERENDUM

The referendum to determine the fate of the amendments to the National Honey Board program could be held this Summer. The American Beekeeping Federation has

## FOUNDATION SEEKS GRANT APPLICATIONS

The Foundation for the Preservation of Honey Bees, Inc. is soliciting short (limited to 1 page, single-spaced, 12 point type) preproposals describing innovative honey bee projects. Honey bee projects involving the creation of new scientific knowledge and/or increasing public awareness of the need for honey bees in the environment will be given preference. Project de-

scription should include general concept, objectives, duration (1-2 yr. preferred) and project leader affiliation. A budget is not required. Preproposals should be sent to Ms. Ann W. Harman and must be post-marked not later than 30 August, 2000. The Foundation will request full proposals from selected applicants on or about 1 October, 2000.

## NHB IN BRIEF

The June National Honey Board meeting will take place in beautiful downtown Denver June 22-24. All are welcome. For further information call Tina Tindall at 800.553.7162.

Be sure to check out two new features on our industry Web site ([www.nhb.org](http://www.nhb.org)): (1) the "Event Calendar" which shows upcoming national and international trade shows, food shows and industry events, and (2) information on NHB apparel for sale.

*Martha Stewart Living* magazine's March issue included a beautiful

five-page article titled "Tasting Honey." The article included historical facts, plus information on varieties, forms and properties of honey. The article also included eight full-color photos and three recipes.

Due to the enormous popularity of the National Honey Board Official marketing Kit, it has become necessary to reprint. Orders placed for the kit beginning May 1, 2000 will be charged a \$12 shipping and handling fee to help cover printing expenses.

## FAS QUILTS FOREIGN REPORTS

The Foreign Agricultural Service in Washington, DC will be discontinuing the attaché reports on honey from various foreign countries. These reports are included in the national honey Market News and are available from the various FAS departments.

This is a valuable service, one we need to keep, if possible.

Please take the time to make some contacts on this. Use the issue paper as it is; use the information in your letter; or whatever. A letter to your Congressmen, with a simple note asking them to contact FAS on

our behalf, could be very helpful.

You can also contact the following USDA officials:

• Frank Tarrant, Director, Horticultural and Tropical Products Div., USDA-FAS, 5647 South Agr. Bldg., 202.720.6590, FAX 202.720.3799.

• Timothy Galvin, Administrator, USDA-FAS, 5071 South Agr. Bldg., 202.720.3935, FAX 202.690.2159.

• Secretary of Agr. Dan Glickman, 200-A Administration Bldg., U.S.D.A., 202.720.3621, FAX 202.720.2166.

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BOTTOM ... Cont. From Pg. 56

same to the bee whether it's flying up- or down-hill."

"That's ridiculous," roars the chairman. "Any weight being moved up against the force of gravity is bound to require more energy than a similar weight moving down and utilizing the gravitational force."

That is where you are getting your whole argument wrong," replies the apiary manager with heavy insincerity. "The gravitational force is negated as soon as the bee takes to the air."

Pandemonium erupts as members divide into warring factions, each equally convinced of the validity of his case. Order is restored only when during a universal pause for breath, a wracking sob is heard. The secretary, head buried in her paperwork, is being comforted by the newsletter editor.

"I just can't manage it all on my own," she says.

All heads turn as from a position near the door, a new voice is trying to be heard. Entirely unnoticed in the hubbub, a beginner has entered who has come to see how the committee conducts its business.

"Excuse me," the stranger says shyly, "but would it be possible to divide the work under several broad headings and then no one would have to do too much?"

The chairman takes several seconds to weigh up this fresh approach, and slowly a cunning gleam comes into his eye. In front of him is a new beekeeper, young, female, and above all, enthusiastic. He gently starts the ball rolling with a little flattery.

"Welcome, my dear," he begins. "I am sure you have got the right idea there; could you just expand a little?"

The beginner steps innocently into the trap, and the committee, wise in these matters, and with never a word spoken, closes ranks behind the chairman. Twenty minutes pass, and the meeting breaks up. The men head for the pub to get back to the Summer of '32 over a pint of Best and a packet of crisps, whilst the secretary and the newsletter editor round off a successful meeting by passing over all the paperwork that the beginner will need to run the educational program!

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Kim Flottum wrote:

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## EAS - SALISBURY, MD

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Salisbury State University on Maryland's Eastern Shore is the site of the Eastern Apicultural Society (EAS) 2000 Conference. This year promises to be exciting with beekeepers from all over the United States and Canada, with every level of experience - from beginner to commercial.

The week begins with two levels of Short Course. Level I for beginners - demonstrations, lectures, labs and workshops. Level II is designed for the more experienced beekeeper with a strong dose of bee biology and bee behavior.

The Main Conference begins Wednesday afternoon, August 2 at

1:30 p.m. One of the highlights this year is Dr. Norman Gary, who has spent his career as a bee researcher and moonlighted working as a bee wrangler for Hollywood movies.

On Thursday the conference continues with presentations from USDA researchers. Thursday afternoon marks the start of the workshop portion of the conference. There is definitely something for everybody.

For information and registration forms contact David Bernard, 26626 Howard Chapel Road, Damascus, MD 20872, 301.414.2317, amazingbee@earthlink.net



**Roger A. Morse**

1927 - 2000

A Tribute to Roger will be published in the July 2000 issue of *Bee Culture*

## OBITUARY

Richard "Dick" Corrigan, 83, died March 25, 2000 at Charlton, Mass.

Dick mentored many new beekeepers, personally and with classes. He was famous for cut comb and "nutty" honey. He worked his bees using a cigar instead of a smoker.

Dick made countless contributions to build up both the Essex County Beekeepers (MA) and the Middlesex County Beekeepers (MA). The Middlesex County Beekeepers honored him with a Life Membership. He was instrumental in founding the Merrimack Valley

Beekeepers (N.H.). Dick was also active in the MA State Beekeepers with countless contributions. All of these clubs owe Dick a debt of gratitude.

Dick sparked a group which became EAS. Perhaps Dick's greatest contribution was his work with Dr. Roger Morse and others in formulating the rules for the competitive Honey Show at EAS. Dick and his wife, Betty, worked the Honey Shows for many years to implement the rules. This Honey Show became the model for other honey shows.

## OK BEEKEEPER OF THE YEAR



Wilber Savern (left) received the Oklahoma Beekeeper's Association Beekeeper of the Year award from Danny Self, president of the Oklahoma Beekeepers Association.

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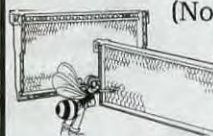
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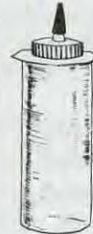
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**C**halky dust floating in the shafts of sunlight slowly settles on what appears at first sight to be a heap of old sweaters. It stirs, and a reedy voice says, "Lovely day," and after a long pause, "Reminds me of the Summer of '32; that was a year for beekeeping, that was." Two other shadowy figures murmur their agreement from cool corners of the schoolroom where the Watersmeet and District Beekeepers' Association is about to hold its second committee meeting in three years.

"Yes, that was the year. It started well in April, and we got just enough rain to keep the nectar flowing until October."

"Hmmm, I took over two tons of honey from my best five hives."

"Aye, and I made up two nucs from every colony and never lost a single swarm."

The three early arrivers nod and cast their minds back to when the sun always shone and the contented murmur of bees hummed loud in their ears. They hold the positions of vice-chairman, president and librarian and, together, they account for nearly 200 years of beekeeping experience.

"You know, I never needed to wear a veil in those days, handled like flies they did. Look at beekeepers these days, dressed up like spacemen with boots and great, thick gloves. How can you handle bees like that?"

The door crashes open to admit the robust figure of the apiary manager, a youngster of 45 who's only kept bees for 20 years.

"Hi fellas, lovely day. Oh, have I broken up a discussion on the Summer of '32?"

Close behind and almost invisible under a great mound of paperwork comes the secretary. Nobody thinks to help her as she dumps it all onto an empty desk and starts to sort out dozens of items for the people already there.

"Do you know I have invented a new hive?" booms the apiary manager, as he crowbars his favorite subject into the conversation. "It has 20 percent more capacity than a Jumbo Dadant for only an 18 percent increase in weight."

"How are you going to lift the supers?"

"No problem! My wife has booked me a weight lifting course at the gym."

"What about the frames? Will they fit in your extractor?"

"Oh, I hadn't thought of that."

The newsletter editor slips in and immediately starts handing out the latest copies. "Just saving a bit of postage," she explains, and hands one to the treasurer, who arrives looking gloomy.

"Looks like rain," he mutters to no one in particular.

Finally, the chairman bursts in, apologizing for being 15 minutes late and demanding to get it over quickly as he has another meeting to attend. He loudly calls the meeting to order and starts proceedings with a detailed list of his commitments for the next three weeks. He is still using his children as a reason for his complete lack of free time, although everyone present is aware that they are both over 30 years of age, and one of them has emigrated to Australia.

Eventually, he comes to the business of the day and turns to the secretary. She shuffles her heap of paperwork and soon comes up with a letter on headed paper bearing the legend "British Beekeepers' Association." She reads it out.

Halfway through, the chairman butts in and says, "So, what we are looking at is a program of events to get people to take up beekeeping and a schedule of educational sessions we are going to hold. And we have to send our plans in to be included in a nationwide advertising campaign." Stating the blindingly obvious, he adds, "Sounds like a whole lot of work to me."

"Yes, and I can't do it all myself," chimes the secretary.

A silence settles on the meeting that remains unbroken for several minutes. Somewhere in a distant classroom a clock can be heard ticking.

Eventually, the apiary manager clears his throat and says, "And whilst we are at it, I need a hand to move the apiary to its new site on top of Watersmeet Tor."

Instant uproar follows this announcement as everyone shouts at the apiary manager. This quickly evolves into individual dogfights as the favorite, old argument flares up again.

"Order! Order!" screams the chairman, banging the lid of his desk and eventually bringing a reluctant quiet. Purple-faced he turns to the apiary manager, "You know that won't work. You can't keep bees up a hill. It's obvious they have to be at the bottom of the hill or they have to fly home *uphill* and heavily laden. It's a huge increase in their workload."

"No, it isn't," shouts the apiary manager. "The effort is needed to take off. Once airborne, the effort is the

*Continued on Page 50*

## The Watersmeet & District Beekeepers

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