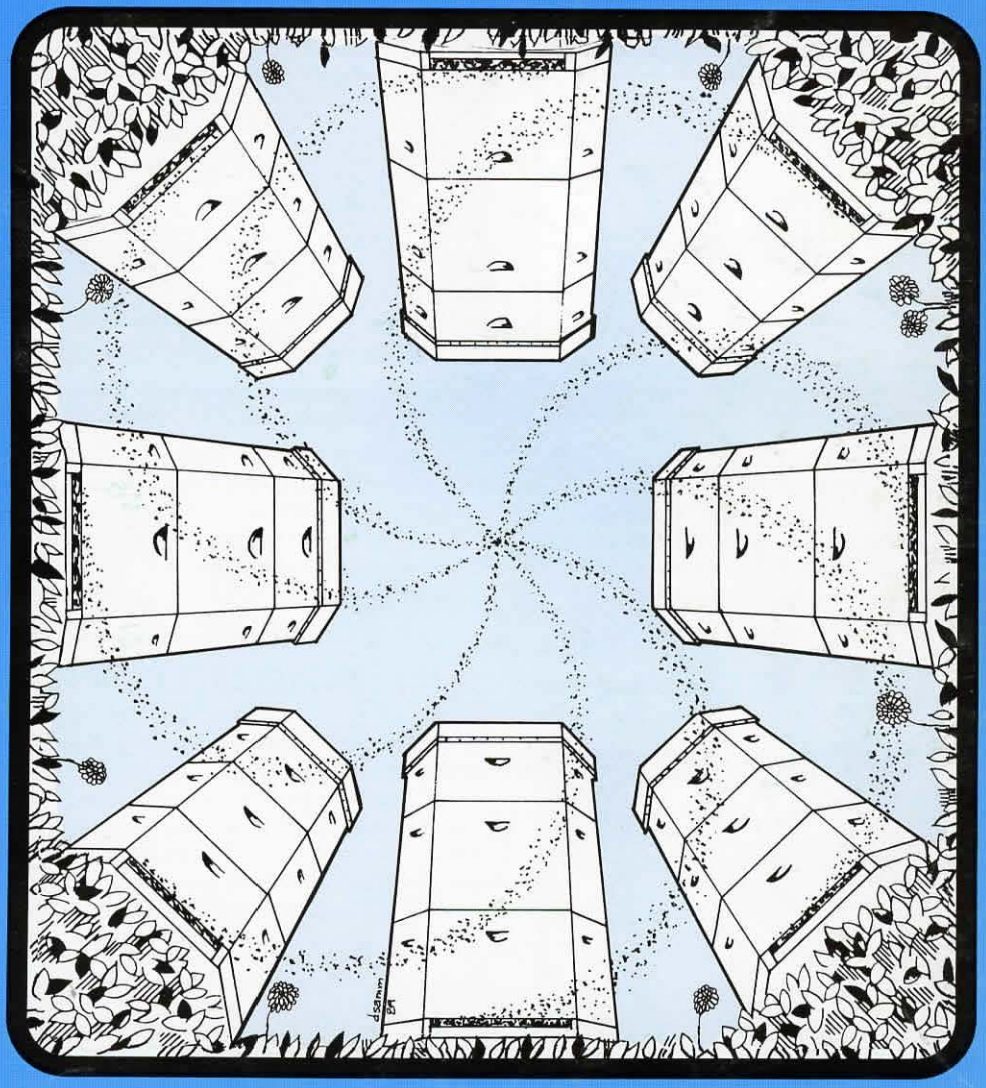
GLEANINGS IN BEE CULTURE MAY '89

BEE CULTURE

MARKETING:

- Annual Honey Report
- Profile: Joann's Honey
- McDrones



A Bee's Eye View . .

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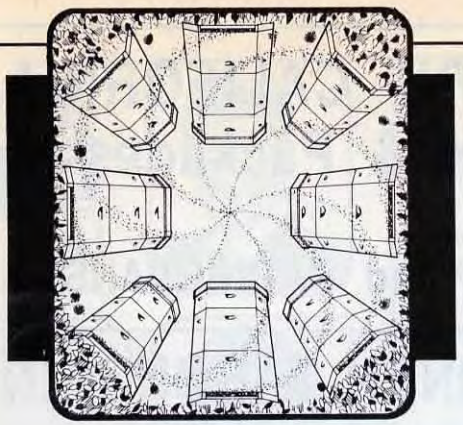

MAY '89

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116 Years Continuous Publication by the Same Organization

Features

Articles

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NEXT MONTH

Something for everybody is what's in *Bee Culture* next month, whether you have 5 or 500 colonies, or none at all and just like to watch . . . The Birds, The Bees, and The Butterflies. An attractive landscape can do more than please the eye. It can provide hours of watching if it attracts all manner of wildlife. And, with a little planning, can do so all year long.

Big time agriculture is taking a turn for the better lately, explored in a great article regarding an exceptional small farm assistance program, and other small farm pursuits including bees.

But let's face it, beekeeping is the thought on most of our minds next month — and we've got three great articles on what we all want to know.

We start with an enlightening piece on using 8 frame equipment — the pros, and cons, and should you try this style equipment.

Aggressive Bees? This next piece will show you how to handle even the worst (yes, the worst!), and how to make them better. A good piece for practice.

Use a hive scale? This can be an attractive, and non-threatening way to watch, and work bees. Find out how here, next month.

Finally, we take an indepth look at the pollination business in Canada. Certainly similar to ours, this study reinforces the USDA-ERS study recently released, and adds more support to protect an industry vastly underrated in modern agriculture.

Next month in Bee Culture — Eight frame, nasty bees, hive scales, small — big — bigger agriculture — stay tuned, in June!Δ

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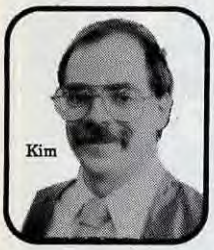

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THE INNER COVER

Ready?

Are you ready for the honey flow? I don't mean having supers ready. Or frames and foundation. Not even excluders, or comb honey boxes. I'm not even thinking of uncappers or extractors, filters, bottles or labels.

I'm thinking of what will you do with all those bottles when they're filled, labeled, boxed and ready? Where will they go, who's going to take them off your hands? And what have you done to make sure there is somebody to take them?

Marketing people have all sorts of names for this activity, but it comes down to plain old regular every day selling.

The specialty vegetable people recommend not planting a crop until it's sold. Think about that a moment. One hundred bushels of hot peppers sold, before the half-pound of seed is even ordered.

Can you say that? Twenty colonies, fifty pounds per colony is going to get you a thousand pounds of honey, more or less. That's 42 cases of one pound jars, or sixteen five gallon pails, or one barrel plus five, five gallon pails, plus all you can eat, give away, and spill.

Right now is the time to start making those sales, to start finding new contacts, and to make sure there will be some place for it all to go.

•

Saturday

Friday Night. Two-thirds asleep, one-third not. Thoughts of tomorrow racing, planning and waiting. Five days of pushing papers and papers pushing; five nights of meeting room chairs, inane discussions of very important topics, with always too little air, too much smoke, not enough time, not enough sleep.

But tomorrow — outside! Rise early, but not too early, with the birds, but for brunch. A roll, coffee (always coffee), maybe even a second while planning the day. Check the chickens, clean the floor, fix fence and gate, mix some feed, change the water, collect the eggs — money in the basket.

Trim trees and brush with chain saw, handsaw, pruners; piled high to burn later — building a future bonfire for a hot July night with fireworks and marshmallows and hotdogs and neighbor kids with big eyes and shrieks in the dark.

Then bee suit and tools, face net for habit, fire in a can. The snap of the top and cra-a-a-a-a-ck of the inner roof with a million eyes watching and waiting for the airborne report — attack? retreat? wait for a break in the fog!

Look for the leader, frame by frame; look for rebels, prevent the revolution, smell the smells, and feel the honied grip on finger tips. And just watch somebody else being busy for a change.

But Saturday morning arrives in a bucket, a deluge, a storm so loud that windows shake and dishes rattle. No chickens, no brush, no bees, no outside today.

Maybe tomorrow.

Kim Flottum

COVER . . . There is much to digest in this month's issue. The Annual Honey Report is an ideal way to study regional and seasonal sales and price trends for honey. The only report like it.
Cover design by Diana Sammataro

MAY
Honey Report

May 1, 1989

These figures represent current prices from our contributors. They are based on reports from many states and averaged for each region. Where insufficient information is received, no price is shown.

Wholesale Extracted	Reporting Regions								Summary		
Sales of extracted, unprocessed honey to Packers, F.O.B. Producer.											
Containers Exchanged	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**R**	**A**	**L**
60 lbs. (per can) White	44.40	39.78	40.00	33.25	37.17	35.36	38.63	38.10	33.00-44.40	38.19	38.78
60 lbs. (per can) Amber	43.20	36.02	36.25	31.15	40.00	32.13	36.00	34.50	25.00-54.00	35.27	35.51
55 gal. drum/lb. White	.60	.40	.41	.50	.49	.62	.57	.53	.40-.65	.55	.51
55 gal. drum/lb. Amber	.60	.35	.37	.45	.44	.53	.53	.46	.35-.60	.48	.47
Case lots — Wholesale											
1 lb. jar (case of 24)	29.50	27.09	22.95	24.20	23.52	24.19	25.75	29.67	20.40-35.04	26.06	26.20
2 lb. jar (case of 12)	28.50	25.63	24.90	20.40	22.20	23.67	28.33	28.18	20.40-31.15	25.56	25.78
5 lb. jar (case of 6)	30.00	25.97	22.95	25.50	25.05	23.17	26.15	25.50	21.00-30.00	25.31	26.49
Retail Honey Prices											
1/2 lb.	.95	.98	.79	1.50	.83	.97	.90	.88	.79-1.50	1.00	.97
12 oz. Squeeze Bottle	1.61	1.50	1.19	1.37	1.13	1.21	1.15	1.37	1.00-1.75	1.34	1.34
1 lb.	1.60	1.89	.135	1.90	1.29	1.78	1.53	1.61	1.29-3.50	1.73	1.58
2 lb.	2.75	2.82	2.75	3.99	2.39	3.00	2.87	3.03	2.29-4.00	2.94	2.79
2-1/2 lb.	3.45	3.98	3.44	7.00	3.75	3.50	3.71	2.25	2.25-7.00	3.87	3.39
3 lb.	4.15	3.97	3.51	3.65	3.75	3.81	3.71	3.66	3.49-4.15	3.81	3.82
4 lb.	5.25	4.83	4.90	7.25	4.88	4.36	4.67	—	4.20-8.00	5.14	4.73
5 lb.	6.40	5.93	5.49	7.50	5.25	5.15	5.77	5.64	5.10-8.00	5.98	5.87
1 lb. Creamed	2.10	1.20	1.29	1.43	1.65	1.43	1.72	1.71	1.20-2.00	1.59	1.65
1 lb. Comb	2.25	2.09	2.95	3.25	2.19	1.99	2.70	3.50	1.75-5.00	2.45	2.46
Round Plastic Comb	1.75	1.99	1.15	3.50	1.95	2.08	1.85	1.75	1.50-3.50	2.12	1.90
Beeswax (Light)	1.15	1.05	1.00	1.10	.95	.80	.97	1.00	.75-1.20	.99	1.10
Beeswax (Dark)	1.10	.93	.95	.90	.85	.74	.88	.90	.70-1.10	.89	.96
Pollination (Avg/Col)	31.00	15.50	--	26.15	—	20.00	33.00	28.25	15.00-33.00	24.36	26.56

Honey Report *Features*

Summary Column: There are 3 parts. **R** — Range of *all* prices reported for the month, lowest and highest. **A** — Average price for each commodity across all regions. **L** — Average price of each commodity listed *last* month.

Comments Section. Price Index — A descriptive statistic that takes into consideration *all* commodity prices, and compares each region to the others. The region with 1.00 has the highest overall prices for the month. A region with Price Index .90 has prices, overall, at 90% those of the region with 1.00.

Region 1.

Price Index 1.00. Sales steady, prices increasing a bit, especially for bulk honey with 60's 10-20¢ above buy back. Probably due to somewhat increased sales and supply costs. Bees in good shape but tracheal mites or tracheal induced stress problems caused medium to high losses.

Region 2.

Price Index .89. Sales steady, prices returning to normal for the most part, with specialty honey sales decreasing. Early season pollen and nectar sources ample generally, and early in some areas. Tracheal mites blamed for many winter losses here, too. Moisture adequate to good.

Region 3.

Price Index .85. Sales steady, but prices declining a bit. Outlook good for continued steadiness though as spring has been cool and damp. Supplies adequate to overload, so prices will probably remain weak. Condition of bees average so far.

Region 4.

Price Index .85. Prices steady, sales strong to increasing. Low stores should help prices soon. Warm winter and spring, along with early flows should help build-up but will result in lots of swarming.

Region 5.

Price Index .85. Prices steady to improving a bit, and sales strong. Easy winter followed by wet spring may require feeding, so watch colonies.

Region 6.

Price Index .81. Prices steady to dropping a bit and sales slowing. Warm, dry weather reduce sales, slow honey production and increase fire ant problem.

Region 7.

Price Index .89. Sales increasing steadily and prices going up, too. Demand definitely on the rise. Early, dry spring have helped early flows, but moisture still needed for summer crops.

Region 8.

Price Index .87. Prices and sales steady, with seasonal downswing beginning. Pollination of many crops in full swing in southern areas, while the north still recovering from late snow. Mites causing problems in entire region.

Anyone interested in becoming a "Honey Reporter" should contact the Editor.

Prices Up, But Not Much

ANNUAL HONEY REPORT

Written and compiled by Gleanings in Bee Culture *Honey Market Reporters.*

The Annual Honey Report has some interesting information this year, because we have increased the number of field reporters (by 25%), and, we now have two years of data collection to compare. These factors enhance the report, make it more reliable, and offer some insights into both seasonal and regional sales that are not easily understood without this type of analysis.

There are some factors to keep in mind as you review this data. First, our reporters are, for the most part, hobby or sideline beekeepers. Generally they sell directly to the consumer, thus having a good handle on what the retail market will bear. However, many sell by the case to grocery or other retail stores; by the 60 pound pail to bakeries or other businesses who use it as a raw product; or purchase additional honey from other beekeepers in bulk or by the case. These activities provide excellent information on wholesale prices for both bulk and case lots.

Second, some reporters produce enough honey to take advantage of the loan program. Their bulk prices reflect current government rates. Also, some of our reporters take advantage of the buy-back program, at least in part, and resell their honey. Of these, about half simply sell it to a packer at buy-back rates, but the rest are able to repackage or increase its value in other ways, and sell for more than buy-back.

Basically, our data favors the smaller producer, who in turn gains the most from studying this report. A million pound a year producer seldom has the opportunity to pick and choose a market, or is able to take advantage of seasonal price differences profitably.

Finally, the government program decreased support by 5% this year, and this is reflected in some prices. This is especially evident in the per pound price paid by the drum.

Regional

The average price paid per item in each region, over the entire 12 months is shown in chart 1. Except for the aforementioned prices paid for drums and, surprisingly round comb honey, all commodities rose in price this year. Comparing this years average (col. A) with last years average (col. L) there was as much as an 8% increase for 1/2 pound singles (from $.87 to .94), and as little as .7% for a 5 pound jar. Overall, prices rose about 1.5%, certainly less than inflation this past year.

Comparing regions, the past two years are very similar, and also right in line with the results of the price survey conducted by the National Honey Board.

Continued on Next Page

	1	2	3	4	5	6	7	8	A	L
60 lb. White	43.17	40.84	34.11	29.70	40.07	36.00	37.90	40.41	37.78	36.06
60 lb. Amber	41.16	35.69	32.05	25.87	37.92	32.20	35.58	36.94	34.68	33.39
55 gal. White	.53	.46	.44	.43	.47	.61	.58	.58	.51	.55*
55 gal. Amber	.51	.38	.39	.38	.44	.54	.53	.49	.46	.54*
1 lb. jar (24)	28.63	28.75	24.65	23.54	24.97	24.20	27.05	27.73	26.19	25.75
2 lb. jar (12)	26.68	26.12	25.01	21.16	23.57	24.67	28.72	27.44	25.40	25.08
5 lb. jar (6)	30.07	25.81	24.16	23.77	25.81	25.35	26.47	26.44	25.99	25.53
1/2 lb.	.92	1.02	.86	1.06	.94	.85	.92	.92	.94	.87
12 oz. Squeeze	1.48	1.48	1.35	1.28	1.35	1.18	1.20	1.36	1.34	1.32
1 lb.	1.54	1.80	1.36	1.69	1.50	1.49	1.51	1.52	1.55	1.53
2 lb.	2.79	2.97	2.65	3.20	2.62	2.57	2.84	2.56	2.78	2.68
2-1/2 lb.	3.53	3.97	3.38	3.72	3.31	3.18	3.75	3.03	3.49	3.38
3 lb.	4.13	4.11	3.56	3.37	3.72	3.88	3.74	3.64	3.77	3.71
4 lb.	5.18	4.84	4.49	4.41	4.82	4.53	4.71	4.79	4.75	4.66
5 lb.	6.35	5.57	5.30	6.03	6.08	5.31	5.74	5.79	5.77	5.73
1 lb. Creamed	1.91	1.45	1.58	1.55	1.60	1.55	1.75	1.65	1.63	1.61
1 lb. Comb	2.40	1.98	2.52	2.31	2.14	1.98	2.63	2.63	2.32	2.16
Rnd.Plas.Cmb.	1.98	1.85	1.96	1.81	1.86	1.79	1.91	1.86	1.88	1.91
Beeswax (Lt)	1.08	1.05	.92	1.03	1.09	.84	.95	1.31	1.03	1.00
Beeswax (Dk)	.95	.93	.83	.94	.93	.75	.84	.98	.90	.85
Pollin. (Avg.)	28.31	18.10	20.20	26.48	18.14	19.50	23.39	24.44	23.16	21.55

Chart 1. Average price per region for commodities, including 1988-89 Avg. (A), and 1987-88 Avg. (L).

Regional Price Index

	1	2	3	4	5	6	7	8
Wholesale	1.00	.925	.825	.731	.897	.841	.918	.937
Retail	1.00	.962	.901	.945	.928	.877	.952	.922
Total	1.00	.946	.837	.765	.902	.847	.924	.934
Ranking								
'88-'89	1	2	6	8	5	7	4	3
'87-'88	1	3	4	6	7	5	2	2

Chart 2. Price Index totals for all regions for the duration of the study.

	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
60 lb. White	37.61	35.30	35.13	34.05	38.06	35.73	41.19	38.68	39.37	38.51	40.36	39.33
60 lb. Amber	35.13	31.48	32.36	29.98	35.99	33.56	37.24	35.45	36.97	35.58	36.78	35.78
55 gal. White	.56	.51	.53	.50	.51	.51	.52	.51	.54	.49	.49	.48
55 gal. Amber	.49	.45	.48	.44	.45	.45	.47	.45	.49	.44	.43	.44
1 lb. jar (24)	27.01	25.80	25.09	26.57	26.63	25.56	26.47	25.65	25.90	27.21	25.94	26.46
2 lb. jar (12)	25.57	25.55	25.18	25.35	24.62	25.77	24.81	25.50	25.66	26.01	25.36	25.50
5 lb. jar (6)	25.32	25.63	25.38	27.39	25.56	25.51	26.15	26.36	26.26	26.09	25.59	26.59
1/2 lb.	.90	.89	.91	.90	.93	.96	1.00	.96	.95	.94	.96	.96
12 oz. Squeeze	1.35	1.33	1.29	1.36	1.33	1.33	1.35	1.32	1.39	1.33	1.34	1.32
1 lb.	1.55	1.52	1.49	1.51	1.67	1.45	1.57	1.50	1.64	1.54	1.62	1.55
2 lb.	2.73	2.76	2.74	2.64	3.05	2.79	2.89	2.74	2.74	2.78	2.79	2.75
2-1/2 lb.	3.29	3.57	3.43	3.55	3.50	3.36	3.76	3.56	3.46	3.51	3.66	3.24
3 lb.	3.80	3.75	3.72	3.72	3.93	3.74	3.87	3.79	3.76	3.68	3.72	3.74
4 lb.	4.59	4.81	4.64	4.72	5.13	4.67	4.76	4.80	4.72	4.67	4.67	4.85
5 lb.	5.70	5.74	5.66	5.93	5.13	5.93	5.81	5.91	5.83	5.82	5.82	5.93
1 lb. Creamed	1.66	1.71	1.55	1.58	1.75	1.66	1.68	1.59	1.62	1.58	1.58	1.61
1 lb.Comb	2.20	2.32	2.28	2.20	2.65	2.23	2.43	2.15	2.41	2.33	2.22	2.46
Rnd.Pls.Cmb.	1.89	1.83	1.86	1.94	1.77	1.85	2.10	1.78	1.85	1.86	1.90	1.92
Beeswax (Lt)	1.09	1.01	1.01	1.01	1.13	1.02	1.04	.96	1.04	.99	1.03	1.10
Beeswax (Dk)	.88	.88	.89	.85	.87	.86	.92	.85	.93	.88	.96	.97
Pollin. (Avg.)	21.84	22.23	23.14	20.75	23.80	23.54	21.60	25.38	23.71	24.95	23.79	26.56

Chart 3. Average prices per month for commodities across all regions, May 1988 - April 1989.

Seasonal Price Index

	M	J	J	A	S	O	N	D	J	F	M	A
Wholesale	.967	.922	.919	.920	.968	.938	1.00	.973	.989	.984	.988	.985
Retail	.951	.968	.947	.961	.986	.958	1.00	.965	.972	.961	.968	.972
Total	.964	.930	.923	.927	.971	.946	1.00	.971	.987	.979	.985	.983
Ranking												
'88-'89	7	9	11	10	4	8	1	6	2	5	3	3
'87-'88	3	6	8	4	7	2	5	3	1	5	6	--

Chart 4. Price Index totals for all months across all regions.

Generally, the east coast has the strongest prices, with region 1 again the strongest. Price Index values, and regional rankings are shown in chart 2.

Surprisingly, sellers in Region 1 got their best prices in large quantities. They fared well selling bulk and large jars, though the 12 oz. size does well, too. Also, the round plastic comb sells for 5% above the national average.

Region 2 does almost as well in bulk, but really shines in the small to medium sized jars. This is due mostly to speciality honeys sold for what most of us would consider incredible sums.

The west coast and mountain regions fall into 3rd and 4th, respectively. The midwest, with high production, low population and higher trucking fees, falls behind these areas. There are bright spots all through the midwest centered in the major metropolitan areas. Though not the big, big cities, medium to large cities and urban areas do well by both price and amount sold.

Seasonal

Charts 3 (Avg. Prices) and 4 (Price Index) show the seasonal influence on honey prices. Seasons are often accused of (or credited for) changes in honey sales. Common sense supports this, but our sales figures are far less certain.

The exceptionally warm summer was probably at least partially responsible for decreased demand, and thus prices. But low stores of honey from the previous year, and slow production during the early part of the season also contributed. Both last year and this year, the late spring and summer months are low and slow.Δ

MAILBOX

Swarm Awareness

Spring is the time of year when neighbors become anxiously aware of the thousands of bees which inhabit their backyards. Stinging memories of childhood will be recalled when a swarm clusters on the kid's swing set, the back porch near the screen door or on their pet's favorite shade tree.

Many of us will receive frantic phone calls and we should consider now, how we will respond. We are not obligated to rush to the assistance of our neighbors, but a little time spent to reassure our friends over the phone can provide the basis for acceptance and understanding for the "white man's fly". It is easy to predict that the news media will exploit the Africanized Bee situation and any support within our community we can generate and nurture can only be to our benefit.

Seriously consider investing some time this spring catching swarms for a nominal fee, as a method of control, to reduce the spread of disease and mite infestation, or as a means to expand your apiary. If you are willing to provide this service in your area, contact the local agriculture agent and police and fire departments and provide them with the information necessary; name, phone number, hours when available and amount of fee, if any.

When you receive these phone calls, remember the person on the other end of the line has no positive experience with bees and perceives a danger to themselves or their family. If you are unwilling to provide direct assistance please assure them of the gentleness of the swarm and refer the caller to another beekeeper whose name and phone number you should always have handy.

Richard E. Leber
Mobile, Alabama

New-Comb Convert

Your *Inner Cover*, "Old Combs Never Die . . . They Just Look That Way" provided some food for thought. I am afraid I am as guilty as are many other beekeepers of never replacing "good" brood combs. As long as I have few, if any, drone cells, I continue to use the same combs year after year. Some have been in constant use for nearly twenty years.

Over the years, I have spent considerable time in Europe. When my work permitted, I was able to visit local beekeepers in several countries. One thing all these people had in common was their almost religious systematic replacement of *all* their combs. When I asked why they destroyed what appeared to be perfectly good brood comb, most replied it helped eliminate disease. Some felt new comb produced larger workers, and a few had no reason other than it was the way their fathers had done it before them.

This is the system most follow. First, the foundation is drawn out. These combs remain in the supers for an additional season or two for surplus honey. Then they are used to replace brood combs. Finally, after a year or so in the brood nest they are destroyed. While the percentage of replacement of brood comb varied, most seemed to follow a three or four year pattern — replacing one third or one fourth of their combs annually.

After reading your column, I believe I should be less proud of my ancient brood combs and start a systematic rotation similar to that of our European counterparts.

Demorest B. Howard
McNeal, AZ

Continued on Page 267

MAILBOX

Wrap Trap

I live in New Jersey and have three hives and love the hobby.

In my first few years of beekeeping I wrapped my hives, like most beginners. I read the book. Every winter I'd loose a hive or two. Then I read an article where the writer suggested not wrapping the hives, just reduce the entrance. The author said it would take guts, and it did, to see the hives sitting there unwrapped in the snow.

It made me think I'd made a mistake. Well, it has been two winters of no wrapping, and I have not lost a hive. It's a pleasure not to wrap a hive and wonder when to take it off. Whoever wrote the article . . . Thanks, for making my hobby better.

Jim Burgess
Tenafly, NJ

No Fun Here!

I was shopping recently, and saw the game, *Magic Playset*, distributed by Smethport Specialty Company, Smethport, PA. What attracted my attention was an item called the "beehive".

The object of the game seems to be to keep the "bees" (ball bearings) within the plastic representation of a honey comb. By moving the honey comb around, the bees fall into depressions in the comb. If they miss, they slide into another area designated as the "beekeeper" and "sting" him. If the beekeeper is stung five times, the player looses. Or, the player with the most stings looses. This so-called game has virtually no redeeming value.

Junk games like this only serve to fuel the ignorance of people who are unaware of the many benefits provided by honey bees. They could have made that useless piece of plastic and cardboard into an informative game by having the bees return to the hive with nectar, or gathering pollen.

But that takes a little education, and there is no "fear" connected with the true activities of honey bees. Crap like this *Magic Playset* should be pulled from the shelves!

Clyde E. Witt
Medina, OH

MAILBOX

Better Boxes

I have been producing box comb honey (4-1/4 x 4-1/4) for about 8 years and have become very good at perfecting the product. Though I also produce round and cut comb, many of my customers continue to want the box comb honey. What is discouraging is that young and old alike want to pierce and poke through the thin cellophane window of the package I use to see the honey run. I would not like to see the challenge and the art of this fine product go by the wayside.

If there was a stronger, clear plastic cover to protect at least one side where the window is, or even a much stronger window in the package, this comb honey would still be produced. This challenge is there for any supplier to make their package available.

Please, do not discard this fine beekeeping art. It has made us all better beekeepers.

Roland B. Jarry

Apipuncture How-To

To capture bees at any time of the year, place an open quart jar over a hive's opening, and tap the box. Guard bees will venture out and into the jar. Carefully replace the lid, after putting a 'smidgen' of water in the jar. Shake lightly to wet wings and immobilize bees.

This is an ideal method of capturing bees if you are interested in bee venom therapy.

Harry Crissman
Natrona Hts., PA

Commended!

The article *Pollination Parameters*, by Robinson, Nowogrodzki and Morse, was one heck of a good article. They are to be commended!

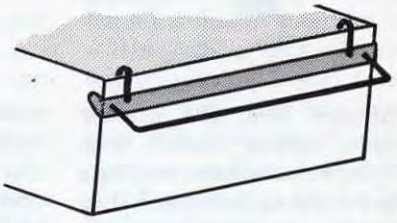
Steve Taber
Honey Bee Genetics

Great Ideas!

Varroa Mite Trap

Phero Tech, Inc. announces their new varroa mite trap used to trap live mites on bottom boards after they fall. Several outstanding features make this ideal for the hobbyist or sideline beekeeper. Phero Tech also produces traps and lures for many other agricultural and horticultural pests, and offers consulting services.

Offices in Canada and Montana. For more information contact: Phero Tech, Inc., 1140 Clark Drive, Vancouver, B. C., Canada V5L 3K3 (604) 255-7381.

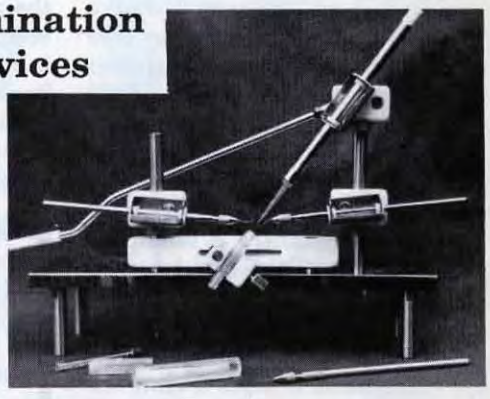


Frame Holder

What a joy it is to remove the first frame and slip it into the **Jackson Creek** Frame Holder. The frame is held close to the hive so it can't be dropped, stepped on, or otherwise messed up. It also protects the queen if she happens to be on that outer frame.

The Jackson Creek Frame Holder protects that first frame from damage and will repay your cost the first time you use it. For more information contact: Maxine Swanson, Jackson Creek Honey, 29696 S. Gordon Rd., Colton, OR 97017.

Artificial Insemination Devices



Vaca Valley Apiaries has available a new artificial insemination model, developed by Dr. Peter Schlay, Germany. They also have a Mackensen/Dowe system, produced in the U. S. Both are excellent quality machines with exceptional micro-manipulations for ease of use and accuracy. Pictured is the Schlay compact model, with attached optics.

For more information on these instruments, microscopes, or training, contact: Susan Cobey, Vaca Valley Apiaries, Instrumental Insemination Service, 6745 Bucktown Lane, Vacaville, CA 95688 (707) 447-6723.

Also available from **Honey Bee Genetics** are several European models from Poland and Czechoslovakia. These too are built on the Mackensen principle, but have refinements and updates worth noting. Pictured is a Polish unit. For more information contact: Steve Taber, Honey Bee Genetics, P. O. Box 1672, Vacaville, CA 95688 or (707) 449-0040.

RESEARCH REVIEW

DR. ROGER A. MORSE

Cornell University • Ithaca, NY 14853

"Unusual birds and dead dogs."

An African bird, the greater Honey Guide, makes contact with people by flying close to them, making a double-noted chirping sound and then flying in the direction of a honey bee nest they have found. In this way natives in East Africa have learned that they may find a nest, take the honey for themselves and, by leaving some wax and brood, pay the bird for its efforts.

These interrelations between birds and men were reported over two hundred years ago but seemed so fantastic that they were usually doubted until a thorough study was made of the matter and reported in a Bulletin of the U. S. National Museum in 1955. More recent research is even more detailed and almost reads like science fiction.

The Boran people, a nomadic tribe in the dry bush country of Northern Kenya, routinely hunt for bees and honey. In unfamiliar areas finding a honey bee nest without help may take nearly nine hours but by using greater Honey Guides, that time is cut to a little over three hours. In addition to making appropriate sounds and flying in the direction of the nest, the birds that are guiding honey hunters display their outer white tail feathers. A Boran bee hunter responds to the bird by whistling, banging on wood and talking loudly to the bird so that the bird is aware that it is being followed. It is not always a question of birds finding bee hunters, the hunters may seek out birds by attracting them from a distance of as much as half a mile with a shrill whistle.

Researchers following the birds plotted the directional routes over which they were guided. Once they found the bee's nest they did not destroy it but elicited repeated guidings so as to confirm the activities of the bird. When the bird arrives at the nest site, two changes are apparent in its behavior. It produces a different sound for a few calls, then remains silent. It then flies to a perch close to the nest and sometimes flies around the nest to indicate its location.

Some who have been skeptical of this intricate behavioral exchange between men and birds have suggested that the birds guide people until they find nests by accident. However, camouflaged observers found birds would monitor nests they had found before they guided people to them. On cloudy and cool days when the bees were not active, the birds would fly to the nest entrance and look inside.

Once the Boran people find a nest they use fire and smoke while they open the nest and take the honey. It was observed that 96% of the nests were inaccessible to the birds until they had been opened by the honey hunters. The smoke also served to protect the birds while they fed on wax and brood. The article concludes by stating that the Boran people are indeed great observers of nature — a thought with which we must agree.

References

Isack, H. A. and H. -R. Reyer. *Honey Guides and honey gatherers: interspecific communication in a symbiotic relationship*. Science 243:1343-1346. 1989.

Dog-Killing Honey Bees

This past August 9th I received a phone call from a gentleman who said honey bees had killed two of his dogs the day before. He lived only about 20 miles from Ithaca so I went to the site to learn what I could about the incident.

The house had been purchased only recently. An active hive of bees in one full-depth and three half-depth supers had been included in the sale but the new owner did not want the bees. He thought that if he pushed the hive over with his truck he could then apply a wasp and hornet spray and kill the bees and then burn the hive. On a warm afternoon he proceeded to knock over the hive but in the process of pushing over the hive, his truck got stuck in the mud. He was stung and upon freeing his truck, took refuge in his house.

The hive of bees was alongside a garage on one side of the driveway. On the opposite side of the driveway, under several tall trees without any lower limbs, and about 50 feet away, two dogs were tied, each on a chain about 15 feet long. The dogs were attacked by the bees and while the owner could see what was taking place, he was afraid to go outdoors and attempt to free the dogs. One died within about an hour. The second dog was taken to a veteri-

Continued on Next Page

narian that evening but died the following morning. Each dog weighed about 50 pounds. I smoked the colony and put the supers back together. There was nothing unusual about the behavior of the bees. A beekeeper picked up the colony and the incident went no further.

About six years ago I investigated a case of a dog being stung to death in the vicinity of Utica, NY. What had happened there was also quite simple. A commercial apiary had been in place for many years at the end of an unused meadow. A new home was built about 1500 feet away. There were no trees and only a few low bushes between the bee yard and the house. Behind the house about 100 feet, and more or less in the direction of the bee yard, was a dog coop. A dog had occupied the coop for over a year and there had been no difficulties. However, the dog was attacked, and subsequently died, after the beekeeper harvested honey and had apparently aroused the bees in the process. The beekeeper had left the apiary before the dog was attacked. As in the first case above, people in the house saw the dog was in trouble but were afraid to attempt to free him. In this case I did not see the dead dog but I did examine the veterinarian's certificate of death and found many dead bees on the ground around the dog coop.

I report these matters for two reasons. First, it is important to select apiary sites carefully. Surrounding colonies with a hedge or fence will help prevent encounters between bees and other animals. Many people keep bees in the vicinity of their homes without problems, however, one should be a skilled beekeeper to do so. My second concern is what will happen when Africanized bees arrive in the U.S. Looking back through bee journals, I find there are many reports of unfortunate confrontations between bees and domesticated animals. I fear that the press might think all of this is something new and write some sensational stories.

Upcoming Apimondia Meeting in Brazil

Apimondia is the international beekeepers association and meets every other year; recent meetings have been held in Poland, Japan, Hungary and Mexico. This year it will be held in Rio de Janeiro, Brazil, October 22 to 28. We expect there will be several tours of honey houses, apiaries and honey packing plants following the congress, and a large number of Brazilian beekeepers will be present. This will be an unusual opportunity for North American beekeepers to see and discuss Africanized bees with those who own and manage them and to discuss varroa mites.

Portuguese is the native language in Brazil, however, there are a large number of people who also speak English. Apimondia meetings are well attended by people from Europe who often speak several languages. Lectures will be translated into English.Δ

Beekeeping on the

Oregon Coast

Joann's Honey

MARSHALL DUNHAM

On Mother's Day in 1971, Bob Olstrom gave his wife a hive of bees. "Bob always wanted bees when he was a boy," Joann Olstrom explains. "I was leading a 4-H Small Animals club (ducks, chickens, rabbits) at the time and I was delighted to add honey bees."

Joann was so enchanted with her gift that today she has about 150 colonies and produces some of the finest honey in the West. In 1985 she won the Sweepstakes at the Western Apiculture Society Honey Show. A product she developed called "Nutty Honey" (which consists of almonds, hazelnuts, pecans, or walnuts and her own Oregon Coast Wildflower honey) was shown by the Western United States Agricultural Trade Association in Japan. In interest shown by attendees, Nutty Honey was in the top ten of 150 products reviewed.

"Beekeeping started as a hobby," Joann recalls. "Then it became a cottage industry, and then the industry took over the cottage." Their first hive was left with friends while the Olstrom family moved from their home in Reedsport, Oregon, to a graduate school in Colorado, where Bob worked on his Doctor of Education degree. When they returned to Reedsport, where Bob teaches metal shop, wood shop, drafting, and electronics in the high school, their friends returned their original hive and two divides that had been made from it. Their single hive had turned into three.

"For a long while, 6 colonies were enough," Joann remembers, "but then there was a year when bee swarms were everywhere and people kept calling me to come and collect them. By the end of that season, we were up to 30 colonies."

Soon Joann was teaching beekeeping classes in the local community college and taking an active part in the Oregon State Beekeepers Ass'n. She served two years as a volunteer editor of the OSBA newsletter, The Oregon *Bee Line*, while also running 70 colonies, helping build a house and raising a son.

Today, Joann's approximately 150 colonies are scattered over three coastal counties and 21 apiaries. Most hives are on permanent locations but some are moved for pollination of fruit trees. The primary nectar sources in the region are wildflowers, bigleaf maple trees, vine maple bushes, Oregon myrtle (actually California Laurel), cascara, huckleberry, blackberry, some fruit trees, garden plants, and clovers.

Experts generally regard the Oregon Coast as a difficult place to keep bees, due to the extremely damp conditions. Extended periods of rain, fog, mist, clouds and high humidity tend to complicate beekeeping, but the Olstroms don't consider the weather to be a major problem. "We never kept bees anywhere else," Joann remarked, "so we have nothing to compare with. If anything, the bees may have a little worse temperament than in other places, but we don't consider that a serious problem."

The Olstroms consider black bears to be their most perplexing challenge. Joann's HoneyStix labels now say "Bear Approved". She states, "If it weren't for the bears, we'd have a lot more than 150 colonies. So far this year, we have lost 25 hives to bears. We had a yard near the sand dunes by Florence — ten hives, double fenced — all destroyed. Then we had some up the Smith River, unfenced, but near a house with a watchdog. For years, nothing bothered those hives. Then one day a log truck ran over the watchdog, and shortly afterward, a bear got in and destroyed half a dozen colonies. Then it, or another bear, moseyed over the hill to a yard on the North Fork of the Smith River that we call Fort Knox because it has every kind of fence — a solar powered electric fence with electric wire, a woven wire fence, topped with barbed wire, and a ring of blackberry bushes around it. We only left one tiny hole that seemed much too small for a bear to get through. Apparently a little bear went around and around till it found the hole and got in and lunched on another group of hives. We patched up the hole and that yard has been okay for the last couple of weeks.

"We tried to get the Fish and Wildlife Department to trap the bear. They have a culvert-style live-trap, but they said they couldn't help us — they were too busy trapping bears around campgrounds and residential areas. But they told us not to shoot the bear! We asked

A gift pack, with just that special touch.

what else could we possibly do? Finally they said, OK, you can shoot the bear, but you have to give the meat away to some institution. That struck us as adding insult to injury. For all the bears we've fed, it seems fair that one should feed us."

In spite of such setbacks, Joann's Honey is a growing business. Supermarkets, restaurants, gift shops, and boutiques all over Western Oregon are selling Joann's Honey products. The Coos Bay Ship Chandlery, which supplies provisions for all the vessels calling at Oregon's largest lumber shipping port, has just doubled its order for Joann's Honey. Joann's Honey Gift Pack has been selected for a Japanese mail order catalog featuring products from 38 Western companies. However, she has no illusions about the problems she faces in trying to export honey to Japan.

"The Japanese Ministry of Health and Customs is very strict about purity of foods and frown on many additives. This project has been in the works for over a year and a half," Joann commented.

Originally from the Mid-West, Joann was born in Wisconsin to a minister's family. She grew up in Illinois and Minnesota, went to Stout University in northern Wisconsin, majoring in Home Economics, with minors in English and Science. She met her husband at the University. After graduation, she taught at a school for the blind. "If you ever need any honey recipes in Braille, let me know," she says with a smile.

The Olstroms moved to Reedsport before their son Eric was born. When he recently moved out of the house, Joann immediately turned his room into an office and a display room for the beekeeping supplies which she sells to coastal beekeepers.

Several years ago, Joann became a member of a group called Oregon Gourmet Foods, dedicated to

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Joann's bees produce.

Bears don't fool around . . . and fences don't guarantee protection.

OREGON . . . Cont. from Page 273

promoting the marketing and sales of the members' specialty foods. She has also taken classes in small business operation offered by the Small Business Development Centers of South Western Oregon and Lane Community Colleges. She has also served on the Oregon Beekeepers Association Honey Promotion Committee and has been a prolific contributor to the Oregon *Bee Line*, the *American Bee Journal*, and her local newspapers. She is a Honey Market Reporter for *Gleanings in Bee Culture* and is a reporter for the National Honey Market News Service.

Along with all of this, Joann and Bob have found or made time to be politically active in their community. They helped Oregon's current governor into office and Joann's Honey has graced the dining table in the new governor's mansion.

Bob Olstrom is the kind of person who, when the school budget was drastically cut back and the shop program was reduced from three teachers to one, was the one kept to do the work of three. Once he even had 42 students in a single metal shop class! The fact that he manages is a testimony to his competence and good nature.

Sometimes when a bee appears on the schoolgrounds, students or faculty members will ask, "Hey, is that one of your bees?"

He always takes a look and says, "Yup, it's one of ours."

Joann sells more than honey, but bees are still the main attraction.

Invariably he is asked, "How can you tell?"

To which he replies, "Look at its back end there — see those black bands going around? What do they spell?"

"Looks like an 'O'."

"Yup, that's 'O' for Olstrom; we brand them all with that 'O' so we can always tell our bees." Often he is believed, at least until he starts to laugh.

Neither Joann nor Bob have many regrets about their involvement with beekeeping. "We've met interesting people, gone interesting places, and done interesting things," says Joann. Expansion of the home business seems inevitable as more people try Joann's Oregon gourmet wildflower honey products. Bob sometimes thinks about taking an early retirement from teaching to work more with the bees. The growth of Joann's Honey is an example of an interesting hobby turning into a viable business — and one Joann soon hopes to get out of the cottage!Δ

If you would like more information about Joann's fine honey products or beekeeping supplies, you can reach her at 3164 Maple Court, Reedsport, Oregon 97467.

Marshall Dunham is a beekeeper, free-lance writer, and editor of the OSBA Newsletter, The Bee Line.

'Ahmonds'

STEVE TABER of Honey Bee Genetics

P. O. Box 1672 • Vacaville, CA 95688

"Wild almonds are good for bees, and the people who raise them!"

If you read the article in the March issue of *Gleanings in Bee Culture* by Robinson, Nowogrodzki and Morse, you know that one of the major crops requiring bee pollination is ahmonds. Whoops, how's that word spelled? Well now, almost everyone who eats those nice nuts calls them "almonds" with the "L" sounded. But the guys who grow them pronounce the word for those nuts "ahmonds". Why? Well, the story they told me goes like this. Harvesting those nuts is pretty well mechanized. They have large machines which grab the trunk and shake it, and the ground all around, vigorously. In fact, the growers say, they have shaken the "L" out of the tree. Now then, if you say that out loud 2 or 3 times you will understand why they are called "ahmonds".

Anyway, as a brief review, the entire U.S. crop is grown in California requiring over *650,000 colonies of bees* at an average price of $25.00 per colony, with some contracts this year of $40.00 for each colony. Bees are brought in from several states including Washington, Oregon, North and South Dakota, Idaho, Montana and Arizona. The Hershey Co. and the Russian government are the largest customers, but the total crop value in 1987 was over $616 million.

The plant we call almond originated in the Mediterranean Basin and is closely related to the peach. There are two general races, or tribes of almonds — the bitter and the sweet — but they also have either hard or soft shells. This article is concerned with the bitter, or wild almond.

Most of us like to grow plants that are both pretty and bees like. The wild almond is it. If you can grow peaches where you live you can probably grow the wild almond. It seldom needs water or fertilizer. In fact, here in CA it grows as a wonderful weed along roadside right-of-ways. It's a bushy plant that may eventually reach 20 feet tall, but it begins blooming when it is only about knee high. It is one of the earliest blooming plants in the spring, ahead of any other fruit tree and before most willows here. The flower is classic beauty, and the bees love it.

Typical wild almond blossom.

The flower color is white to pink and they bloom somewhat erratically, some much earlier than others. The plant rarely grows as a tree but rather more like a hedge. Therefore, it is quite suitable for hedgerow plantings. The nuts are commonly eaten by squirrels. However, they are supposed to be toxic because they contain cyanide, just like peach pits. Those who have tried to eat one of these most always spit it out quickly because of the bitter flavor. Because of this, I see no particular danger to children or adults poisoning themselves eating these nuts.

Commercially, the nuts of the wild almond are used to produce almond extract and prussic acid. Ten or 12 years ago there was a rumor regarding wild almonds curing cancer. Many sufferers went to Mexico seeking treatments of extract from the wild almond. However, the FDA stated that this treatment was of no value. You can see though, this little bush has had some notoriety in its past.

Personally, I think it would make a nice bush in anyone's yard who likes flowers and bees. And from what I have seen, beekeepers can use some help growing new and exotic plants that bees need in order to survive. In our society bee pasture seems to be moving into oblivion as we find more concrete, homes and malls constructed where we used to have wild

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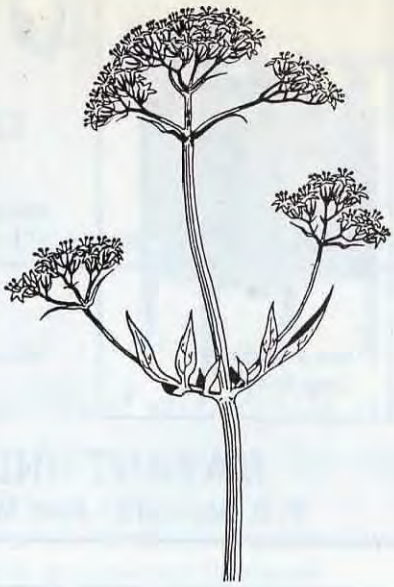
flowers. And early spring is always a precarious time since bees need all the early pollen and nectar they can get.

If you are interested, for $2.00 I will send you a couple of seeds to start yourself. The two bucks covers my time and postage.

But a warning: if it is too cold to grow peaches in your area, you probably can't grow bitter almonds either. And, I suppose that since these are not harvested commercially to any extent they would always be pronounced, *almonds*. Anyway, if you went around your neighborhood saying "that's my *ahmond* tree", everyone would wonder just what you were talking about.Δ

Joe-Pye-weed



Valerian

Jerusalem artichoke

Swale Honey

ANNE WESTBROOK DOMINICK

Swales, depressions in tracts of land that tend to be moist and hosting ranker vegetation than the rest of the land, are generally considered pretty useless. They can, however, be turned into colorful, intensive bee feeding areas. Three honey plants that will vigorously fill in low-lying places are Joe-Pye-weed, Jerusalem artichokes, and valerian. In fact, they've naturally taken over many such areas on their own, a sure sign they'll settle in and spread if introduced. And all three are called rank by finer gardeners, but the bees and I don't care.

Joe-Pye-weed
(Eupatorium purpureum)

Also known as queen-of-the-meadow, Harvey B. Lovell lists it and all Eupatorium as honey plants. Actually several species: *E. maculatum, E. purpureum, E. fistulosum,* and *E. dubium* are commonly called Joe-Pye-weed and all can be handled with the same treatment described here. The one I produce is *E. maculatum*, which can grow to ten feet tall. So can *E. fistulosum*. The other two species are shorter (four to six feet tall) but otherwise are similar in habit and needs.

Joe-Pye-weed, so named because supposedly an Indian named Joe Pye introduced it to settlers as a medicinal cure-all, is a perennial that blossoms July to September. An entire bed will bloom over about three weeks casting the whole area in a robust pink or mauve. Their flower-heads are a many inched conglomerate of hundreds of feathery florets, each only a couple millimeters wide. After bloom, the seeds ripen in about a month while the entire flower head stays intact and turns brown.

Joe-Pye-weed is easy, very easy, to start from seed and the best way to harvest seed in the wild is to cut off the entire head and shake or slap the stalks in the area where you want them. Their seeds have hairy attachments as do milkweed or dandelion seeds so hand scattering should be done on a still day. Some should germinate that fall. I say "some" because unless they've grown within a hive's range, many of the flowers will have been unpollinated. The land where dropping wild seeds need not be cleared of other vegetation except brush. Joe-Pye-weed is an aggressive plant that will start in established grasslands and in a few years dominate it. I started my first ones from purchased seed that I started inside. When they had grown a few true leaves I transplanted them into a grassy area

that stays damp between rains. The first year they didn't bloom and the grass definitely controlled the situation. The second year they grew to about seven feet and bloomed. A few bees went to them. Last year, year three, they came up in force filling in and spreading out. More bees came.

These queens-of-the-meadow also transplant readily by root division. In fall — October or November — or in spring when they're first emerging, dig with a shovel or sturdy trowel between two stalks near the edge and pry it out. The root system is sprawling but as long as some of it comes with the plant it will grow when replanted. Once dug up keep the root damp, plant as soon as possible and water even if where it's going is moist. A good dowsing gives it a good start.

This particular *Eupatorium* group likes full sun and rich, humus earth. Unlike some plants that like lots of water but need "well drained" soil, Joe-Pye-weed doesn't mind if its roots rest in muddy conditions. However they are not aquatic or swamp plants. They grow wild in the eastern United States and are common in the northeast. Companies that sell Joe-Pye-weed type of *Eupatorium* are Richter's (*E. purpureum* and *E. cannabinum* — also known as hemp agrimony) and Maver's Nursery (*E. maculatum*).

Jerusalem artichoke
(Helianthus tuberosus)

All sunflowers are excellent nectar producers but Jerusalem artichoke loves damp depressions and, like Joe-Pye-weed will take charge wherever it gets a start. It is native to America and some varieties are grown for their edible tubers. It quickly escapes cultivation and grows wild throughout the United States.

H. tuberosa blooms from August through September, likes full sun and rich, moist soil. In the wild it can be dug up for the tubers which can then be replanted elsewhere. (Most tubers are edible.) Most seed companies now sell Jerusalem artichoke tubers which can be planted spring or fall — spring is better. Like most large, vigorous flora (they will grow to ten feet tall), the soil needs little preparation. It will overpower grass and other perennials; only brush and treelings will hamper them. Once a few tubers are introduced Jerusalem artichokes will expand un-

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But don't overdo . . .

Years ago, I read how successful beekeepers scouted the areas they wanted to put their outyards. They believed that to be successful, each colony must have *fourteen acres* of plants yielding some honey throughout the season. They also suggested that each yard have a *radius* of three miles of exclusive pasture, meaning outyards should be six miles apart.

Since I have been out west, however, I've seen few beekeepers pay attention to locations. Often, migrators will move a trailer load of bees into an area and set them wherever they can unload the truck. This has led to occasions where close to a thousand colonies are feeding off the same limited source. If there happens to be an exceptionally good honey flow they'll get some honey. But they only use it to buy sugar to get through the winter.

You can see evidence of disaster in the making nearly every year but this past season (1988) was worse than usual. Two things happened at the same time. First, mint production in the Yakima Valley is decreasing and second, most beekeepers who usually move east each year for honey production didn't go because of the drought in the Dakotas, Nebraska and elsewhere.

Instead, they moved in on the pastures of those beekeepers who stay home, or even worse, went into sub-marginal forage areas. It seems they only know the most common honey plants, like alfalfa, clover, and mint. The rest are a mystery.

Alfalfa is no longer a sure honey crop because it is cut for hay just as it blooms. Furthermore, many alfalfa seed producers use leaf-cutter bees as pollinators. They have been lead to believe that when the bloom trips, it will scare off a honey bee.

Mint, too, can be a heavy honey producer but the quality is not nearly as good as alfalfa. The first year plantings are best because the plants are not cut very often. This helps them mature into strong second year plants. The next year, and thereafter, mint is cut two or three times, each shortly after bloom starts, and the honey yield is curtailed. What's worse, mint has been over-planted in this area, so few new fields have been planted lately.

However, if beekeepers know the different honey plants in marginal areas, and move to these areas when they are producing, they could at least gain enough honey to winter the bees. Of course, this entails a lot of work, and expense, but unless migrators study the plants in the areas they move to, they won't make honey. I have kept bees in sub-marginal areas and nearly always make good crops. But it takes lots of hard work. Often you have to move four or five times during the season.

If I don't know how a source will produce, I put a small yard in it for at least a season to learn what I could expect from it. If it produces a reasonable surplus, then I increase the bees in that area the next year.Δ

JOHN BRUCE

SWALE . . . Cont. from Page 279

derground and by seed. Tubers should be buried three to four inches deep a couple feet apart. In a year or so those couple feet will be filled in solid.

Birds also will scatter their seeds where, if the land is to their liking, they'll take over. Birds dropped a seed into my asparagus bed from the Jerusalem patch about 200 feet away. Though not particularly moist, the soil there is extremely rich and well fertilized and the sunchoke prospered. The bees didn't mind, but I did. They are so well adapted to filling in otherwise agriculturally difficult places that I figure they're best used in a more useful way. I pulled the wayward 'choke.

In a swale, they're bright and cheery forming a solid mass of golden yellow when in flower that, according to Elbert R. Jaycox, is a significant honey producer. According to Lovell, the honey is a "yellow amber, with a strong flavor". I can't say, though, as many flowers are in bloom at that time and the bees are making a mix.

Valerian

(Valerian officinalis)

Also known as garden heliotrope, valerian isn't mentioned in any of my bee books as a honey source, but then it doesn't appear in many seed catalogs, wildflower or gardening books, either. On the other hand, my bees (I assume they're mine) go to the valerian *en masse* every summer. A perennial that grows to about five feet tall, apparently some people don't like its aroma which carries quite a distance. That may be one reason it isn't particularly well known. I like the scent and no one denies it's good looks.

I haven't found a valerian in the wild, though it is supposedly naturalized (it originated in Europe) in the northeast where it would be found in damp meadows or in ditches. It blooms late June and July.

I started mine with seeds I bought because I'm interested in herbs as well as bees. They germinated in a flat at about 75°. I'd tried before at cooler temperatures and nothing happened. The first year some mice snipped them off before they had a chance to form permanent leaves. The next year I was lucky and set them out where I could watch them for the summer, then moved them to a damp area that fall. The rest is history. They spread by self-seeding and sending out shoots from new roots. In early spring or fall they can be dug up, their new roots (really rhizomes) separated from the parent, and replanted.

Though I don't bother preparing soil for roots I use to establish more patches, I did kill off vegetation where the first seed-started plants went, by covering the designated area with black plastic for the summer. They were hard to come by so with success finally looming I didn't want to take any chances. I can say now that they're here, they spread quickly and aggressively, undeterred by grasses and lesser weeds. Valerian prefers a moist, rich soil, and doesn't mind being permanently damp. It likes full sun but will tolerate some light shade.

The flowers, which range from white to pink, are small blossoms grouped to form a flat-topped cluster. Three or four bees will work a single flower head at the same time. Seeds are available from Richter's and Maver Nursery. Plants are available from Sandy Mush Herb Nursery.

These three plants will grow where most would up and die. They're all incredible spreaders stopping only when they reach the end of the damp soil they so like. They come back year after year, strong enough to make it tough even for brush to get started. Once established you don't need to do anything except mow it every few years, just in case some trees are getting started. Not bad use of useless land to turn it into a rich nectar and pollen source for honey bees, lasting from June until frost.Δ

Books and Places Mentioned:

Crane, Eva, *A Book of Honey*, (New York: Charles Scribner's Sons, 1980).
Jaycox, Elbert R., *Beekeeping in the Midwest* (University of Illinois, 1976).
Lovell, Harvey B., *Honey Plants Manual* (A. I. Root Company, 1966).
Martin, Alexander C., *Weeds* (New York: Western Publishing Co., Inc., 1972).
Maver Nursery — Rare Seeds, Route 2, Box 265B, Asheville, NC 28805 (704) 298-4751.
Richter's, Goodwood, Ontario, Canada LOC 1AO (416) 640-6677.
The Sandy Mush Herb Nursery, Route 2, Surrett Cove Road, Leicester, NC 28748.

Beauty and the Bees

B. A. STRINGER

There are about 500 species of heath, native to such far-flung places as Europe, the Mediterranean and South Africa. They are evergreen shrubs or trees which grow slowly and compactly and bear flowers that are very attractive to bees. By choosing varieties carefully, you can have bloom all year from these plants. It's a good idea to visit your local nursery to see what is blooming and whether bees are working the flowers. Some species' flowers are too long for honey bees to reach the nectar.

The hardiest heaths can be grown as far north as New York and central New England. Spring Heath, *Erica carnea*, native to central and southern Europe, blooms from January to May. The 12" high plants are covered with branchlets of red, urn-shaped flowers with protruding red anthers. Both nectar and pollen are assiduously collected by honey bees and bumble bees. Cultivars of Spring Heath have flower colors of white or different shades of red.

Cornish Heath, *Erica vagans*, is native to Cornwall and Ireland and is hardy in this country to about 10°F. The plants grow to one foot in height and bear pallid pink flowers in late summer. Much more impressive than the species are the two commonly available varieties of Cornish Heath: "Mrs. Maxwell", with clear pink flowers and "Lyonesse", which has white flowers. These grow to three or four feet as loose, open bushes. They need little maintenance unless they've been fed or watered too much and have grown leggy. If pruning is necessary, cut them back in April so new growth will cover the surgery.

What is the difference between heath and heather? Heaths are mostly of the genus Erica, which have needle-like leaves. Heathers are low-growing plants of the heath family, with small scale-like overlapping leaves and one-sided stalks of bell-shaped flowers. Heaths can be easily distinguished from heathers by the flowers; if the colored part of the flower is in one piece, it is *Erica*, and if it is divided to its base into four parts, the plant is *Calluna*, heather.

Scotch Heather, or Ling, is the source of the famed heather honey of the Scottish moors. This strong-flavored honey is thick and glutinous, or thixotropic, owing to its high protein content. True heather honey does not granulate, but it will do so when mixed with other honeys. It is unlikely that your honey crop will be affected by these unusual properties.

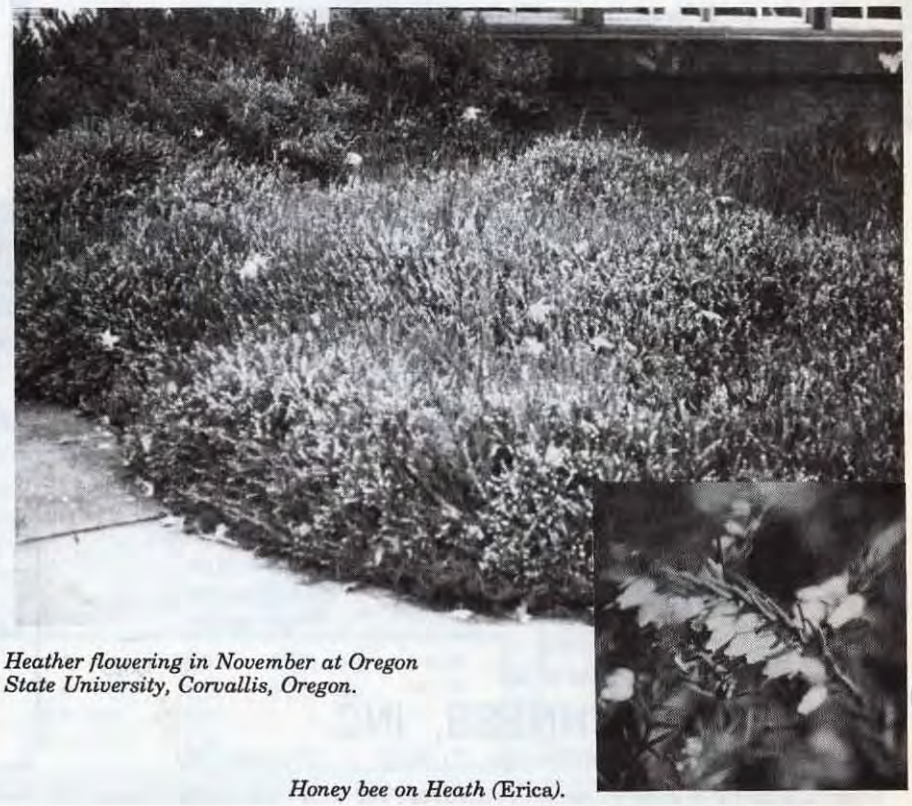
From Scotch Heather, *Calluna vulgaris*, a host of garden varieties have been propagated. They bloom between June and November in flower colors of purple, pink, crimson, lavender and white. In size they range from 2-4" dwarf plants for the rock garden to 3' tall screen specimens. The numerous varieties of *Calluna* flourish in the Pacific Northwest and are hardy as far north as New England.

Heaths and heathers belong in the Ericaceae Family, which also contains azaleas and rhododendrons. Most of these plants prefer acid soil and all need excellent drainage.

Erica is derived from the Greek word for heath, and *Calluna* means 'to sweep clean', which alludes to the use of heather for making brooms. In lands where the plants abound, heather was also used for thatching.

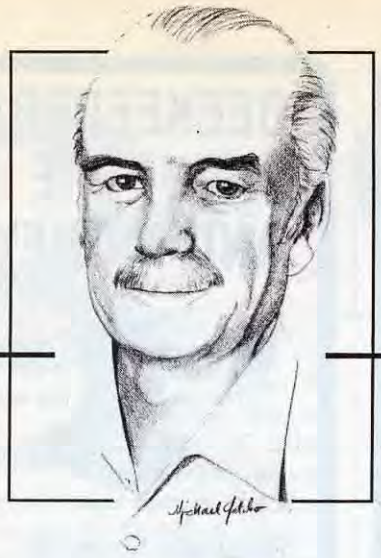
You can use heaths and heathers in a wide range of landscaping situations. Pull up a chair and watch your bees at work!Δ

B. A. Stringer is a beekeeper, writer, and horticulturist from Blodgett, OR.



Heather flowering in November at Oregon State University, Corvallis, Oregon.

*Honey bee on Heath (*Erica*).*



THE BEE SPECIALIST

ELBERT R. JAYCOX

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"Swarming can *be prevented, but certainly* not *controlled."*

New beekeepers may live in fear of their bees' swarming but they do not need to. They must learn to sort out the advice they receive in relation to this primary problem of beekeeping. We still suffer from ideas passed down for several generations. We also find that beekeepers will do ineffective, even harmful, things to their colonies in attempts to "control" the swarming act after it has begun. I am speaking here of routinely cutting out queen cells and manipulating the colony to separate the queen from her brood, a drastic treatment named after the man who proposed it long ago, G. W. Demaree. His system may prevent the loss of a swarm, but it is hard on the colony and is of questionable value because it is done too late, as an attempted "control", when other methods, "prevention", should have been used earlier.

We now know that swarming has multiple causes. These interact to start the process, or to shut it off if a crucial factor changes, after initiation of the queen rearing that precedes the splitting off of a new colony from the old one. In his new book, *The Biology of the Honey Bee*, Dr. Mark Winston lists the internal and external stimuli that work together to produce swarming: 1) colony size, 2) brood nest congestion, 3) worker age distribution, and 4) reduced transmission of queen substances (their circulation within the colony). As Dr. Winston points out, all these must be present at the right level and the right time, a short "window", which is favorable for queen rearing and swarm production. With so many crucial factors involved, it is no wonder that attempts to swarm are often aborted by the bees without any action on our part. Even colonies with large numbers of queen cells may knock them down and not swarm; in some cases, they will replace the old queen without splitting up the original colony, the process we call supersedure.

In a system so reliant on many factors to be successful, it is not surprising that simple changes may play a large role in whether or not a colony swarms. However, reducing the number of queen cells by cutting or mashing them is not such a change. In fact, it could conceivably be counter productive because sealed queen cells *inhibit* additional cell-building activity. When we take the sealed ones away with no other change in the colony, we are probably stimulating the colony to make more! If conditions become unfavorable to swarming about the time you cut out the cells, you are then convinced that you kept the bees from swarming while in reality it was those other changes which influenced the bees' actions.

On the other hand, if we simply relieve congestion by giving the colony more hive space, or reduce the colony's size by removing sealed brood and bees (especially young ones), we can usually prevent swarming if the manipulations are done *early* in the season when the colony is not well on its way to reaching the time and condition for swarming. Bees making preparations to swarm will produce less honey, so we lose crop and money when we delay our swarm-preventive measures. Once the bees are past the "window" for swarming, such as when the nectar flow has begun in earnest and the bees are busy harvesting, we can safely make the colonies large again, more than swarming size, by uniting those separate units we split apart earlier.

Because the quantity of the queen's secretions received by the workers plays a significant role in swarming, we influence it in two ways: 1) by reducing the number of workers in a swarm-prone colony so each one may receive more queen substance, thus inhibiting queen rearing, and 2) providing a new queen who produces a greater supply of these substances, pheromones, than an old queen and thus is able to hold a larger colony in a hive without queen production and swarming.

I have a problem with Dr. Winston's statement about *brood nest* congestion as an important cause of swarming, yet he has demonstrated that workers may pile up on the combs of brood, making them very crowded, while other parts of the hive are less congested. Dr. J. Simpson of Rothamsted Experiment Station in England noted that such congestion was more likely if brood had recently been removed from a colony, but he did not believe that congestion of the brood combs was as important as just the physical crowding of adult workers within the hive or natural cavity. If congestion on the

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brood is created by large numbers of bees and little brood, you might think that a colony with its queen confined to a very limited area of comb would swarm readily. I set up a series of observation hives with as little as one-half a shallow comb (6-5/8") for a brood nest without visible effect on their tendency to swarm. In that case, the queen could fill all the cells with eggs in a day or two and then sit around for nearly three weeks until more cells were available.

There are strong heredity influences on swarming, yet no one has done the research and selection needed to *commercially* produce lines of bees with low swarming tendencies. As long as I have been working with bees, I have read about how the Carniolan race of honey bees swarms a great deal and is not a good choice for beekeepers in the United States. When I began to buy Carniolan queens, I found that they were fine producers that provided the bees we needed in the spring to make additional new colonies ("increase") after also giving us replacements for winter losses. We had no swarming problems because we prevented them by reducing colony size and brood nest congestion early in the active season. As time went on, we used more and more Carniolan queens.

I am looking forward to the chance to work more with those fearsome swarmers, the African bees and their hybrids. I feel sure that we will see traits similar to those we find in the Carniolans and can use them to our advantage in producing more bees and bigger honey crops. We will select them by their *behavior*, not their body sizes, and therefore will develop better bees than we have had before. Consider what happens if we continue to consider *all* colonies with African body size as undesirable bees and kill them: we will never make progress in developing manageable, Varroa-resistant strains whose swarming ability can be redirected into giving us more bees, better honey producers, and pollinators. Incidentally, African bees do not swarm without a sufficient supply of pollen. In areas with a single major nectar and pollen flow, they swarm *only* during that period of the year, not all the time.

If you want to keep your bees in the boxes instead of hanging in the trees, learn to disrupt one or more of the factors that interact to produce queen rearing and then, swarming. Do it early in the season by splitting the largest and fastest-developing colonies or taking sealed brood and young bees from them to help those that develop more slowly. Requeen at least every second year, but more often in tropical and semitropical areas or where the bees have multiple nectar flows or several pollination jobs. Replace poor or failing queens whenever you find them.Δ

Half-Moon

ALAN HARMAN

Two researchers in New Zealand have found that a disorder that kills larvae in the hive results from the premature aging of queen bees which is caused by a lack of protein at a vital stage in their development.

Denis Anderson, an Australian-born researcher with the Department of Scientific and Industrial Research in Auckland, and technician Helen Murray have spent three years researching a problem New Zealanders call Half-Moon Disorder.

"When I arrived in New Zealand four years ago, all we knew about the disorder was that it killed bee larvae," Anderson said. "So what we've been doing for the last three years is try to determine the cause of it."

With Half-Moon Disorder the larvae die while still in a coiled stage. They first turn yellow and eventually dry into "crescent" or "half-moon" shaped brown scales positioned half-way up or around the lip of their cells.

While the Half-Moon Disorder name is used only in New Zealand, "I think the disorder will turn out to be a worldwide problem," Anderson said.

The first breakthrough came when they found the disorder was not a disease of larvae, but a disorder of queens — in fact, a premature aging of queens.

"The queens we've looked at show all the symptoms of a failing queen and we've documented those symptoms pretty well now," Anderson said. "The major symptoms are that these queens always show multiple eggs in the cells, but it's just not just the number of eggs in the cells, but the way these eggs are put in the cells."

The eggs are in clumps or stuck end on end. It's caused by the queen making one egg-laying movement to produce a dozen eggs at once.

"Because those eggs come out in a clump, a certain amount of them are not fertilized — which means you end up getting drone brood in worker cells," Anderson said. "And after the workers actually detect that some of those individuals are drone larvae — and not worker — sometimes they'll neglect them and they'll migrate around cells to try to get up to get fed and they die.

"That's where the disorder got it's name from — the larvae dying in this crescent shape."

The symptoms are the same as larvae dying from European Foulbrood.

"The other thing is, because you're getting more drone brood building up in worker cells, that means eventually the colony gets to a position where there are less nurse bees being raised.

"You're getting a depleted nurse bee population — there's not enough nurse bees to take care of the brood.

"So *that* symptom of the half-moon larvae is not caused just by workers purposefully neglecting larvae because they're drones. It's also caused because there are just not enough nurse bees there to tend the larvae anyway.

"What we tend to find in these colonies is they progressively get worse and eventually you find all drones — the queen in the end is just not capable of laying any fertilized eggs.

"When you dissect these queens and you have a look at their spermathica, you find there is plenty of sperm there — and normally the queen is less than one-year old.

"So if you look at all those symptoms, they're the symptoms you tend to associate with a failing queen, except what we're seeing is the same symptoms occurring in very young queens from the time they are put into colonies, up to one year."

Anderson conducted a series of experiments to try and show what it was that was causing those young queens to age prematurely.

"We tried breeding experiments of raising individual queens in half-moon colonies; we tried switching eggs between healthy and half-moon colonies and then raising queens from those eggs — and we showed that it definitely wasn't genetic," Anderson said. "The next thing we tried to do was to say okay, 'Is it a pathogen?' because when you open up these queens and have a look internally, they show a whole series of symptoms inside which are also symptoms of an aging queen."

"Halfmoon disorder is a nutrition problem, not a disease."

A researcher back in 1957 had listed a whole series of internal symptoms that queens show as they get older.

"These young queens were showing the same sort of symptoms — the fat bodies were browning, the malpighian tubes — or kidneys — were yellowing, the ovaries were getting flecks of brown on them."

Anderson decided to look at those tissues under the electron microscope. "We embedded and sectioned them and examined them for the presence of virus particles. We didn't find any sign of a viral, fungal, bacterial or protozoan infection.

"There was a suggestion there could have been some abnormal organism such as a spiroplasma, but we have eliminated that now."

The next experiments looked at the way the prematurely aged queens were

fed during their early development.

"We did experiments where we raised queens and after hatching we caged them in the incubator with either young or old bees that had been fed or not fed protein in the form of pollen.

"From this experiment we produced queens that were prematurely aged. Thus, we determined that Half-Moon Disorder is a nutrition problem.

Researchers Denis Anderson & Helen Murray.

"We are currently examining the effect of nutrition on the earlier stages of the queen as it may be possible to produce prematurely aged queens by depriving queen larvae of protein.

"We only examined one aspect of queen nutrition. That is the first few days of the virgin queen's life. During this time she is fed brood food from worker bees — from their mandibular and hypopharyngeal glands. It has been shown by other researchers that if worker bees don't get fed properly during this time these organs don't develop.

"We tested whether the same effect occurred in queens and found it to be so.

"What that eventually means is that when the queen flies out and mates and comes back to start laying, the ovaries are there and all of a sudden they need this big intake of protein or food and there's just not the tissue laid down to supply it so they begin to fail straight away.

"What we have to do is go and have a look at commercial queen producers in a lot more detail and examine the way queens are being raised on a large scale.

"A queen rearer will normally take mating nucs — nucleuses (small colonies) — over the winter period and those nucs when they come to spring have winter bees in them so they are fairly old bees.

"Queen producers need to raise queens very early on in the season for local honey producers so the queen producer is caught in a bit of a predicament. He's got these nucs that have come through the winter. They have old bees in them, but he wants to get out as many queens as he can early on in the season.

"And probably what's happening is that many mating nucs in New Zealand just haven't got the food, the protein, inside them and hence the workers haven't got the glands to actually produce the food a young queen required.

"In other words, the queen producers are trying to rear too many queens from each nuc without putting enough food back in the form of protein. All brood food comes from pollen so the nurse bees are not getting enough pollen.

"The food is given in a reconstituted form to the queens by nurse bees. The nurse bees actually take in the pollen, it gets digested, converted in certain glands into proteins that are completely dissimilar from the pollen," Anderson said.

"There's lots of problems when these queens prematurely age. Because it's just not that a colony develops all these symptoms. Normally this happens in spring and the colony will supersede the queen straight away.

"Sometimes they tolerate them, but not frequently. Most times they detect there's something wrong — it's probably because the queens have been partly starved, the other glands haven't developed properly so they aren't giving out the right pheromones or the right levels of pheromones.

"The bees actually detect that, or they recognize the queen is abnormal, and they kill her and bring out another — that's called supersedure.

"The problem with supersedure is it takes a month to get another queen. This is far too long a delay if you're a commercial producer.

"In places like Canada — and the northern U.S. — it's even more important that you don't get supersedure in spring because of the short season."

Anderson said reports show that New Zealand exported queens that have arrived in Canada have shown very high supersedure rates.

"This problem we've been looking at of premature aging could be one factor involved in those high rates in Canada."

Although the disorder is only named in New Zealand, Anderson believes beekeepers will find the same disorder anywhere in the world. "Without a doubt, it's not unique to New Zealand."

He said in other countries, the disorder has probably been confused with other diseases.

"In other countries where there is European foulbrood, the beekeeper would look at it (Half-Moon Disorder) and say the queen is getting old, running out of sperm," Anderson said. "And if he saw half-moon larvae at the same time he'd figure he'd got a bit of European Foulbrood as well."

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HALFMOON . . . From Page 289

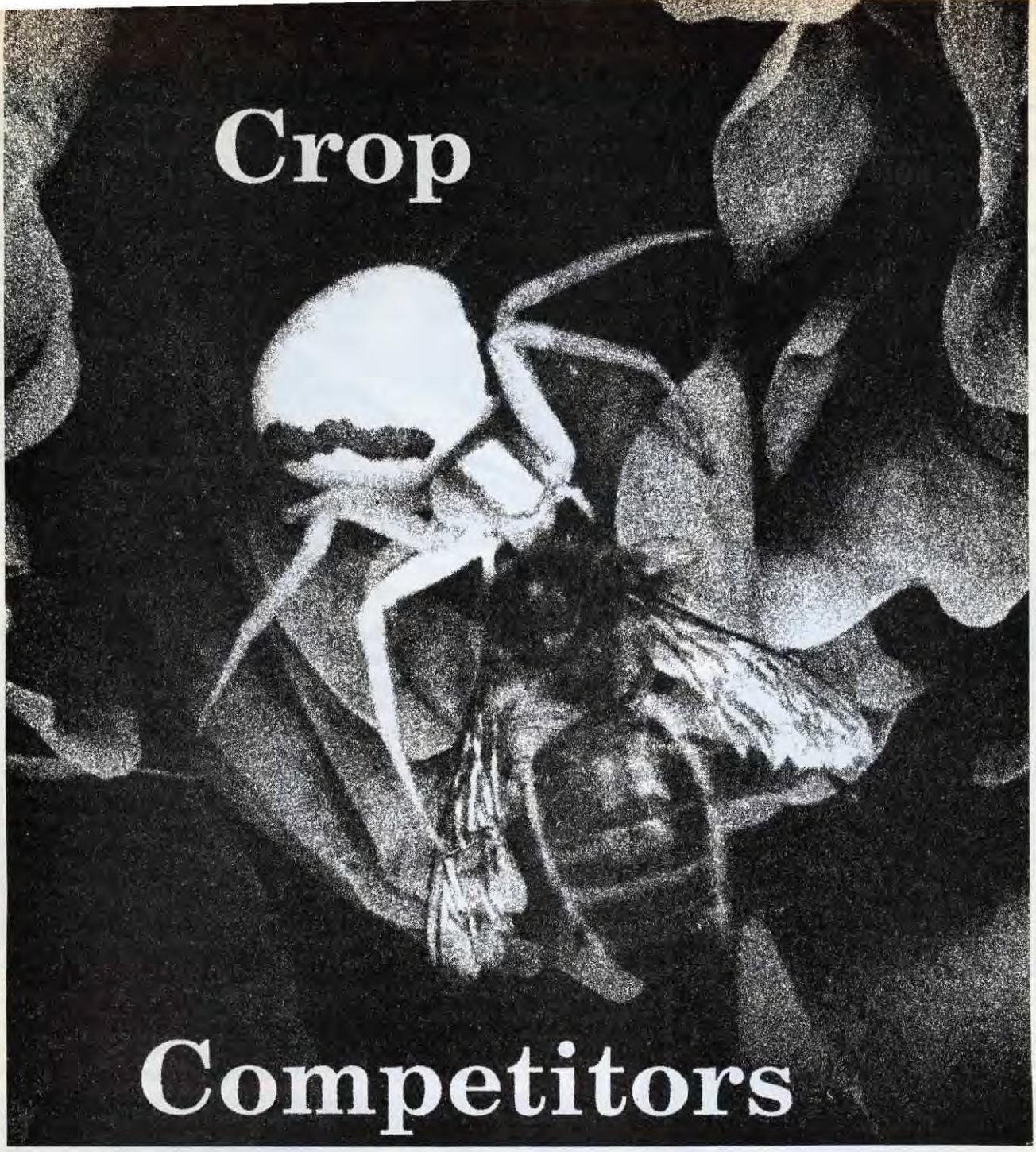
"As a next step we plan to see if the larval stage of the queen is important in causing premature aging as well.

"I don't think there's any problem with overcoming the disorder. The problem is a protein problem. At the time when the queen larvae and the very young queen is in the colony it's a matter of making sure the colony itself is getting enough protein.

"We will direct some studies in that area without a doubt because I'm sure that people haven't looked closely enough at what does a mating nuc require.

"For instance, many commercial queen producers hatch their queens in incubators. Sometimes the queen is sitting in a small cage in an incubator for six, sometimes 12 hours, without any protein. It may be a critical period. We'll be looking at all these things. We've just opened the door really, to whole new areas of research."Δ

Alan Harman is a reporter and free-lance writer from Toronto, Canada. He has made many contributions to Bee Culture *over the years and frequently issues news releases on the state of beekeeping business in Canada.*



Crop Competitors

KIM FLOTTUM

Many, perhaps most, beekeepers tend to think of honey bee activity from a human perspective on occasion. Though generally harmless and sometimes even helpful, from a honey bee's point-of-view our human attributes seldom bear any resemblance to the hows and whys of a colony's success.

But both honey bees and their keepers generally share at least one goal — gathering the raw materials required to produce food for both brood and adults. Pollen, nectar, water and propolis are gathered by foragers outside the colony, returned and become bee bread and honey, are used for air conditioning and draft-proofing, and certainly those bee things humans are not yet aware of.

It is when the foraging activity is interrupted that honey bees and man begin to think along similar lines. Any interference tends to reduce the amount of raw materials returned to the colony — thus threatening the production of the necessities for survival. The fact that bees gather these because of perceived imbalances within the hive is irrelevant to the beekeeper; and that any surplus produced will help pay the beekeeper's bills is of no importance to the honey bee. It is clear though, interrupt the gathering process and both bee and beekeeper become troubled.

Once a forager leaves the relative safety of the nest, she becomes a potential target for all manner of predators. If she becomes lunch to one of these, her contribution to the continuity of the colony ceases. If enough foragers fall prey to outside forces, the colony itself can be jeopardized.

So, from a bees-eye-view, let's take a look at a sampling of those evil forces trying their best to rob us of our goal — surplus honey.

In the spider and insect world there are several predators ferocious enough to tackle, and overcome, a honey bee. Several spiders are large and nimble enough to trap, and then subdue a bee. Spinning webs on or near blooming flowers will ensnare many nectar feeders and a prize as large as a bee will feed yet another generation of spinners.

Lurking near a thistle flower, a praying mantid can make quick work of a honey bee. Generally considered beneficial, mantids will take honey

A mantid munching.

bees on occasion. In a two acre field near our home yard last summer we noted over 30 mantids in a little over an hour's time. Thirteen of these were on or near flower heads. Five were munching on honey bees.

The Ambush bug, a close cousin of the Squash bug, is a meat eater and is often found in gardens on the undersides of flowers. Just large enough to tackle a honey bee, but not so large to always overpower it, these battles sometimes are won by the bee.

When the Ambush bug senses a nectar feeder alighting on the top of a flower, it rushes from cover, grasps it's prey and inserts it's needle like mouthparts into the victim. If you've ever been ambushed yourself, you know that honey bees aren't the only critters that can bring tears to your eyes on occasion. Usually, the ambush bug is strong enough to hold the prey while it injects

A lizard looks for lunch.

a paralyzing saliva into the host. Then it reverses the process and drains it dry. Honey bees, however, can sometimes escape, but if the bug has pierced its skin it will soon die anyway.

Ants, too, can be trouble for bees. However, they seldom tackle bees one on one. Rather, they raid an entire colony, stealing brood, stored food, battling with the defenders and generally raising havoc. Several species of ants are noted for this, but definitely the most infamous in the U. S. is the Fire Ant — so named for the sensation resulting from its attack.

Moving up the evolutionary ladder, there are several small animals that relish a bite of bee once in a while. Don't forget the giant toads in Florida. They never seem to get their fill of bees and can quietly gulp bunches all night. And, there are lizards both in subtropical and desert areas that enjoy bees on a regular basis.

There are several birds that catch bees on the wing, and though probably not economic in scale, will give a colony problems when nesting in the immediate area.

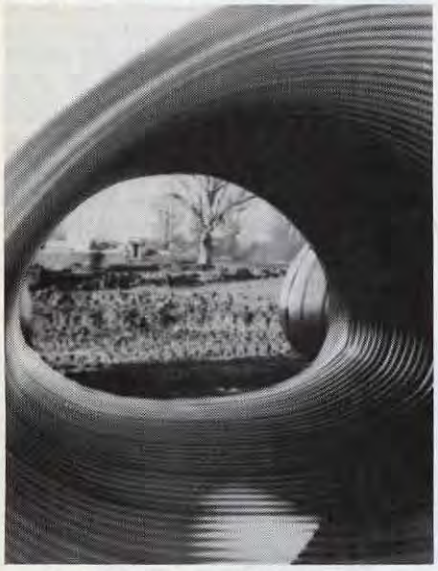
There are many furry, four-footed honey bee hunters, too. But, like ants, most don't bother with a single bee, but go right for the jugular — the nest.

Skunks and raccoons are probably the most notable bee bashers, but certainly there are others. The primary

attraction depends on the creature. Skunks seem to like bees, and only bees. Scratches on the front porch always get attention, and guard bees taste just as good as any other.

Raccoons and bears are a bit more catholic in their diet. They will suffer the stings and arrows of an entire colony to get at not only the bees, but the brood, honey and even stored pollen. Certainly the most dramatic crop competitors, only good fences and good luck will save a colony from one of these determined demons.

From a bee's point-of-view though, man has to be the worst crop competitor. I'm not referring to simply removing surplus honey, but rather the unkind, and usually stupid, things we do.



Development — a double edged sword.

Pesticide abuse is certainly one of the less intelligent crimes we commit. Bees don't read warning signs, and don't discriminate between good and bad blossoms. If they don't die immediately, they may be lucky enough to bring home the poison to share with friends and family.

Certainly concrete and blacktop compete with foraging success. The more man makes, the less of the good things in life remain — at least from our forager's view point. I suppose from a cynical honey bees' perspective, even the laws that govern where they must live compete with crop production.

Generally, a colony can deal with the occasional loss of a forager — to a mantid, spider, lizard, flycatcher or skunk. But when man begins wholesale destruction — of honey bees or the places bees go — crop competition truly begins.Δ

Floral Felons

The plant world has it's own list of those indicted on charges of honey bee homicide.

The most notorious of these are those designed to attract, capture and digest insect visitors. These include the likes of the Venus Fly Trap and the many Pitcher plants, pictured here.

Using a nectar-like secretion, insects are attracted to and then become trapped in the digestive juices of the plant. Once they are snared, it is bye-bye honey bee.

There are others that head the honey bee hit list. Those include toxic nectar or pollen producers. California Buckeye is one, some species of Rhododendron and a few others. Usually, these kill only the forager, but sometimes the toxin is returned to the hive, spreading the results.

Still other plants are a foragers' last landing, becoming a trap from which escape is impossible.

Milkweed is a good example. The pollen bearing device, called a pollinia, is situated such that a forager's foot can become entangled in it. If the bee can't break the connecting strands, it is trapped and dies. Or, if it does escape with the empty pollen discs and is unable to discard them, the fate is the same.

Here, skewered on a protective barb of a teasal plant, hangs the remains of another fallen forager. The barbs are meant for larger game, but this particular bee became hooked and, in her struggles to get free, finally got the point.Δ

McDrones

TED VISSERMAN

In a book I read some years ago, the author reported stumbling, weary and lost, into a remote mountain village. Yak country. Stone huts. They put on a feast for him, which went from one delectable course to another — chicken, yak veal, fruits of all kinds, nuts, vegetables crisp and cold, and all manner of rice dishes. There was even a rat or squirrel dish, which he reported sweet and delectable. But then, nearing the end was the very best of the dishes. He was about to take a second bite when, to his horror, he spotted in the flickering candlelight a whole row of *bugs*. Yuk! He ran out, tripping over his hosts and pushing aside the curious children in the doorway — dramatically returning his lunch to the land of the yak.

The cause of this distress, he found out later, was "bee brood" . . . and that was the end of it. He said nothing about the taste, evidently not repulsive for he *was* going to take a second bite, nor why these people thought it such a delicacy. He just assumed his readers would share his revulsion.

Like any good tale, it left me wondering. The question of why these people esteemed bee brood has sort of tagged along after me ever since. It shows up in odd ways.

For instance, I have a vegetarian friend with a couple of hives and now, sometimes to pester him, I'll pull out a drone larva or two and pop them into my mouth like jelly beans. His reaction is just enough to push me over my "natural" aversion to eating bugs. He does a little dance of disgust that always amuses me.

But my real intent is to discover why anyone would want to eat these *bugs* much less think them a delicacy. I must confess that once we have had our little laugh I have no further desire to keep that comb handy to munch on while we inspect the rest of his hives. The thought, "Yummy!" does not come to mind. Other than that, their skins have an interesting snap — like expensive weiners — there ain't much to the taste.

But I think you'll agree, that's hardly a fair test for their potential. Maybe, if my friend were a yak mountain man, and we had a little fire out just beyond the bees and roasted them a certain way . . . or maybe, if we ran an extension cord out there and set up a fondue pot with a couple of lawn chairs handy, a little garlic butter, and some kind of honey-sweetened dip . . . who knows what culinary delights we might conjure up?

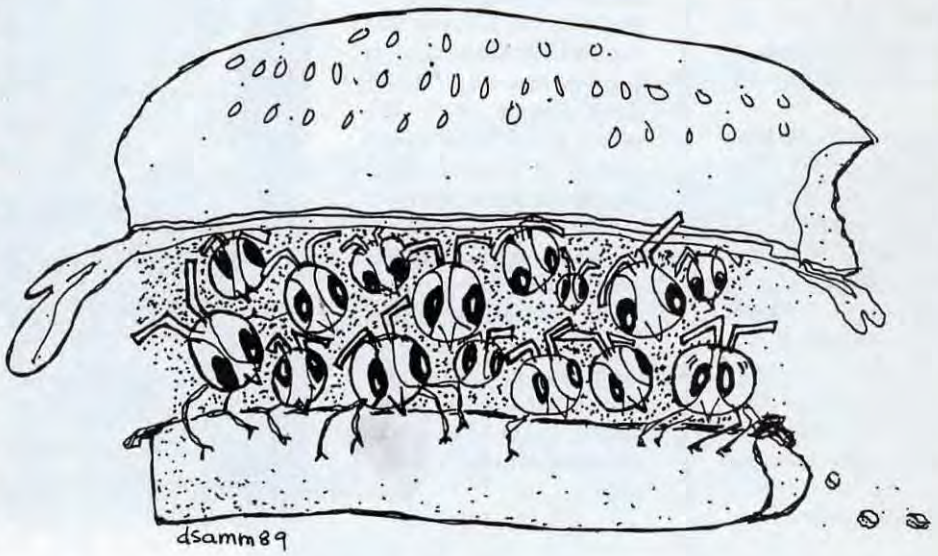
Or, you know how sometimes you'll forget to replace a brood comb, and the next time there's this solid sheet of drone brood hanging on the inner cover? Well, I used to think, darn it! But now imagine — for a moment — running to my stone hut with this treasure and my wife all jubilant and we'll have a feast. Celebration! Smiles!

Or even better, what might it be worth? A whole laying hen? Several pounds of rice? I imagine there being different grades and a brand new golden comb, cobble-stone capped from end to end would probably be USDA Grade A.

And when would it be the perfect age? Do they prefer larval or pupa stage? Early pupa, when they're still all white and soft, or some later stage, say a couple of days before hatching? Presumably the latter since the author reported seeing "bugs", probably this with eyes, legs, and the rest. Yet who is to say they had number one grade stuff in that mountain village that particular day?

Oh, it's always such a shame to throw those drone brood to the chickens. What a waste. Besides, the way they scramble for it, pecking in a frenzy, individuals running off with lumps, I can't but wonder why they're so crazy about it.

But sometimes, at the oddest moments, it will nip at my heels in more compelling ways, this tale of brood eating mountain folk. Grand ways. Like recently, after an afternoon skiing, I watched a threesome in the chalet eating *escargot*. It struck me . . . "Why are these people, sophisticated palates, or thinking themselves such, nibbling sensually on snails? Slimy, belly-sliding, dirt-hugging, snails?



But I was too exhilarated by the afternoon's skiing to think of disgust. "Eureka!" the Reverend L. L.

Langstroth reportedly cried in the moment he suddenly saw "bee space" and with his now mobile frames, revolutionized the keeping of bees, transforming it from a cottage industry to a veritable industrial enterprise, making honey a staple rather than luxury food.

"Eureka!" I thought, as an avalanche of ideas came into my head. My thoughts raced ahead, like a dozen dogs left off their leashes, going in all directions, leap-frogging, skipping to opportunities suddenly made visible. I thought how bees, left to their own devices, as Nature pleases, produce huge quantities of drone brood every summer. As every beekeeper knows they will, at the height of the season, stuff every available drone cell with brood. It's what they want to do. For over a hundred years beekeepers have fought this tendency and still the bees insist on it, sneaking drone cells along the edges of brood frames, filling every nook and cranny with them. Could we not work *with* this tendency instead of always fighting against it?

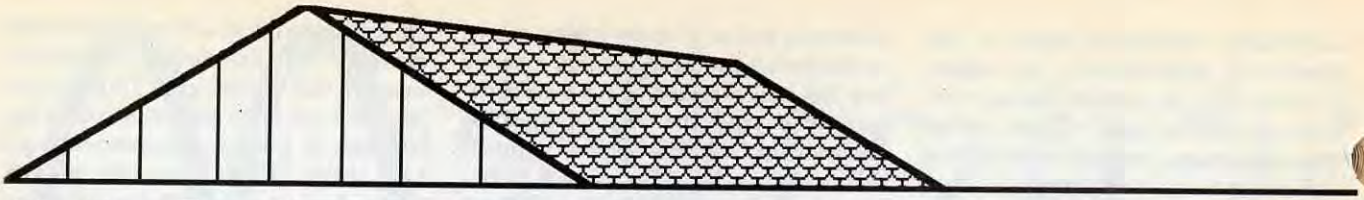
Think of it . . . Brood is the product of flowers, of honey from a thousand blossoms, pollen of many colors, grown in the fastidious cleanliness of a honey bee hive, each sealed in it's own separate wrapper, at the very height of the bee season! God knows how "natural" this food must be. What essential vitamins and minerals are sealed in these dainty little morsels? Perhaps it has medicinal properties. There is, moreover, something modern, almost factory-made about the look of a slab of new brood. The lines are clean and square (unlike a common chicken, with boney necks and drumsticks). I could easily imagine it wrapped in cellophane, on a neat tray. In the meat counter at Safeway, among the specialty items. What fancy a price tag might it have?

But my thoughts kept skiing along. Why stop at a luxury item appealing to only a few people once in a while? Why not think BIG? Why not think in terms of "McDrones"? Why not imagine them among the snacks favoured with beer or softdrinks when the world props up it's feet to watch soccer or football? Surely if the alchemists of public opinion can make presidential fast food out of sow's ears, they could also create a universal hunger for delicious, delectable, healthy, natural bee veal! Think what a fantastic boost to the hide-bound bee industry if greedy entrepreneurs got hold of this. What a boost to our egos, our wallets . . . nay the world's food supply . . . if they were on McDonald's regular menu.

"Eureka!" I say, when I think what a vast tonnage of brood the jungles of the Amazon could produce without cutting down a single tree! How much more inspiring the prospects of McDrones with Coke or Pepsi than that we knock the whole works down so we can all have hamburgers . . .

Perhaps I have marked myself a fool to have thought these thoughts — and more a fool for having committed them to paper. Perhaps that afternoon's skiing through powder snow and rarified air has touched my reasoning. Perhaps it was only the blonde who, licking her fingers after every snail, entranced more than her two tablemates.

But I have been feasting on the idea ever since.Δ



HOME HARMONY

ANN HARMAN
6511 Griffith Road • Laytonsville, MD 20879

Honey is such a versatile cooking ingredient that we sometimes overlook the fact that it has some limits. Honey recipes abound except for one major group — fish and shellfish. The mild flavor of fish is enhanced with the tartness of lemon or wine, rather than soothed with the smooth, hint-of-sweet of honey. However, some delicious honey recipes for fish do exist.

Fish and shellfish are delicate foods in two ways: flavor and tenderness. Fish does not have to be cooked to make it tender as it is tender already. Overcooking fish and shellfish is probably the worst treatment you can give. The delicate flavor disappears, fish becomes dry and shellfish turns very tough. Give seafoods your full attention when cooking them.

A walk through the supermarket will give you an idea of the available forms that fish can come in today. Swift and efficient air transport gives everyone a chance to eat fresh, seasonal fish. These are the preferred buy, even if you are a great fisherman yourself. For years, the frozen food section has sold fillets ready for your own style of cooking. Then there are the prepared fish dishes, ready for the microwave. These range from quite delicious to the not-so-great and are primarily designed for non-cooks.

Zesty Sauce

• Peps up beef, chicken or shrimp
1 can (15 oz.) or 2 cans (8 oz.) tomato sauce with tomato bits
2 T. honey
2 T. wine or cider vinegar
1 clover garlic, minced
2 green onions fn. chpd. (with tops)
2 T. diced canned green chilies
few drops of red pepper sauce

Combine all ingredients. Over low heat, stir and cook 5 minutes, or until onion is soft. May be used as a sauce over ground beef patties. Makes about 2 cups.

Cooking with Honey
Judy Powers

You might wish to try this easy and delicious recipe. It makes a very nice "special occasion" dish. Remember — overcooking makes lobster and shrimp tough.

Ginger Barbecued Rock Lobster

6 rock lobster tails, thawed
1-1/2 cups salad oil
1/2 cup lemon juice
3 T. soy sauce
3 T. honey
1/2 t. ginger
2 t. angostura bitters

Cut underside membranes of lobster tails around edges; remove. Grasp lobster tails in both hands; bend backwards to shell sides to crack. Insert skewers to prevent curling. Combine remaining ingredients for sauce; stir until well blended. Place lobster tails in shallow dish with shell side down. Pour sauce over tails. Let stand at room temperature for 1 hour. Drain; reserve marinade. Arrange lobster tails on grill 5 inches from source of heat, flesh side down; cook for 5 minutes. Turn; brush with sauce. Cook for 3 to 5 minutes longer. Brush with sauce just before serving.

Nature's Golden Treasure Honey Cookbook,
Joe M. Parkhill

This next recipe certainly lives up to its name. Since it will serve 6 people and is quite an elegant dish, make it for guests who love seafood.

Irresistible Shrimp and Scallops

2 (14 oz.) pkgs. frozen, cleaned, uncooked shrimp
7 oz. frozen uncooked scallops
1/4 cup cornstarch
1/3 cup butter
1 T. additional butter
3 green onions, finely sliced
1 T. honey
1 t. each — cumin, chili powder
1/2 t. each — coriander, ginger
1/4 t. cardamom
1 cup whipping cream
2 cups peeled and diced cucumber

Thaw shrimp and scallops. Toss shrimp with cornstarch. Melt butter in skillet. Saute shrimp until just opaque and pink, 3 - 4 minutes; be sure not to overcook. Remove shrimp and cook scallops until opaque. Remove to bowl with shrimp. Add the additional tablespoon butter to pan. (The bottom of pan may be browned but this will add flavor to sauce.) Add green onion, saute about 1 minute. Add spices and stir in whipping cream, a bit at a time. Add cucumbers to heat while stirring loose the browned bit on the bottom of the pan. Add shrimp and scallops and heat through until sauce starts to thicken slightly. Serve with your favorite rice. Serves 6.

Honey of a Cookbook, Vol. II
Alberta Beekeepers Association

A Hello From Harman:
Greetings to all state and local beekeeping associations! If you have a recipe leaflet that you handout at bee events, I would like to add them to my collection and use your recipes in future articles. If you wish to share them with beekeepers everywhere, please send them to the address above. Thank you.

To sell, and eat

Raising Waxies

DIANA SAMMATARO

Now don't get excited, you read this correctly. I said *Rearing wax moths.* Why would anyone want to rear the most important pest of the honey bee? Read on.

In areas where there is winter, wax moth larvae are valued as bait for those who fish through the ice. These waxies are used by anglers in the summer too and many claim they are the best bait ever.

In tropical climates, where food is scarce, wax worms can be an alternative food source to protein-hungry people. They are easy to raise, get fairly large, and are nutritious as well as tasty.

The moth to use is the Greater Wax moth, (*Galleria mellonella* L.), since their larvae grow bigger than those of the Lesser Wax Moth (*Achroia grisella* Fabr.).

Raising Waxies

I found two different diets for growing wax moths:

Boil together for several minutes
- 1/3 C sugar (or honey)
- 1/3 C glycerol
- 1/3 C water

Cool, then add 1/4 teaspoon of a vitamin supplement used to feed to chickens (Do NOT add antibiotics). Then stir in 5 C dried cereal, such as Pablum. Mix together and place on top of wax moth eggs in a glass jar[2].

Another diet consists of :
- 14 parts cereal (as above)
- 2 parts powdered brewer's yeast
- 3 parts beeswax
- 6 parts glycerine
- 3 parts water
- 7 parts honey

Cut beeswax into thin shavings (you can also use old comb here). Mix with the cereal and brewer's yeast. While this author[3] does not suggest boiling the liquids together, I think it is a good idea. Once boiled, add liquid to the dry ingredients and knead together to form a stiff, dry (not sticky) dough. No free liquid should be left.

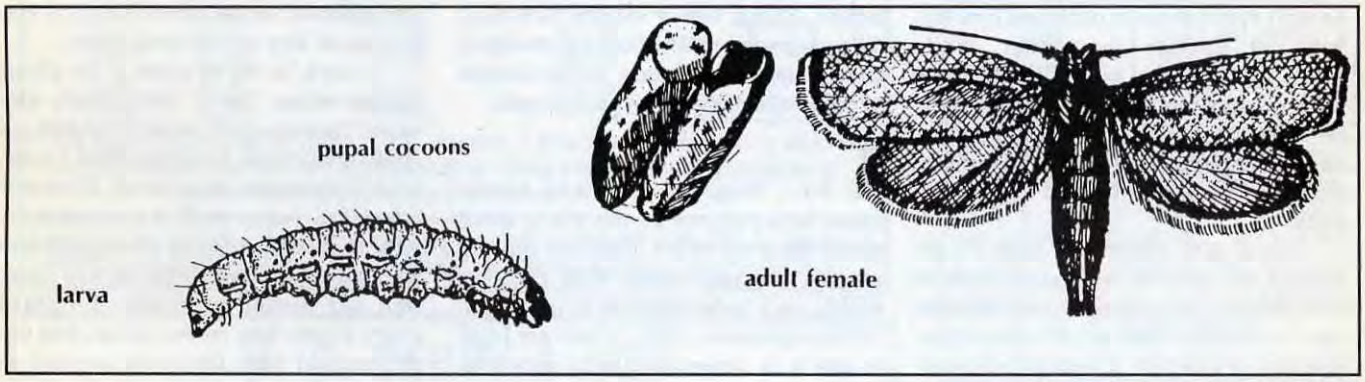
Beginning your culture

Select a glass (or plastic) jar with a wide top. A peanut butter or 2-quart fruit jar works fine. Other people use old cardboard ice cream containers. As long as the waxies have ample food, they should not chew their way out. Fill container with prepared food.

Cover the jar with a twenty-mesh wire screen disk, a paper towel and a jar lid with a large hole cut in the center (you could use a Mason jar rim too). The paper towel is to keep foreign material from entering, but the wax moths will eat through it if not protected by the wire.

Now add eggs, larvae, pupae or adults to your culture. Whichever you add, they should all be the same stage (ie. don't mix eggs and pupae). Add 10-50 larvae, or whatever stage you are starting it with, to each jar, depending on the size. Do NOT crowd too many larvae into one jar, because you will get smaller adults.

Now place your culture jars in an enclosed room, OUT of the sun, where it is warm (93°F), for four weeks. Moths can tolerate a range of 77–99°F. But remember, the warmer the room, the faster they will grow. If the room is not dark, wrap paper or cloth around the jars to keep light out; the larvae will not develop well unless they are in the dark.

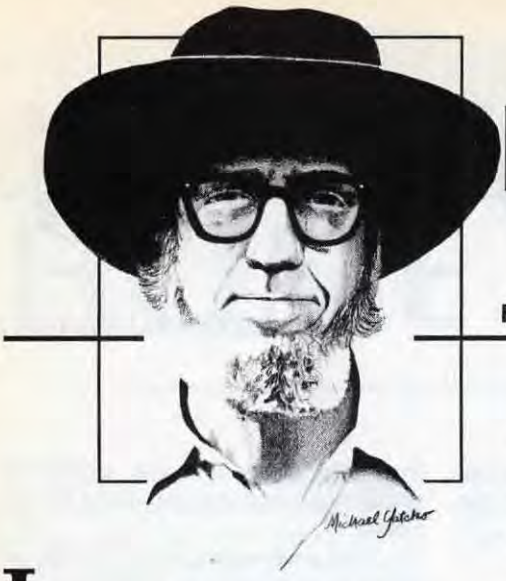


From Sammataro and Avitabile

Harvesting . . .

If you plan on harvesting larvae to eat, collect them as they begin to spin their cocoons, since they void all fecal matter just before spinning. Try not to disturb the growing medium (diet) when collecting them. If you wish to hold the larvae for a long period, you

Continued on Page 303



BEE TALK

RICHARD TAYLOR

9374 Route 89, Trumansburg, NY 14886

"Whether applying medication or dealing with bee space — do it right. Errors are costly in time and trouble."

It's only mid-March, but by the time you read this the fruit trees will be blooming, dandelions will be out, and we'll all have started worrying about swarms. This makes me feel pretty anxious, because I haven't done a bit of preparation yet. My honey house is in a frightful clutter, and I'm going to have to get it tidied up before I can even begin to get my comb honey supers ready. I haven't even been around to see how my bees got through the winter. Well, that's the way it is every year at this time, when I feel spring about to come on with a rush, but I always manage to keep a step ahead. That's what is important. Fall a step behind and you're sunk.

Some nice warm day now I'll go around and give each colony a dash of Terramycin, then repeat it in a week or two. I consider that bit of prevention absolutely vital for keeping foulbrood out of my colonies. Just to be on the safe side I make sure that gets done well before any supers go on.

There is a lot of understandable confusion among beekeepers about Terramycin formulations. TM-25 is the standard strength, but the packages usually do not say what the strength is, and they seldom give directions for use with bees. Well, if you buy the packets of Terramycin from a bee supplier you can assume the strength is TM-25. That means there are 25 grams of oxytetracycline hydrochloride, or Terramycin, or TM, per pound, and since the packet you get will probably be 6.4 ounces, that means you are getting 10 grams of the antibiotic.

I mix about sixteen tablespoons of this with two pounds of powdered (not granulated) sugar, and scatter about a tablespoon of that mixture on the top bars of each hive, preferably the top bars of the brood chamber. Actually, I don't measure it; I just get about that much on my hive tool and dump it over the top bars with a sweeping motion, to spread it around a bit. This gets fed to the larvae, and you get no foulbrood. It is very easy, harmless and effective. But you must do it at least a week or so before adding honey supers. Actually, terra degrades rather fast, especially in the presence of moisture, so the danger of contaminating honey is minimal.

I don't think we have any varroa mites here yet, and I don't worry much about tracheal mites. They say you can control tracheal mites with menthol which, as I understand it, is not a controlled substance. Still, it was not legal to use it in beekeeping until recently. The American Honey Producers Association spent $30,000 dollars in legal fees to get it approved. And now I hear that Bill Draper, down in Pennsylvania, just goes to the drug store and buys menthol cough drops and puts three of these in each hive, and he says that takes care of the tracheal mites. I hope he's right. I find it pretty droll that we should go spend $30,000 on lawyers to get approval to use something you can pick up at any corner drug store.

I used to worry quite a lot about varroa mites, but I don't much any more. They are going to be a problem, no doubt about that, but from what I read, control measures are at hand. Sooner or later, I'm sure, we'll have resistant strains of bees, and the queen breeders who develop those strains will have won our lasting gratitude. In Brazil every colony has varroa mites, but the Africanized bees there are so good at keeping them down that the beekeepers don't even consider them a serious problem.

Now there is one other thing I was going to say something about this month, even though it has nothing whatsoever to do with what I have said so far, and that's bee space. The term "bee space" refers to the space — about 3/8 of an inch — that bees "respect". That is, they will not build comb in a space that small, but they will stuff with propolis a space that is smaller. So that is about the maximum and minimum space that should separate things within a bee hive. Frames are carefully designed to preserve that space, but many manufacturers of hive bodies and supers have not been careful about it.

Sometimes you put a super on and you get a lot of burr comb, because the space between the top or bottom bars of one super or hive body and those of the one above or below it is too big. This is also the reason queen excluders often get clogged with burr comb. If you make sure the space immediately above and below the excluder is 3/8" or less, you will have no problem. But probably the worst problem of burr comb comes from using round section comb honey supers that are too deep. You cannot use the standard 4-3/4" deep comb honey super with round sections. If you do, you'll get burr comb on the plastic frames and a lot of honey drizzling down onto your round sections when you split those frames apart. Round section supers must be 4-1/2". You can take standard full-depth hive bodies and before nailing them together, put them on a table saw and get two round section supers out of each one, with strips left over for making double screens. That's probably the cheapest way to buy round section supers.

Well, it is just about time to shift gears, to stop sitting around the house ruminating and get out to the bee yards for another season of getting comb honey. And I need it. I still have a box on hand for my breakfasts, but the way I consume it, I don't think my supply is going to hold out until my new crop starts coming in. I've got a lot to look forward to.Δ

(Questions and comments are welcomed. Use Trumansburg address, and U.S. residents please enclose stamped envelope for response.)

QUESTIONS?

-Q- *Is there any way to control swarming without removing combs of brood? I do not have any extra hive bodies to put the combs in, and do not want to increase my number of colonies.*

G. Hartke
Middletown, CT

-A- I know of no effective swarm control method which does not involve splitting out combs of brood. You can, however, avoid increasing your number of colonies by using full-depth hive bodies for both brood and honey storage, getting rid of all other super sizes, using queen excluders, and exchanging a few combs of brood for empty full-depth extracting combs from the supers. This should be done every couple of weeks during the swarming season. Eventually your extracting combs will become darkened by brood rearing which is unfortunate, but not overwhelmingly so.

-Q- *My bees are all dead from tracheal mites. The hives have lots of honey but no bees. Can I put the empty hives in a freezer for a few days and then install package bees in the spring?*

Name withheld by request
Maryville, TN

-A- Mites cannot live or survive independently of the bees, so equipment is not infected by any history of mites, and no kind of sterilization of hives or combs is necessary.

-Q- *If I have twenty or thirty hives near a clover field, would I get more honey by dividing them into smaller groups and spreading them out? Or do the bees gather only a fraction of the nectar available in a given location?*

Tom Blake
Lebarron, TN

-A- With only that many hives it is doubtful whether you would increase production by spreading them out. Bees easily fly a quarter or half mile, and often farther. I think they never get all the nectar available in a heavy flow, anyway, and if you have a poor flow, spreading the colonies around is not going to change things much.

-Q- *Are bees compatible with livestock? I am thinking of putting a few hives in my sheep pasture, where I also keep a dog.*

Michael Raubertas
Burkittsville, MD

-A- I do not think there would be any problem here at all.

Editor's Note: Placing a fence or other barrier around the colonies may be a good idea. Large animals will, on occasion, use colonies as 'scratching posts', and accidently knock one over. The fence will protect the bees from this.

-Q- *How do you keep ants from nesting under the covers of the hives?*

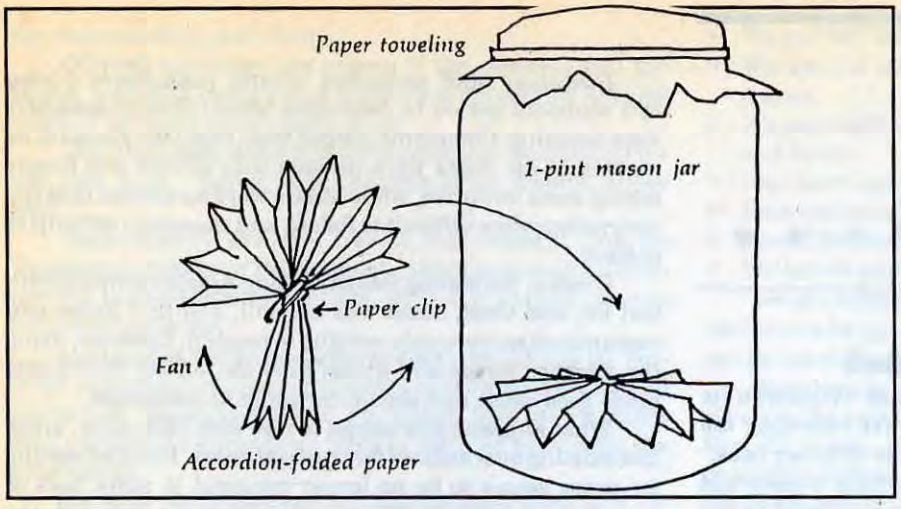
Michael Shpock
Freeland, PA

-A- Leave the inner cover hole open during the summer, so the bees can enter the space under the cover.

Questions are welcomed. Dr. Richard Taylor, 9374 Route 89, Trumansburg, NY 14886. U. S. residents enclose stamped envelope for response. No telephone calls, please.

ANSWERS!

Richard Taylor



From Taylor and Carter.

WAXIES . . . Cont. from Page 297

can store them at 59°F and 60% humidity for up to a year. This will keep them from pupating.

. . . and Increasing

To increase your colony, you will need to rear some larvae to adult moths. Either place some adults, or around 50 cocoons in a separate jar, (you need no food in these jars, since adults do not feed). Now add a piece of wax paper, folded like an accordion, and fastened in the center with a paper clip (see diagram). Cover the jar with paper towels tied in place and keep at room temperature.

By putting in 50 cocoons, you will get a good mix of males and females. Within 10 days, the adult moths emerge. Each female moth will mate in the jar and begin to lay eggs in the folds of the wax paper. Each female can lay over 100 eggs.

Once you see the eggs, place 10-15 of them in separate jars on top of the diet. Don't wait too long, or your larvae could starve to death.

If you are using your worms just for *bait,* harvest them before they spin their cocoons. Put them in cold storage for four or five hours at 32-33°F. To assure an even temperature of 32°F, put ice cubes and some water in a large bowl. Now put your larvae in a smaller jar and place the jar in the ice bath. Keep them in the bath until all the ice has melted.

After that they will not spin, and you can store them at 40-45°F until ready to sell as bait. Place the larvae in a separate container and keep them moist with paper toweling, wood shavings or other absorbant material.

Helpful tips

If your worms start dying suddenly, are attacked by fungi or change to a dark color, you could have a disease problem. Burn that batch and any other batch that may have been contaminated by it, wash the jars in hot, soapy water and pour boiling water in them. Then start with a fresh batch.

Tasty Insect Treats

It has been suggested that the growing larvae can be delicately flavored by incorporating small amounts of various spices into their diet[1]. The same author notes that the pupal stage can also be eaten, live or cooked, and were "sweet, good and juicy, suggesting they would be very good in a salad."

Wax worms are great as snack items. Fried in hot oil, they pop like popcorn and if lightly salted, are reported to have good or better flavor than potato chips or corn puffs.

A basic cooked insect recipe could be:

- 1 C cleaned insects (wax worm larva *or* drone brood)
- 2 C water
- 1 tsp. (or less) salt
- 1-2 dash pepper
- 1 Tblsp. butter
- 1/2 tsp. sage
- 2 Tblsp. finely chopped onion

Mix together in a small pan, and boil. Turn down heat and simmer for 30 minutes or until tender.

Use this basic recipe for Chowmein:

- 1 C chopped celery
- 1/4 C chopped onion
- 2 T chopped green pepper
- 1 T butter
- 1/2 C cooked insects
- 1/2 C chowmein noodles
- 1-1/2 C Broth
- 1/2 C light cream
- 1/8 tsp pepper

Cook in butter, celery, onion and pepper until tender. Stir in insects, 1/4 C noodles and rest of ingredients. Pour into ungreased 1-1/2 quart casserole and sprinkle with remaining noodles. Bake at 350°F uncovered for 30 min.

References

1. R. L. Taylor. *Butterflies in my Stomach.* Woodbridge Press:Santa Barbara, CA 93111
2. R. L. Taylor and B. J. Carter. *Entertaining with Insects.* Woodbridge Press: Santa Barbara, Ca 93111. 1976.
3. W. Gojmerac. *Grow your own wax worms.* **Fin and Feathers.** Jan. 1978.
4. P. Dunphy. *Gourmet Grubs.* **Harrowsmith.** No. 20, March/April 1989, p. 126.
5. D. Sammataro and A. Avitabile. *The Beekeeper's Handbook.* Macmillan Publishing Company.

News, Comments . . .

•Varroa Quarantine Cancelled

WASHINGTON, April 14 — The USDA has withdrawn its proposal to establish federal regulations for retarding the interstate spread of Varroa mite, a parasite of honey bees.

"The comments we have received indicate widespread opposition to the proposed Varroa mite program," said James W. Glosser, administrator of USDA's Animal and Plant Health Inspection Service. "Without extensive support from the affected groups, a federal effort to retard the spread of Varroa cannot work."

According to Glosser, the proposed rule called for quarantining 35 states or U.S. territories known or believed to be infested with Varroa mite. The regulations also would have restricted the interstate movement of honey bees and bee equipment from quarantined areas. Such articles would have required inspection and/or treatment before being allowed to move interstate.

Glosser said the proposed rule was developed using the recommendations of the Varroa Mite Negotiated Rulemaking Advisory Committee, which conducted two negotiated rulemaking sessions, Nov. 30 - Dec 2, 1988 and Jan 5-6, 1989, in Washington, D.C.

"Our purpose in creating the committee was to convene representatives of all affected parties to help us draft federal Varroa regulation," said Glosser. "We included people from state departments of agriculture, beekeeping organizations, and related industry groups, including queen and package bee producers and migratory beekeepers."

Glosser said many of the comments reflected concern that while fluvalinate — the only chemical treatment currently available for Varroa mite — is less than 100% effective, the proposed rule would have allowed beekeepers to move treated honey bees interstate. While honey bees are needed to pollinate many agricultural crops, some respondents feared this would aid in the spread of Varroa mite.

"Questions were raised about the possibility that Varroa mites could develop a resistance to fluvalinate if treated too often," said Glosser. "Still other commenters voiced concern about the danger of honey contamination from chemical treatments."

Varroa mites were first discovered in this country in a Wisconsin apiary in September 1987. APHIS imposed a quarantine April 6, 1988, to restrict movement of bees and bee equipment from infested states, but recinded it a month later when it proved too difficult to administer successfully.

Gleanings staff contacted several beekeepers during this comment period to determine what industry members were thinking. Comments ranged from rage (see above) to no concern at all. Some were pleased that APHIS was finally taking some initiative, while others were concerned that the restrictions were difficult to follow, and especially difficult to enforce.

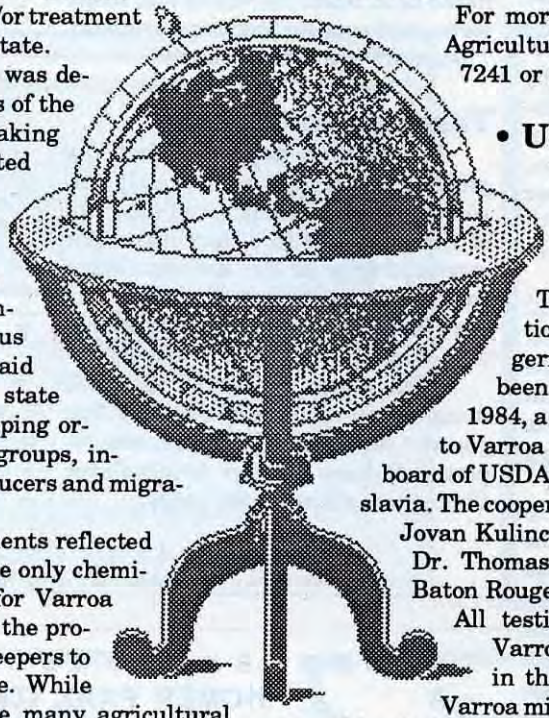
Overall, the feeling was that using Apistan strips to both test for, and treat, mites was overkill, and that abuse and contamination were only waiting to happen. However, using the package strips and queen tabs containing fluvalinate made good sense and should certainly be continued.

What happens now seems to rest with each state, much like existing quarantines for tracheal mites. Further, testing for mites seems to be no longer required to move bees or equipment interstate. The questions now far outweigh the answers.

• CT Varroa Mite Quarantine

New regulations became effective in Connecticut on March 1st prohibiting the movement of honey bees and hive components from states infested with Varroa mites. This is in addition to a previously enacted quarantine on honey bee tracheal mites.

For more information call: The Connecticut Agricultural Experiment Station, (203) 789-7241 or (203) 789-7236.



• USDA ARS Proposes Importation of Honey Bee Stock Resistant to Varroa Jacobsoni

The USDA ARS is considering the option of importing *Apis mellifera carnica* germ plasm from Yugoslavia that has been selected for resistance to Varroa. In 1984, a project to breed honey bees resistant to Varroa mites was funded by a joint scientific board of USDA and its counterpart agency in Yugoslavia. The cooperating scientists in this project are Dr. Jovan Kulincevic from the Univ. of Belgrade and Dr. Thomas Rinderer from the USDA ARS at Baton Rouge, LA.

All testing and evaluations which require Varroa mites will only be done in locations in the United States having an existing Varroa mite population. Facilities in Louisiana would only be used for the quarantine, maintenance and propagation of honey bee stocks. The proposal outlines several strict quarantine procedures for consideration.

For more information contact: Dr. Thomas E. Rinderer, USDA ARS Honey Bee Breeding, Genetics & Physiology Research, 1157 Ben Hur Road, Baton Rouge, LA 70820.

• Vermont Ag. Recommends Against Pesticide Use

MONTPELIER, VT. (AP) — State officials are not recommending the use of the pesticide carbaryl (Sevin) to control

the maple-eating pear thrips.

Officials said they are unsure if the chemical will kill thrips, a silver-shaped insect blamed for defoliating 488,000 acres of Vermont forest last spring.

"We don't have sufficient information to recommend it's use this year," Agriculture Commissioner Ronald Allbee said.

Sugar-makers are still free to use carbaryl, but the Vermont Agriculture Department, which approves all commercial pesticide use in the state, will not grant any permits for aerial spraying.

Carbaryl is the only chemical approved for use on Vermont sugarbushes. The agriculture and forests, parks and recreation departments had suggested that some maple syrup producers spray their trees to ward off harm from the pear thrips.

But after studying the potential risks and benefits of the pesticide, the commissioners of both departments said they are unsure if it will be effective. The research included spraying a test plot of trees in Underhill last year.

"We are not recommending aerial spraying of carbaryl this spring, mostly because we don't know enough," said Mollie Beattie, commissioner of Forests, Parks and Recreation. "There are always risks with pesticides, and in order to use a pesticide and take those risks you need to know what the benefits are — and we don't."

• "Natural" Pesticides

COLUMBUS, OH — Concern about pesticides has fueled interest in alternatives in fighting weeds and pests. But problems with "natural" controls have no easy solutions, say Ohio State University entomologists.

Farmers are showing more interest in using biological, or non-chemical, controls for several reasons, says entomologist Dave Horn. Chemical use is implicated in water contamination. Pesticide residues are blamed in cancer cases. More bugs and weeds are growing resistant to herbicides and insecticides. More chemicals must be used, and they're costing more, he says. But farmers have to change their whole management scheme to switch to biological pest and weed control, Horn says.

"Farmers must figure out when a control is needed, and then go back and make sure it's doing the job," Horn says. "With insecticides, farmers don't have that problem — 99% of the time, chemicals work. With biological controls, even proven methods work closer to 85% of the time. A lot of monitoring is required. And a lot more research is needed."

If Americans are truly serious about cutting pesticide use, they'll also have to change their expectations about food, Horn adds. Using biological controls becomes especially complicated with fruits and vegetables, whose looks are so important to buyers.

"Bushels and bushels of plump juicy apples are possible because of chemicals," Horn says. "If the public says, 'Cut down on chemicals', they'll also have to accept lumpy apples or blemishes on their oranges."

They'll also have to cut their own pesticide use, Horn says. Home gardeners who improperly use and dispose of pesticides contribute much to contamination problems.

• Meanwhile . . .

When you add together all the activities Americans do in one day, the numbers can be surprising. For instance, each day:

- We eat 200 million lbs. of fruit and vegetables.
- We eat 1.2 million bu. of potatoes and 228,000 bu. of onions.
- We pour 450 billion gal. of water through homes, factories and farms.
- One new insect species is discovered.
- Rats and mice damage $2.5 million worth of property.
- About 200,000 tons of edible food are wasted.
- We eat 50 million lbs. of sugar.

We are fortunate we can take these seemingly insignificant items for granted. Unfortunately, our food supply cannot be taken for granted.

American agriculture has continued to increase its efficiency to the point where one farmer produces enough food to feed 72 people. As our population expands into the next century, a farmer will need to squeeze even more food out of the same acre of land to feed our nation.

One of the management tools helping farmers increase production of healthy, disease-free food has been pesticides. To help squeeze more healthy food out of the same acre of land in the future, we will continue to need pesticides as a management tool.

—reprinted from Farmer's Digest

• Bee Regulated Zone News

Two contracts have been awarded to Queen Producers in Mexico. The first delivery of 500 queens will be the 20th of March, and 500 more each week until 3,000 are delivered. These queens will be used primarily in OU-1 but about 500 will also be used in OU-2.

The Cooperative Program will be using a new type of trap in the field starting in March. The new trap, designed by a Mexican engineer, has an automatic trap door which captures and kills the invading swarm. The first 800 traps have been received from the manufacturer and are already in the field.

No new detections were reported from either unit. The number of swarm captures and identifications for the week of February 24th to March 2nd, from both Operational Unites is as follows:

	OU-1	*SD1	*SSD1	OU-2	SD2	SSD2
Bait Hive Captures	146	28	85	88	4	1
Feral Swarm Capts.	14	0	2	9	0	0
No. Samples Ident.	129	65	73	87	16	3
Africanized	117	60	60	32	8	1
European	11	5	13	55	8	2

*SD - Survey & Detection and (SSD) Secondary Survey & Detection

• Canada Calls for Help

Ontario beekeepers say the U. S. honey subsidy is putting them out of business and their pleas for help are being ignored by the provincial government.

Paul Montoux, president of the Ontario Beekeepers' Association, said the cost of producing honey in the Canadian province in 1987 was 97 cents a kilogram while the wholesale price was 88 cents a kg. He said the nine-cents-a-kilogram loss did not include beekeeper labor.

For the first time ever, the association — which represents 5,500 beekeepers — asked provincial Agriculture Minister Jack Riddell for financial help. It proposed a C$6.2 million assistance package over four years to help members

stay in business until honey prices increase.

The package would have included a C$2.3 million direct payout to beekeepers with the balance going to promotion, modernization, research, disease inspection and compensation for pesticide kills.

Riddell rejected the proposal and now Montoux says the association has exhausted its options.

He said financial assistance is needed because U. S. honey crop subsidies have created a surplus and Ontario beekeepers can't compete at the price now being received for honey.

Montoux noted the average price of a kilogram of honey dropped by 17% from 1982 to 1985 while the consumer price index rose 29% in the same period.

Existing and proposed programs favor western Canadian beekeepers, he said, leading to further flooding of the Ontario market.

"We've never had to ask for help before," he said. "But we have members going out of business. Spring is coming and we need to have something to tell our members. They're either gearing up or going out."

He said the government rejection is surprising when Ontario beekeepers annually provide $7 million worth of honey and wax, $65 million worth of pollination services and untold benefits to the environment.

If producers do go out of business, Montoux said a lack of pollination would lead to drastic cuts in crop yields and quality and to large food price increases. "Damage to wildflowers, trees and shrubs would devastate the future of an ecology dependent on pollination."

Alan Harman

• Industry Roundtable Holds Second Meeting

Representatives from all segments and organizations of the honey industry met Feb. 21-22 in San Francisco to develop a plan to respond to various issues which could potentially harm the honey industry.

The industry roundtable, sponsored in part by the National Honey Board, evaluated the impact of various issues (including infant botulism, africanized bees, mites, potential contamination) on the honey industry.

The group outlined preliminary response steps to these issues. Dr. James Tew, federal apicultural extension specialist, will be developing public information programs about africanized bees and mites. The National Honey Board will continue to research and evaluate programs to respond to issues affecting the wholesomeness of honey and to questions regarding infant botulism.

• Comic Book Helps Kids

Designed to provide beekeepers and others an inexpensive handout to use at shows or demos, **Irish Wolf Communications** claims their book is a complete success.

With nearly 20,000 copies sold already, publishers Mark Brunner and Ann Dodd add that education is the key to youthful involvement in beekeeping.

"Classroom demonstrations, using good visuals and handouts are terrific for both entertaining, and teaching kids", Brunner adds.

Keeping Honey Bees as a Hobby has 3 energetic pages of beekeeping facts, presented in a cartoon format. It is easily read, and even easier to understand.

For more information, contact: Irish Wolf Communications, 190 Redfern Rd., Chippewa Lake, OH 44215 (216) 769-4670.

• Honey Loan Repayment Levels Unchanged

WASHINGTON — Producers may repay their 1988 honey price-support loans at the following levels, according to Milton J. Hertz, executive vice president of the U. S. Department of Agriculture's Commodity Credit Corporation:

Weekly Honey-loan Repayment Levels, Cents per Pound, 1988 Crop

White	40.0
Extra-light	37.0
Light Amber	36.0
Amber	34.0

The 1988-crop levels are unchanged from those announced April 7, 1988. Producers who redeem their honey pledged as loan collateral by repaying their 1988 honey price-support loans at these levels may not repledge the same honey as collateral for another loan.

. . . & Events

☆ INTERNATIONAL ☆

The 36th Beaverlodge Beekeepers' Field Day will be held on June 9th at the Beaverlodge Research Station. Dr. Don Nelson says the program will include beekeeping displays as well as research highlights. The afternoon program will be on bee-related topics by guest speakers, researchers and provincial apiarists. The field day program will be available about mid-May.

For further information contact: D. L. Nelson, Agriculture Canada, Box 29, Beaverlodge, Alberta, Canada TOH OCO. Phone (403) 354-2212 or FAX (403) 354-8171.

The 32nd International Apicultural Congress (Apimondia) will be held in Rio de Janeiro, Brazil, October 22-28, Sunday-Saturday. The registration fee before May 20 is $150/principal, $125/spouse; afterwards, it is $180/150. It covers admission to all sessions; entrance to Expo-Apis '89; a one-day tour; congress materials; a folklore show; a farewell cocktail party; and a book on congress proceedings.

For more information contact Apicenter do Brasil, Pordutos Apicolas E Naturais, LTDA M.E., Rus Felipe de Oliveira, 4-Loja C, CEP 22.011, Copacabana, Rio de Janeiro, Brasil, South America.

Apimondia Trip Planned. As it did for Apimondia Adelaide, Acapulco and Athens, MD will put together a group to save on air fares, hotel expenses and private tours. The goal is at least 15 from anywhere on the Eastern seaboard for a two-week period. For more information or an Apimondia registration form contact John Romanik, 3200 Pine Orchard Lane, Ellicott City, MD 21043, (301) 465-1809.

Tour to England planned, with beekeepers in mind. Starting August 3, events include visits with English beekeepers, London excursions, museums, the moors, Hadrian's Wall and Thorne's. For more information contact Harold Liberman, Global Nature Tours, Inc., 2701 Oxford Circle, Upper Marlboro, MD 20772, (301) 627-4777 evenings and weekends.

The 11th International Congress of the International Union for the Study of Social Insects will be held August 5-11, 1990 in Bangalore, India. For more information on registration or the program, contact: The Secretary, 11th Congress of IUSSI, Dept. of Entomology, University of Ag. Sciences, G.K.V.K. Campers, Bangalore 560 065, India.

Fanshaw College, London, Ontario to hold Practical Beekeeping Course. Designed for experienced and novice beekeepers alike, topics include honey production, pollination and other basics.

Harold Killins, B.S.A., is the instructor, who will teach four classroom sessions, and six outdoor sessions, all held on Saturdays. The first class begins April 3, 1989, and continues for 9 more weeks. For more information contact Joe Dunn, Fanshaw College, 520 First St., Bay 20, London Ontario, Canada N6J-3M2, (519) 452-4441.

When planning your vacation please remember that the **Annual Conference of the Eastern Apiculture (EAS)** will take place this year in July at the University of New Hampshire in Durham, New Hampshire.

The Short Course will take place Monday, July 10 to Wednesday, July 12. The Conference will take place Thursday, July 13 to Saturday, July 15. More details will follow.

☆ GEORGIA ☆

The Annual Beekeepers Short Course for beginners and more experienced beekeepers will be held on June 10, 1989, at the University of Georgia, Athens, GA. The meeting, sponsored by the Dept. of Ent. and the GA Beekeepers Assn. will be from 8:30 a.m. to 5:00 p.m. Registration will start at 7:30 a.m. in the Biological Sciences Building, Auditorium 404E. Demonstrations of practical beekeeping begins at 1:30 p.m. at the University Apiary on the Horticulture Farm located on Highway 53, six miles south of Athens, GA.

Topics and demonstrations will include honey bee activities and life cycles, queen rearing and colony division, management for honey production, honey house operation, recognition, prevention and control of bee diseases and parasitic mites, package bee installation. The potential impact of Africanized honey bees and parasitic Asiatic mites on beekeeping in the U.S. will be highlighted.

The teaching staff will consist of several honey bee specialists, including well-known commercial honey and queen and package bee producers from Georgia. The course fee is $25.00 per person. Advanced registration is requested by June 8, 1989.

Requests for additional information, program and registration forms should be addressed to Dr. Alfred Dietz, Dept. of Entom., Univ. of Georgia, Athens, GA 30602, or telephone (404) 542-2816.

☆ NEW JERSEY ☆

Karyn Anne Coyne is the 1989 New Jersey Honey Queen. Karyn's duties are to represent the Beekeeping industry of New Jersey and to inform the public of the importance of the honey bee to the pollination of New Jersey's agricultural products, flowers and gardens. In addition, she will encourage the use of hive products of honey and wax as a part of the Governor's program of New Jersey Fresh.

☆ OKLAHOMA ☆

The Oklahoma State Beekeepers Association will hold their annual spring meeting on Saturday, May 20, 1989, from 8:30 a.m. until 4:00 p.m., at the Logan County Fairgrounds Educational Building, Guthrie, OK. The Frontier Country Beekeepers Association will serve as hosts.

The program will cover a variety of topics interesting and useful to all beekeepers. A covered dish meal will be served at noon.

The Frontier County association

Display Index