MAY '90

GLEANINGS IN BEE CULTURE

LONG LIVE THE QUEEN

POISON IN PARADISE

ANNUAL HONEY MARKET REPORT

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Columns

Departments

COVER.. For some, these dandelions are a blight on an otherwise perfect emerald carpet. But how you choose to remove them may cause problems. *Poison in Paradise* looks at pesticides in the home landscape.

Photo by Kim Flottum

MAY '90 CONTENTS

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117 Years Continuous Publication by the Same Organization

Features

INNER·COVER

Last month we published an article describing a couple of ways to check honey bees for tracheal mites.

Since then we had an opportunity to talk with Dr. Alan W. Smith, of Ohio State University, who actually discovered the techniques we credited solely to Dr. Glen Needham. Dr. Smith was a graduate student at the time, studying mite biology, and he needed a good way to find mites in honey bees. The technique we described was his and it is accurate and easy.

But Dr. Smith has done more than discover an easy way to find mites. However, I'm getting ahead of this story.

Awhile back, when Dr. Smith was in the middle of this, Dr. Rob Page, now at Davis, CA was working on a mite resistance program at Ohio State. One part of the project had to do with isolating mites so he could infest bees with a known number of these pests. He kept putting individual mites in these little paper cups he had, but they kept climbing out, looking for lunch.

To stop this lunch break, as it were, he placed a barrier on the lip of the cup. He used vegetable oil, because it was handy, and because it worked.

Later, he discovered that those bees, exposed to mites in cups with oil on the rim, didn't get infested. It took Dr. Page a while to put two and two together, and when he did he passed the information on to Drs. Smith and Needham.

They took this serendipitous observation one step further and devised a series of experiments to try and explain why this was happening. But I'm getting ahead of my story again.

Dr. Smith had earlier set up four colonies of clean bees. To these he added mite infested packages and over a period of time described how an infestation builds, and what happens to the colony as it becomes infested.

We hope to have the study in detail later but I took notes on the highlights. They were pretty amazing.

The four colonies each reacted differently to the infestation. One colony slowly rose to a 60% infestation level; one only to a 45% level, and then trailed off to nearly nothing; one rose to about an 80% infestation level, but the mite population crashed during winter, and the last hit nearly 100% and died. The explanation — genetic variability between queens.

Dr. Smith also found a 3:1 ratio of females:males in spring (the highest population time, and the time of greatest bee-to-bee infestation rates). The rate dropped to 1:1 during the winter.

Most exciting was that he found female mites move from old bees to young bees by choice and selection, not random chance. It seems that the integument (skin) of a honey bee is very attractive to mites when the bee is four days old or less. Therefore, a female mite who has crawled out of a trachea and is hanging onto a few hairs, can tell a young bee from an old one when she's close. If the bee is of the right age the mite moves over, heads for the trachea and sets up house. Obviously, there are far more young bees in a colony in the spring than in the late summer or fall — a fact to keep in mind.

Dr. Smith needed to find out how mites were able to do this, so he set up a test where a female mite had a choice — go to a young bee or old bee — and the mite chose the young bee every time. But, interestingly, a mite would chose an old bee rather than die. Certainly it is to the advantage of the mite to choose a bee who will live a long and fruitful life rather than one that may die soon — no dummies these mites. Dr. Smith later found that there are several saturated and unsaturated hydrocarbons on the surface of a bee, and that these change when a bee is about four days old. Mites are able to detect this change with receptors on their feet and on their mouthparts. They can really tell age by feel.

Drs. Smith and Needham were at about this point when Page walked in with his observations on mites, bees and vegetable oil. Isn't it strange how these things work out sometimes?

Anyway, the proverbial light bulb goes off and several ideas sprouted in these fertile minds. Why couldn't/wouldn't mites that had come in contact with oil then infest bees? Maybe the oil was simply toxic to mites. Apple growers spray their trees in spring with an oil to kill overwintering mites. The oil coats the mites and they suffocate. Or, maybe the oil was interfering with the mites' chemo receptors and it couldn't find the bee, or didn't recognize a bee when they found one.

To find out which, they made some small wire cages, about the size of a quart jar or so. In these they hung a strip of cloth that had been soaked in vegetable oil, and added both infested and clean bees. To other cages, they added cloth strips with no oil, and infested and clean bees. After about a week, the clean bees in the oil treated cages were still clean — every one of them. Meanwhile, about a quarter of the clean bees in the untreated cages were infested. Score one for the oil.

Next test expose clean bees to an oil soaked strip, then add them to an infested colony. Real world stuff here with the same results treated bees stayed clean, untreated were infested.

Score another for the oil.

Continued on Page 306

Recipe for Success

"... add sugar to shortening and mix thoroughly ..."

MAILBOX

■ Donations Gladly Accepted!

Help! We are trying to gather educational information and beekeeping-related items that can be used in presentations to schoolchildren. We are searching for posters, books, pictures and descriptions of antique beekeeping equipment, information handouts, uses for beeswax and propolis, etc. We are putting together packages that can be loaned to local teachers and also used at the Children's Museum in our area. So far we have had great difficulty finding quality resource materials aimed for a lay audience. If anyone can assist in locating these kinds of things, please contact me. We would be truly grateful for your help.

Maggie Kavanagh-Wolfe, President
Beekeepers' Ass'n. of Southern Calif.
550 S. Liberty St.
La Habra, CA 90631
(213) 694-1209

■ Pesticide Lament

Well I guess this is the parting of the way. I am 75 years old, took up beekeeping as a hobby when I retired from farming, over 35 years ago. My mother-in-law bought me a book, the *ABC & XYZ of Bee Culture*. I got interested and started buying supplies from the Root Co. I read every word of that book and still have it. It was very helpful, as I knew nothing about bees. I caught most of my bees wild, out of trees, bushes and houses and bought some through the mail. I could tell you lots of stories. The one I will never forget was when the Post Office called me at 2:00 a.m. to please come and pick up my bees, they were getting loose in the office (that was fun).

I built up from one hive to 30, was selling all the honey I could collect and had several customers for 10 years with never a complaint. I did have to have labels made up telling what to do if the honey crystalized. That's all and I was proud of my job. Then, about 5 years ago the insecticide problems started. There are farms all around my bees and a canning factory about 10 miles away.

They started spraying with airplanes and every year I lost several hives. I sued and collected the first year, thinking they would be more careful, but the next year I lost 6 more hives in one day. If I would have had a rifle, I would have shot him out of the sky, as he flew over my apiary and cleaned out his tanks. I saw a burst of the dust but could do nothing. I took pictures the next day. I had a 12 quart bucket in front of each hive, full of dead bees. They paid me on the spot or I would have taken a couple of them apart. I would probably be in jail yet.

Anyway, I kept losing bees until two years ago when they killed the last hive. I sold all of my equipment, except one colony (I guess beekeeping is in my blood) for my own honey, "maybe" I'm sorry, but I can't afford your magazine any longer, but I'll admit it's the best. I hope the farmers don't put you out of business. Best of luck.

George W. Weber
Bloomington, IA

■ A Honey of a Quiz

Following is a humorous and factual presentation which I made to two classes of 4th and 5th graders at my daughters' Overlook Elementary School in Lagrange, NY to stimulate their interest in the natural world around them. Some of the questions and multiple choice answers were designed to show some important relationships between man and honey bees, while others address typical misconceptions about bees. Answers were designed to be a little surprising for the children. Information was researched from Brother Adam's *In Search of the Best Strain of Bees*, and *The Beekeepers' Handbook* by Sammataro and Avitabile, Charles Scribners and Sons, 1978.

The questions were offered one at a time, with children enthusiastically raising their hands to vote for their choices. I kept the tone rather light and tried not to spend more that 2-4 minutes per answer to keep their interest up. We all had great fun and the kids were ready since they and their teachers had just completed a unit on insects.

The quiz was presented using transparencies on an overhead projector, and were supplemented with pictures from the above reference books. I also brought a complete hive to show "where the bees live" and how the honey is taken — clearly the most important feature for the kids. Dressing several of the children in beekeepers' suits to model the gear for their friends was also very interesting for them. Lastly, I bought 5 or 6 different kinds of honey (buckwheat, clover, tropical flowers, orange, comb and creamed honey) for an eagerly received "Honey Tasting Event"

I was pleased to share my hobby

Continued on Page 263

NEXT MONTH

You'll want to check out *Bee Culture* next month for some of the best reading, up-to-date information, and perfectly timed How-To's you can imagine.

First, we're going to take another look at pesticides, but this time we'll focus on hard-core agricultural uses and abuses, what beekeepers can and can't do, and should and shouldn't do. It isn't all bad news, though, so check out *What We Eat, and What We Wear*, next month.

How some beekeepers deal with pesticides on a routine basis is the next story — Bryant's Honey, an outfit we featured a few months back, deals with range problem pesticides — and here's how. Along with this, we have a good, short trick learned from the commercial folks in the Dakotas who deal with sunflower sprays on what seems like a daily basis.

On the fun side, we've got a great photo how-to on round comb honey production. Just in time for the major honey flow, this product is gaining in popularity ever year and when marketed well can be a real money maker.

Finally, there's a story on a major bee spill, and how one group handled it. This topic, and all the rest of the unanswered questions that arise when it comes up, will be a hot topic in the months to come. You had better be prepared to deal with it — or have an action plan in place for your local emergency team.

Next Month — a hot one and a hot issue — *Bee Culture*. ☐

Reader Assistance

To subscribe, simply fill in the form below and enjoy the exciting features awaiting you this year — Insurance Regulations, Smoker How-To, Requeening Tips, Inspections, Feeding, Pesticide Protection, and Wintering. It's all here — every month!

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- We encourage letters to the editor on any subject whether appearing in the magazine or not. Direct your letters to: Editor, P. O. Box 706, Medina, OH 44258. We reserve the right to edit letters for content and length, but will avoid this if possible.

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and environmental views with the children and hope that it made some impact on their attitudes. Active participation from beekeepers can be an effective part of local education in the community and is warmly welcomed if coordinated with school teaching staff.

My "Honey of a Quiz" is printed below for use by others and I would be pleased to discover what responses were received by other beekeepers and children across the country.

Michael R. Haley
#10 Donnie Place
Poughkeepsie, NY 125603

■ Clarification

This is in response to Anthony Jadczak's letter in the March 1990 issue of *Bee Culture*.

The Quiz

1. **How long have there been honey bees on earth?**
   a. they arrived last summer
   b. 1000 years
   * c. 1 million years
2. **How many different kinds of bees are there in the world?**
   a. just a few
   * b. 20,000 different species
   c. only the yellow & black kind we see in cartoons
3. **Who cares about bees?**
   * a. flowers
   * b. farmers with millions of acres of fruit, vegetables, nut crops
   * c. the Chinese & Argentines
   * d. beekeepers
   * e. kids who like honey on their toast
4. **In U. S. production, how much money is involved with honey?**
   a $1 million
   * b. $10 million
   c $1000 million or more
5. **Where do bees live in nature?**
   * a. sheltered rocky places in mountains and deserts
   * b. hollow trees in forests and jungles
   * c. old mailboxes
   d. round grey paper nests hung from my house or tree
6. **Men have raised bees for honey for how long?**
   * a. 5000 years
   b. 100 years
   c. 200 years
   d. since the Pilgrims
7. **How are bees different from wasps?**
   * a. they aren't different they both can sting me if I bother them
   * b. bees eat honey & pollen, wasps are predators and eat other insects
   * c. most bees live in colonies, many wasps are solitary
   * d. bees are hairy, wasps are shiny smooth
8. **How can honey bees tell each other where to find nectar one mile away?**
   * a. they perform a dance inside the hive
   b. they are lost—it can't be done
   c. they discuss it quietly over lunch
9. **Do you know what colors bees can see?**
   * a. blue and violet are their favorites
   b. everything looks black and white
   * c. red appears black to them and green is light gray
   d. they need tiny eyeglasses to see color
10. **How many different kinds of honey are there in the world? Name some.**
    a. 10
    b. one—my mother only calls my father 'honey'
    * c. hundreds of delicious types of honey just in N. America and Europe
11. **Men are killing 100,000 colonies of honey bees each year in America alone. There is a shortage of bees. Why?**
    * a. spraying of insecticides by farmers to control crop pests
    * b. spraying or dusting by homeowners to kill lawn/garden pests
    * c. too few parks, woods and wild places for bees to live and collect nectar and pollen from

** Denotes correct answer.*

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In my original draft of the article "How to Make Beeswax Creams" I thanked Tony Jadczak for the use of the beeswax cream formula (presented at the E.A.S. Short Course held last August in Litchfield, Connecticut). But perhaps in the editorial/printing process, "formula, DEVELOPED by Tony Jadczak" was inadvertently substituted in its place.

The lineage of this particular cream can be attributed to Galen, the famous physician-pharmacist of the 1st century A.D. (please note the references at the end of my article). Successive generations of pharmacy students are still required to compound this cream (differing only in proportions and methods of preparations).

Geary Wong, R.Ph.
Orange, CT

■ More on Kids & Bees

Ms. P. Spence-Allen's letter about 'Kid Power' was very intriguing, because this is a subject very close to my heart. I pressed for more young people in beekeeping for years when I lived in Illinois. I saw the same scenario playing itself out there, where beekeepers' associations are becoming daily, older and creakingly older. It comes about without you realizing it, then suddenly you realize that at 60-65 years old, you are the youngest in the association! Without younger people, new ideas, new thinking, new enthusiasm and new methods, our whole industry, our associations, our journals and beekeeping as we know it is doomed to be extinct within the near future.

Cook-Dupage Beekeepers Association some years ago recognized this and started a program called 'Youth in Beekeeping' It worked very simply. Association members were asked to nominate young persons — boys or girls, not related to the member; who had parental consent and were interested in keeping bees.

Cook-Dupage supplied a hive and a package of bees and a queen. The young person worked the bees from package installation to honey harvest — under the tutelage of the beekeeper and was allowed to keep the honey at the end. They were also required to explain what they did, and how, to the association — a five minute talk. After that the youngster could choose to keep the bees and the hive or give it back. The hive could be bought at cost.

The program was very well received and before I retired to Florida, I know that several young people had been introduced to bees and beekeeping in this manner.

This could be one way that beekeeper's associations across the U. S. could attract younger people into our industry. We need a constant and continuous influx of young people to bring new blood and new life into beekeeping or else for sure the honey and pollination business will be a lost art, known only through history books.

Douglas W. Gouldthorp
Micco, FL

■ Concerned Beekeepers Meet

A group of concerned beekeepers will sponsor a seminar of industry leaders in Oklahoma City, July 16-18, to examine several nagging questions relative to the operation of the price support and promotional programs.

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Most importantly it will address why a silent majority of beekeepers continue to have an apathetic and lackadaisical attitude year in year out. None of this is meant to imply that the American Beekeeping Federation, ABF, and American Honey Producers, AHP, have been neglectful, but we hope a frank exchange of ideas among industry leaders will reveal ways and means of waking the silent majority.

There will not be a final report with recommendations, but rather, discussions will be limited to a speaker's personal views. Time permitting organizational officials will answer specific questions about their group's policy.

We have received confirmation that Congressman Glenn English will attend the seminar and discuss and the in's and out's of political action in bureaucratic Washington. Mr. English has been a strong supporter of our legislative projects in Congress. Invitations will also be sent to a number in the USDA, however, speakers will come from industry leadership. A number have already sent registration fees.

Since the seminar will be conducted more on the line of a hearing, no agenda or program will be published. Instead we will ask for volunteers to cover certain subjects. Ample time will be allotted for questions from the audience. Several moderators will be selected to chair the sessions. Conferees will convene Monday, July 16, 1:30 p.m. and adjourn on July 18 at 12:00 noon.

Advanced registration fee will be $20.00. After July 1, the registration fee will be $25.00. The meeting will be held at the Plantation Inn, 800 South Meridan, Oklahoma City 73108, phone (405) 942-0040. Special room rates are available Free limo service is available from the airport. Make reservations direct with the hotel. Send registration fee to: Glenn Gibson, P. O. Box 368, Minco, Oklahoma 73059 (Ph. 405-352-4944).

■ Bee "Facts"

I believe every beekeeper has heard the "facts" of beekeeping. Not the scientifically proven ones, but rather those passed down from one to all who are willing to listen.

There are the yarns like the man

MAILBOX

who drove a swarm of bees across the Rocky Mountains and the desert "and didn't lose a bee" There are tales of Paul Bunyan crossing bees and mosquitoes. Other examples would include, a swarm of bees is worth a load of hay ..., to prevent the beekeeper being stung put a piece of his clothing in the hive so the bees know his odor, the best thing for a bee sting is ..., and, if the beekeeper dies the bees must be told or they will leave.

I am trying to gather as many of these "facts" as possible and would like to hear from anyone who knows one. Please don't think "someone else will send in that one" as they will probably think the same thing. Besides it will be interesting to see the different variations and how widespread a particular belief is.

Thank you in advance for your assistance in this project.

John C. Grafton
Rt. 2 Box 341
Bloomingdale, OH 43910

■ Dear EPA ...

We are writing to inform you of the registration status for our amitraz bee mite control product, Miticur™,

We anticipated a response from E. P. A. by the end of February concerning our residue data. As it turns out, E. P. A. has not even begun their review of this data and informed us they will not be able to do so until the end of June. Without this review our registration submission cannot progress. Obviously, this jeopardizes our ability to provide a commercial product to the beekeeping industry by the time it is needed this fall. Should your local organization, Congressmen, or State Department of Agriculture wish to contact EPA regarding the need for a speedy review of this registration, please contact: Mr. Doug Campt, Director, Office of Pesticide Programs, U.S. E. P. A., 401 M. Street S. W., Washington, DC 20460, (704) 557-7090.

Let us know if you have any further questions.

George J. Raymond
Nor-Am Chemical Company
Wilmington, DE

■ Hive Tool Tip

Here's a tip I discovered totally by accident. Others may have also discovered it but I don't recall anything in the literature. While finishing up my Spring cleaning this year I opened the top on my smoker to let the fuel finish burning. (Why does it always burn well when you're finished, not when you start?) As I finished scraping the inside of a winter-kill hive, I reached out to hang my hive tool on the side of another hive box. It slipped off the edge and dropped perfectly into the smoker!

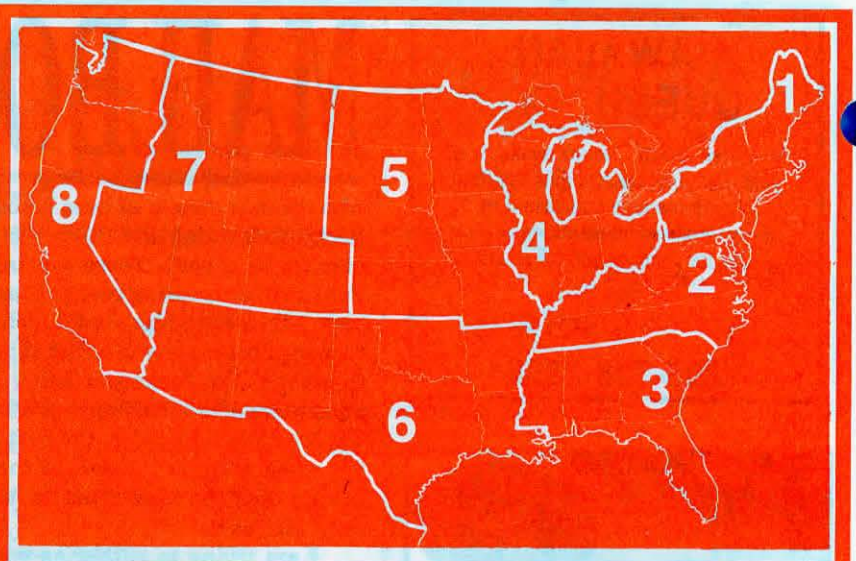
When I took the tool out I noticed that some of the usual residue like wax, propolis and honey were melting. So I put the tool back into the smoker for a few minutes and scraped off the runny, soft residue on the top edge of, and into the smoker. Result: one squeaky clean hive tool. I don't know if this would also be an effective way of limiting the spread of certain diseases, but it keeps the propolis and wax out of your back pocket and you head back to the house after an afternoon in the bee yard.

Clyde E. Witt
Medina, OH

MAY
Honey Report

May 1, 1990

REPORT FEATURES SUMMARY:
R=Range of all prices; A=Average prices across all regions; LM=Last month's average; and LY=Prices one year ago.



	Reporting Regions								Summary		History	
	1	2	3	4	5	6	7	8	R	A	LM	LY
Extracted honey sold bulk to Packers orProcessors												
Wholesale Extracted												
60 # Wh.	44.50	41.92	41.63	35.50	38.00	45.00	41.40	41.00	39.00-45.00	41.41	42.88	38.19
60 # Am.	43.50	35.20	39.50	33.25	30.25	41.00	37.50	36.50	33.85-45.00	35.42	33.34	35.27
55 gal. Wh.	.49	.60	.49	.50	.47	.65	.60	.59	.42-.70	.55	.52	.55
55 gal. Am.	.48	.52	.42	.45	.47	.55	.53	.50	.40-.60	.49	.50	.48
Case lots — Wholesale												
1 # 24's	31.53	30.87	27.77	22.80	23.52	25.00	28.50	30.06	20.40-34.25	28.73	28.03	26.06
2 # 12's	28.35	29.82	31.00	22.50	22.20	24.00	28.80	27.55	20.40-37.50	27.21	26.61	25.56
5 # 6's	34.85	25.98	24.35	26.25	26.00	26.30	26.00	27.00	25.50-38.50	27.60	26.58	25.31
Retail Honey Prices												
1/2 #	.97	1.12	.94	1.50	.83	.85	1.00	.92	.83-1.05	1.02	1.02	1.00
12 oz. Plas.	1.60	1.56	1.34	1.36	1.13	1.20	1.35	1.44	1.20-1.85	1.45	1.41	1.34
1 #	1.73	1.74	1.52	1.69	1.29	1.50	1.55	1.66	1.29-2.09	1.66	1.61	1.73
2 #	3.13	3.60	3.25	3.25	2.39	2.75	2.85	2.67	2.25-4.00	3.16	2.94	2.94
2-1/2 #	3.60	4.00	3.75	3.25	3.30	3.00	3.75	3.60	3.45-4.85	3.63	3.38	3.87
3 #	4.65	3.98	4.00	3.70	3.75	3.90	3.90	3.60	3.59-4.65	3.96	3.93	3.81
4 #	5.10	5.23	5.30	4.50	4.79	4.50	4.65	4.90	4.50-5.30	4.91	4.60	5.14
5 #	7.37	6.22	5.97	6.30	5.90	5.00	5.80	5.99	5.00-7.50	6.27	6.00	5.98
1 # Cr.	2.25	1.25	1.65	1.50	1.55	1.45	1.76	1.76	1.25-2.25	1.72	1.71	1.89
1 # Cb.	2.87	2.03	2.25	2.10	2.25	2.00	2.59	2.25	1.75-3.00	2.30	2.30	2.45
Round Plas.	2.25	2.63	2.00	1.75	1.90	1.55	1.85	1.85	1.85-3.00	2.07	2.00	2.12
Wax (Light)	1.12	1.11	1.10	1.10	1.10	.95	.95	1.15	.95-1.25	1.09	1.09	.99
Wax (Dark)	1.00	.95	.95	1.00	1.00	.85	.85	1.00	.90-1.00	.95	1.01	.89
Poll./Col.	32.50	22.00	15.00	30.00	19.00	20.00	26.00	30.00	15.00-35.00	25.70	24.60	24.36

MARKET SHARE

Check out the Annual Honey Market article this month. Remember that the prices are never as high as we'd like, nor as low as our customers think they should be.

Region 1

Prices and sales steady. Cool spring helped sales, but slowed bees. Mite problems spotty and winter losses random. Need good mid-spring weather to stabilize colonies and provide build-up material for next months flows.

Region 2

Demand and prices above average for this time of year and sales strong in most places. Shortages and promotion keeping demand strong. Spring weather good to date, and strong colonies (excluding mites) are the rule.

Region 3

Sales strong due to increased demand and short supplies. Early and strong spring have helped build-up and population should be strong during the rest of the season.

Region 4

Prices gradually edging up to keep up with rising costs of labor, equipment and supplies. Demand steady, but not strong. Mite problems spotty. 50% losses or more where infestations are heavy.

Region 5

Prices steady to increasing a bit but demand steady to dropping as warm weather arrives. Mite free colonies strong and healthy but losses approaching 40% in infested yards.

Region 6

Sales steady as cool weather lingers but local and national promotion helping. Some areas still dry but build-up appears normal.

Region 7

Sales average to just a bit below. Prices steady to increasing. Promotions helping along with cool weather and late spring.

Region 8

Pollination of many early crops complete. Mixed reviews on affects of mites, mite movement programs and future of mite controls in CA. Honey sales seasonally strong but demand strong.

Interested in becoming a Honey Reporter? Contact the Editor today!

1990 Annual Honey Report

Once again we've burned the midnight oil crunching numbers to produce our Annual Honey Report. But this year we've added a few new twists to broaden the perspective of this report, and, hopefully give a better picture of what's happening out in the rest of the world.

Obviously, honey is not an isolated sweetener. Though marketed, by the honey board and others as a unique product, outside forces affect what we do, and how much honey sells for. We previously examined the effect of imports and exports on honey prices, the price support system and the retail honey customer (*Bee Culture*, Sept 1989). We've also examined the effects the 1990 farm bill will probably have on the price of honey during the next five years (*Bee Culture*, Dec 1989).

This year we've added data obtained from the USDA Economic Research Service, The National Honey Market News, the ASCS, the National Honey Board and the Nielsen Marketing Research Service. Of course we've added these to the already existing data supplied by our field reporters, who relate prices in their respective regions each month, which gives us our monthly Honey Report.

The Regional Report Chart, compiled from the data supplied by our field reporters, shows the average annual price for each commodity in each region. On the right side of the chart is the '87-'88 average, the '88-'89 average along with this year's overall average. Having three years data begins to tell the story of honey prices. Overall, prices rose between '87-'88 and '88-'89 about 1.5%, not significant, but certainly better than the 0.1% between the '88-'89 and '89-'90 seasons. But if you only looked this far you wouldn't see the whole story.

The past year, and especially the past winter, has been particularly trying for honey producers and sellers because of last season's drought. Production in the U.S. was down about 21% last season (see Production Chart) and the shortage has resulted in two things. First, packers, looking for honey wherever they can find it, have been paying higher than buy back prices (see Buy Back Report) certainly a noteworthy event. Second, there has generally been an increase in imports this past year, keeping supplies steady (over 77 million lbs. were imported into the U.S. in 1989, while just over 50 million lbs were imported in 1988, according to USDA ERS), increasing the price of imported honey. In fact, prices paid for imported honey in February were, according to the National Honey Market News, all above buy back prices in their respective color classes. Not surprisingly, they were generally similar to the prices on our report, which are usually

Regional Report

Average	1	2	3	4	5	6	7	8	A	88-89	87-88
60 lbs. (per can) White	42.43	39.76	34.04	35.13	36.37	38.75	39.66	39.38	38.19	37.78	36.06
60 lbs. (per can) Amber	41.37	34.32	32.45	30.63	33.49	36.16	36.68	36.42	35.19	34.68	33.39
55 gal. drum/lb. White	0.54	0.38	0.43	0.49	0.42	0.59	0.56	0.55	0.49	0.51	0.55
55 gal. drum/lb. Amber	0.52	0.35	0.38	0.44	0.39	0.53	0.52	0.49	0.45	0.46	0.54
1 lb. jar (case of 24)	28.58	28.00	26.48	24.59	23.95	24.03	26.73	29.67	26.50	26.19	25.75
2 lb. jar (case of 12)	27.27	26.20	24.84	22.95	23.08	24.14	28.24	28.10	25.60	25.40	25.08
5 lb. jar (case of 6)	30.09	27.58	23.86	25.98	26.47	25.66	26.46	26.07	26.25	25.99	25.53
1/2 lb.	0.92	0.99	0.91	1.08	0.88	0.91	0.97	0.94	0.95	0.94	0.87
12 oz. Squeeze Bottle	1.54	1.47	1.35	1.36	1.15	1.14	1.27	1.41	1.34	1.34	1.32
1 lb.	1.62	1.65	1.47	1.64	1.37	1.56	1.57	1.56	1.55	1.55	1.53
2 lb.	2.83	2.93	2.53	3.13	2.43	2.64	2.80	2.83	2.76	2.78	2.68
2-1/2 lb.	3.58	3.87	2.88	3.82	3.33	3.22	3.67	2.72	3.23	3.49	3.38
3 lb.	4.06	4.23	3.68	3.40	3.65	3.70	3.72	3.67	3.76	3.77	3.71
4 lb.	5.00	5.15	4.41	4.81	4.76	4.37	4.69	4.51	4.14	4.75	4.66
5 lb.	6.49	5.94	5.69	6.33	5.64	5.33	6.04	5.89	5.92	5.77	5.73
1 lb. Creamed	2.03	1.16	1.37	1.60	1.63	1.60	1.76	1.75	1.59	1.63	1.61
1 lb. Comb	2.41	1.89	2.24	2.68	2.67	1.96	2.72	3.16	2.44	2.32	2.16
Round Plastic Comb	1.98	2.32	1.90	2.00	1.79	1.81	1.87	1.95	1.93	1.88	1.91
Beeswax (Light)	1.15	1.08	1.01	1.09	1.09	0.90	0.97	1.28	1.07	1.03	1.00
Beeswax (Dark)	1.06	0.97	0.91	0.95	0.94	0.83	0.88	0.97	0.94	0.90	0.85
Pollination (Avg/Col)	30.50	18.77	20.57	26.67	19.33	20.12	27.59	26.35	19.97	23.16	21.55

Monthly Report

	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
60 lb White	38.34	35.76	34.12	37.37	36.21	40.78	40.25	38.34	36.19	38.68	42.09	40.17
60 lb Amber	36.16	33.59	31.59	33.59	32.90	37.82	37.52	35.28	33.59	35.57	37.91	36.76
55 lb White	0.52	0.47	0.43	0.47	0.52	0.48	0.46	0.48	0.50	0.50	0.52	0.56
55 lb Amber	0.47	0.42	0.43	0.42	0.47	0.43	0.42	0.44	0.48	0.45	0.49	0.50
1 lb. Case	25.86	26.24	26.17	26.59	26.58	26.46	26.52	26.44	26.23	26.34	27.67	26.96
2 lb. Case	25.23	25.64	25.64	25.77	25.96	25.12	25.13	25.41	25.55	24.74	26.46	26.60
5 lb. Case	25.54	26.12	23.41	26.53	26.62	27.18	27.54	26.77	26.72	25.93	26.19	26.39
1/2 lb.	0.98	0.90	0.91	0.90	0.92	0.95	0.95	0.92	0.92	0.99	1.01	1.04
12 oz. Bottle	1.32	1.33	1.29	1.28	1.34	1.37	1.39	1.38	1.30	1.31	1.39	1.34
1 lb.	1.62	1.56	1.50	1.52	1.56	1.53	1.56	1.56	1.52	1.56	1.59	1.59
2 lb.	2.95	2.69	2.69	2.61	2.81	2.73	2.80	2.72	2.67	2.85	2.88	2.79
2.5 lb.	3.89	3.00	3.38	2.75	3.17	3.55	3.60	2.56	3.23	3.08	3.35	3.24
3 lb.	3.78	3.72	3.70	3.68	3.77	3.79	3.83	3.76	3.73	3.79	3.86	3.78
4 lb.	4.53	4.63	3.52	3.47	3.42	4.15	4.26	4.17	4.29	4.31	4.45	4.47
5 lb.	5.89	5.98	5.94	5.77	5.73	6.02	6.05	6.03	5.80	5.92	5.86	6.02
Creamed	1.57	1.60	1.62	1.60	1.38	1.61	1.65	1.59	1.60	1.60	1.65	1.65
Comb	2.62	2.41	2.54	2.40	2.34	2.50	2.58	2.52	2.48	2.10	2.48	2.30
PL. Comb	2.00	1.97	1.87	1.89	1.66	2.00	2.07	1.97	1.90	1.99	1.96	1.90
Wax, Lt.	1.00	1.01	1.09	1.01	1.08	1.09	1.00	1.07	1.23	1.07	1.09	1.14
Wax, Dk	0.91	0.91	0.89	0.89	0.89	0.93	0.93	0.97	0.98	0.97	0.99	1.01
Pollin	19.24	20.66	13.16	21.25	21.04	24.09	24.00	21.25	19.13	11.09	20.60	24.13

higher than reported domestic prices.

To get a better idea of this, look at the Monthly Report Chart, which shows the average price for each commodity across all regions for each month. Prices for March and April during the 1988-89 season (last year) are more than 3.0% below the March and April prices for the 1989-90 season. (For the 1988-89 prices, see the May, 1989 issue of *Bee Culture*). Considering the overall increase this season over last was only 0.1%, this late rise in the 1989-90 season points definitely in the direction of reduced supply.

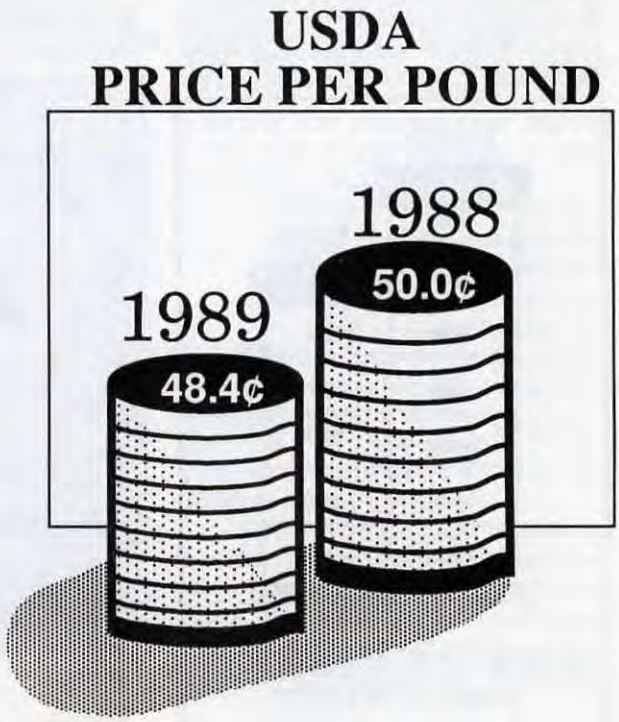
Specifically, three items show the trend of rising prices as the season progresses (see Ranking Report). The first is the price/lb of bulk white honey. While the buy back price was a steady 40.0¢/lb, the average price for the year, according to our report was 45¢/lb. — a 6% difference. However, during the last three months, the average price rose to 52.7¢, a whopping 17.1% increase! To a 100 lb-a-year producer this may not be significant, but if you produce 100,000 lbs/year this amounts to as much as $8,000. (see Monthly Report Chart).

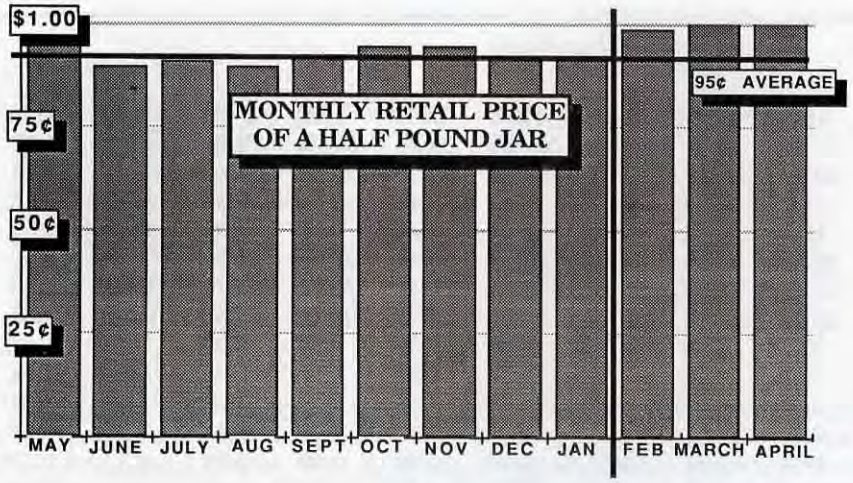
Another good indicator product is the one-half lb. queenline jar, sold retail. The season average was 95¢, but the average for the last three months was $1.10 — a full 6.25% increase. The one pound jar, which averaged $1.55 for the year, had a last three month average of $1.58, only a 1.9% difference, but still larger than the 0.1% overall increase.

That prices should continue to rise, however slowly, is well documented in a study conducted in 1988-89 by the A.C. Nielson Co. for the National Honey Board. They measured honey purchases in several areas for a six month period, using the ScanTract® system. That is, they counted all honey sales in stores with bar code reading check-out systems. Their data indicated that overall, honey purchases in the U.S. during the period studied increased 9.7% over the previous year during the same time. However, in certain areas, where promotions designed by the Honey Board were carried out, purchases increased by 14.1% (©*A.C. Neilson Co. Information provided to the National Honey Board. Such information is not to be reproduced or redisclosed*).

But honey, though cleverly marketed by advertising agencies, and promoted throughout the land by beekeepers everywhere, still remains, to some degree, in competition with sugar and other sweeteners.

Refined sugar is being slowly replaced in the market by HFCS (high fructose corn syrup) as any beekeeper who feeds lots of colonies can tell you. Between 1975 and 1988 per capita





Ranking Report

	M	J	J	A	S	O	N	D	J	F	M	A
87-88	3	6	8	4	7	2	5	3	1	5	6	-
88-89	7	9	11	10	4	8	1	6	2	5	3	3
89-90	5	9	11	8	11	3	2	6	8	7	1	4

Production Report

	# of Colonies	Yield/Colony	Price/lb.	Amt. Produced
1988	3,219,000	66.3 lbs.	50.0¢	214,135,000 lbs.
1989	3,311,000	51.1 lbs.	48.4¢	169,274,000 lbs.

consumption of refined sugar dropped 31% (89.2 lbs to 61.7 lbs), while consumption of HFCS increased by 90% (4.9 lbs to 48 lbs). During the same period honey consumption was stable at 1.0 lbs per person. Per capita sweetener consumption overall increased just under 11% during this same time. So, though honey use did not decline, its market share in the sweetener arena decreased. It will be interesting to see what the effect of increased honey promotion will have will promotions increase market share at the expense of another product, like refined sugar? Or, will the consumption of sweeteners continue to increase, with honey gaining a larger piece of a bigger pie?

As we do every year, we must qualify our report somewhat. Our numbers are gathered, for the most part, by sideline beekeepers who do not deal in 10,000 lb lots of product. Because of this the data in the two large charts will be most useful to beekeepers in a smaller production size range. But all sellers of honey will gain by studying the trends in sales by region (we are nearly identical to USDA ERS reports in trends by region in both price and seasonal sales — and far more detailed).

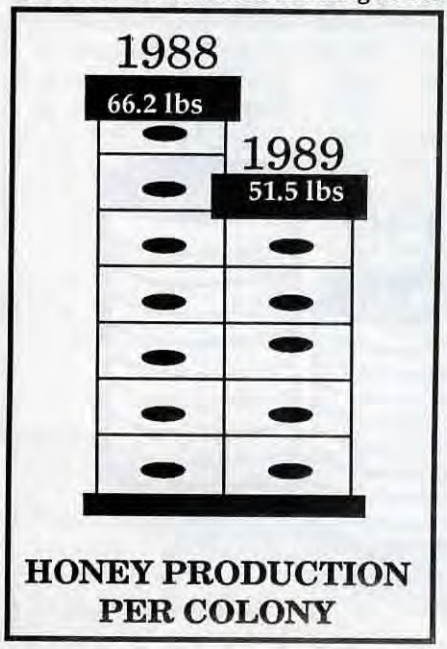
Further, the data reflect effects of the larger forces that all beekeepers must contend with. When the government drops its price, ours goes down too, and when mother nature plays her games our reports indicate her blessings, or her nasty sence of humor.

Finally, remember that these prices reflect, for the most part, the prices received by producers — whether hobbyist/retail, sideline/wholesale or Commercial/bulk. Because of this the prices do not reflect the increases reported by the Honey Board, the USDA and others.

The increases seen at the retail level are the result of forces affecting grocery store management, slotting allowances (a whole other story) promotion and competition. □

Buy-Back Report

	1988 Crop	1989 Crop
White	40.0	40.0
Ex.Lt. Amber	37.0	37.0
Lt. Amber	36.0	36.0
Amber	34.0	35.0
Non Table	33.0	33.0



HONEY PRODUCTION PER COLONY

POLLINATION H•E•L•P•E•R

KIM FLOTTUM

You can't harvest fruit that doesn't grow, and the best management program in the world can't grow fruit that isn't there in the first place. This fundamental fact is repeated in fields and harvest sheds, canneries and factories, and even the boardrooms of every food production enterprise every year at harvest.

The string of events that leads to a profitable harvest is much like a chain, and, like every chain, it is only as strong as its weakest link. For many crops that weak link is the tiny amount of time available for pollination. The significance of this event has been known for centuries, to the point that honey bees, and the plants they pollinate have explored the world together. The plants alone have never flourished.

Once growers discovered that when they mixed pesticides and honey bees at blossom time it only added up to dead bees and reduced crops — the business of commercial pollination really began. However, the tiny bit of time a plant's flowers were receptive to the fertilizing effect of pollen continued to have a choke-hold on production. Not only is that window of time short inclement weather could shorten it even further.

It is no wonder that growers have searched for ways to enhance pollination during the flowering period. Plants have been selected for longer bloom periods, that would bloom earlier, or later, or in cooler, or warmer climates. They've tried more bees per unit area of crop, hand pollination and pollen inserts in beehives. Nearly every avenue of pollination enhancement has been explored, researched and reviewed.

One method growers and beekeepers have explored has been to treat the target crop with a chemical that would attract bees to, and keep bees in a particular area. This has been especially true for crops not overly attractive to honey bees, or those that were in competition with another, simultaneously blooming crop.

"You can't grow what isn't there — and it won't get there without honey bees."

Many chemicals have been tried, but they essentially fall into two categories the 'food' attractants and the 'pheromone' attractants.

Apples are one of the crops that use pollination helpers.

Food, in the form of sugar syrup, and sugar syrups with odor, flavor and color additives have been tried most often, but with generally less than anticipated results. When the sugar concentration was high enough to attract bees to an area, they spent more time gathering syrup from crop leaves, and even the ground, than visiting flowers. When the concentration was reduced the area became less attractive. Sugar syrup attractants appear not to be the answer.

However, Custom Chemicides, a CA Company, has had success with a 'food' attractant. Their product is more than sugar syrup, or syrup with enhancers though. The label states that the product, known as BEE LINE, is a wettable powder food supplement containing essential food elements, lactose, fats, minerals, protein, sucrose and vitamins. Specifically, the ingredients list the components as sucrose, alkyl, aryl sulphonate, sodium ligno sulphonate. It goes on

Calcium not more than 10%
Total sugar — not less than 52%
Protein — not less than 10%
Fats — not less than 0.4%
Ash — not more than 14%

BEE LINE comes in five gallon plastic pails, that hold 35 pounds of the powder. Depending on where it's sold, a pail will cost between $105.00 and $120.00, which breaks down to between $3.00 and $3.35 per pound.

A wide variety of crops are listed as benefiting from BEE LINE applications almonds, apples, avocadoes, pears, plums, blueberries, cranberries, cherries, cukes, alfalfa and clover seed, melons, safflower, canola, sunflowers

Peaches, because they bloom so early, often need pollination helpers to entice bees to visit blossoms.

and vegetable and flower seed crops.

To apply, BEE LINE is mixed with water and sprayed on the crop at a rate of about five pounds per acre. Some crops require as much as eight pounds. Sprays are applied at the onset of bloom, and every four or five days afterward. They recommend using a sticker to enhance longevity.

By following these recommendations, and by adding BEE LINE, mixed with Drivert sugar directly to colonies moved into the crop area, visitation will be ehnanced even more, says the manufacturer. Adding the product to the colony directs bees to a source of food, with similar odor and taste, states the label.

Custom Chemicides supplies a wealth of information on crop yields with and without the application of BEE LINE. However, as with all products, there are some reports of less that outstanding performance. The majority of the reports seem to indicate that, on average, a 10-30% yield increase can be expected, primarily due to increased honey bee visitation.

At a chemical cost of only $16-18 per acre, plus application costs, huge increases in yield aren't required, but even this much gain can mean the difference between a good year and a bad year for a grower.

Another technique used by those who want to give Mother Nature a boost is to treat a target crop with a pheromone-based chemical. Basically, these trigger a response in honey bees that initially gets them to the field and then rewards them with available nectar and pollen.

The newest, and to date most effective of these is called BEE-SCENT, manufactured by Sentry Inc., of MT. The label for this product is deceptively simple

Pheromones — 9.5%
Other attractants — 42.5%
Inert ingredients — 48%

According to a company spokesman, the pheromones are a mixture of the Nassonov pheromone and the 'foot print' pheromone, plus others. They were reluctant to spell out the exact formulation. That Sentry chose this direction is not surprising, since they also produce a commercially available swarm trap, complete with a slow release pheromone lure.

BEE-SCENT comes in 2.5 gal jugs, at about $45.00 each. This breaks down to about $4.50 per quart and application rates call for a two quart per acre treatment, or about $9.00 per treated acre. Like BEE LINE, BEE-SCENT can be applied to a wide variety of crops — almonds, apples, pears, melons of all types, cranberries, cane fruit, strawberries, cherries, plums, kiwi, avocadoes, nectarines, mangoes, peaches, and a wide variety of vegetable and flower seed crops. The on-average yield increase ranges from 10-30%, similar to the other product.

Application is by ground or air, at the onset of bloom and every 6-10 days after, depending on weather. The label doesn't mention whether a sticker should be used, though one would probably help. Also, the label does carry a CAUTION: KEEP OUT OF REACH OF CHILDREN statement. Though the mildest of all pesticide warnings labels, it must be mentioned, and adhered too.

The company also supplies a wealth of data on increased yields when using the product. Like BEE LINE, the increase is due primarily to the fact that more bees are attracted to the flowers, thus more flowers are pollinated and more seeds per fruit develop so there are more fruit, and they are larger than non-treated crops.

From a grower's point of view what could be better? And, from a beekeepers perspective, what ever growers do to help themselves only makes their job easier.

But chemicals aside, it still comes down to honey bees, and the beekeepers who manage them, that make the difference between boom or bust in the food business.

You can't grow what isn't there, and it won't be there without honey bees — no matter how much sugar, pheromones or whatever pollination helpers you add. □

For more information, contact:
SCENTRY,Inc.,
610 Central Ave.,
Billings, MT 59102

For BEE-SCENT:
Custom Chemicides
P.O. Box 11216
Fresno, CA 93772

News Release

It's swarm season again, and the _____ Beekeeper's Ass'n. wants to remind you of some of the Do's and Don'ts of dealing with swarms.

A honey bee swarm is a natural biological function of a colony of honey bees. Although occurring most frequently in the spring, they may be seen at any time during the summer.

Following are some common sense rules that_____, of the _____ suggests you follow if you find a swarm in your yard...

1. Remember, honey bee swarms are, as a rule, gentle and non-aggressive. However this depends on how long they have been there, so caution is always suggested.
2. Contact _____ at_____ or _____ at _____ for the names and phone numbers of beekeepers who will remove the swarm for you.
3. Swarms are simply clusters of living, moving honey bees enroute from an old home to a new one. Occasionally they will build an exposed honey comb nest in a tree or bush. They NEVER build nests of paper or mud.
4. Honey bees are brown or yellow with black markings. They are also fuzzy, NEVER shiny.
5. Don't spray the swarm with insecticides to remove it. This is a violation of ANY pesticide label.
6. Don't spray the swarm with a hose to remove it. This technique rarely works, and will only make removal more difficult for the beekeeper.
7. Don't panic, or be afraid of the swarm. An undisturbed swarm rarely causes problems.
8. Some swarms come from colonies of bees managed by beekeepers, but many also come from wild colonies in hollow trees or other places. Do not assume a local beekeeper is responsible for the swarm in your yard.

Remember, swarming is the natural means of colony reproduction. It is no more unusual than cats having kittens or dandelions producing seeds. It can also be a unique learning experience for you and your children. Watching a trained beekeeper "hive" a swarm is fascinating, educational and even entertaining.

There is seldom a "charge" for removing a swarm, as most beekeepers are happy to do so.

We suggest you remove this announcement and keep it close to your telephone.

A public service announcement of the _____ Beekeepers Association.

GOOD NEIGHBOR BEEKEEPING

J. W. FREDERICK

Beekeeping has been my hobby for many years. When we moved, the bees naturally went along. The new back yard was graded and only the native Jack Oak trees were left standing. I was warned that the neighborhood children would probably throw rocks at the hives or try to overturn them. Therefore, the first thing I did was to show the hives to the children and tell them about the bees. They've never bothered the bees.

I needed to screen the bee yard so that bees could come and go without bothering anyone in the neighborhood. Along the west side of the lot I planted a row of native cedar trees and along the north side of the bee yard I planted a row of bush honeysuckle. Between the hives and our house is a row of Vitex bushes. In front of the hives is a small garden and a row of grape vines. A pecan and a cedar tree are on the south side of the lot.

James Finegan, my neighbor on the south, took the photo that shows my now mature plantings surrounding the hives. These prevent bees from flying low, and direct bee traffic up and away from neighbors and visitors.

Water is provided in five gallon buckets with burlap bags inside. The edges of the bags are tied down around the outside of the buckets. Floaters are placed in the water after the buckets are filled. The bees get water from the wet burlap. In the front yard is a fish pool with floaters in it.

While the yard was being prepared for good neighbor beekeeping, I took every opportunity to teach my neighbors about bees. When I had a frame out of the hive with the queen bee on it, I showed it to interested neighbors and their children. The sweetest part of my good neighbor campaign was giving of a little jar of honey to each neighbor, the mailman, the policeman, and the minister. A little jar of honey goes a long way in sealing a good relationship between bees and their neighbors.

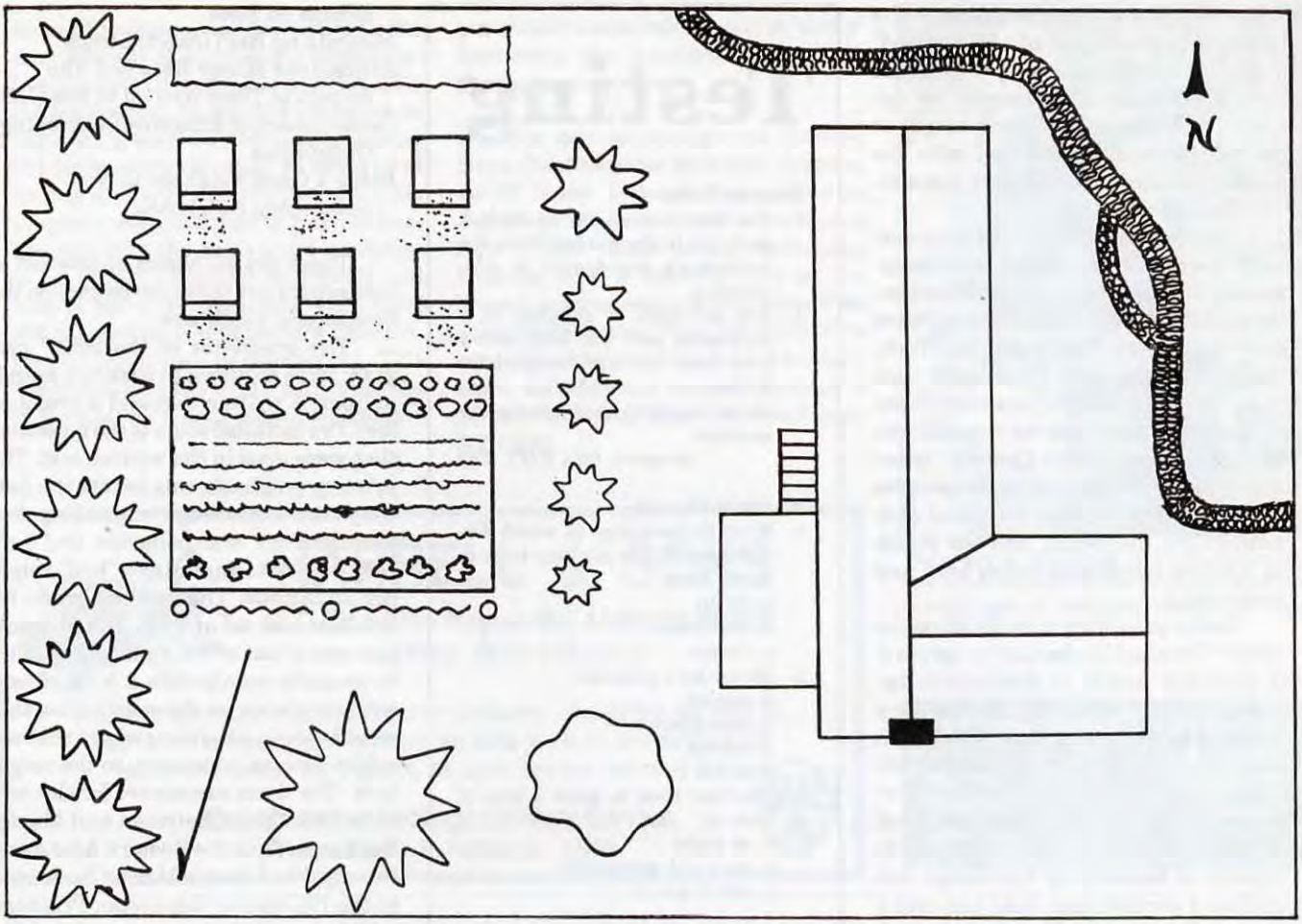
I feel that every beekeeper should take responsibility for contributing to public information about bees and beekeeping. My observation hive with a frame of bees in it makes quite a hit when I present programs at Vacation Bible Schools, Young at Heart Retreats, public schools and Kiwanis meetings.

At Kiwanis lunch meetings, I put a jar of honey on each table. In my presentation I include the history of beekeeping in America and early beekeeping practices in comparison with modern practices and equipment which I demonstrate. The role of bees in pollinating fruits and vegetables for human consumption as well as in pollinating wild flowers, trees and shrubs for wildlife is often surprising to listeners.

I really like bees and enjoy watching them work, observing their flight patterns and noting their work habits in various types of weather and during different hours of the day. It's also fun to go hiking to see where the bees are working.

Since many know I'm a beekeeper, I'm called to assist with swarms or even wild bees. People are often surprised to see how simple the solution to their problems with bees actually are. I am fortunate to have great neighbors. In fact they are so interested in and knowledgeable about our bees that they feel like members of a beekeeping co-op. □

Cedar trees along back of lot and side of bee yard.



ANOTHER GOOD NEIGHBOR PROGRAM

JOHN T. AMBROSE

Fourteen beekeepers were designated as "Certified Beekeepers" by the Southern States Beekeepers Federation (SSBF) at its October 1989 Convention in Baton Rouge. These beekeepers passed both a written and practical (field) test to earn this distinction. The SSBF Certified Beekeeper Program, subtitled, "Good Neighbor Program" is designed to help beekeepers avoid or deal with beekeeping problems that arise in an urban or suburban environment.

Good beekeeping practices are important wherever honey bees are kept, but are especially important when there are neighbors which may be inconvenienced by the bees. Honey bees collecting water from a neighbor's birdbath or swimming pool, bee flight patterns that cross a public sidewalk at the level of a person's face, confused bees from a hive that was manipulated in bad weather, and random bee stings are just a few of the situations that may make a beekeeper an unpopular neighbor. Add the increasing public awareness of the threat of "Africanized" honey bees and there is an obvious need for a program which provides beekeepers with the knowledge and skills to be a good neighbor. So, the SSBF created the Certified Beekeeper Program.

This program was introduced at the SSBF convention in Baton Rouge, an area of urban and suburban bee-

keepers and also a location close to the predicted arrival area of "Africanized" bees. The Certified Beekeeper Program has three main components: an optional short course which was taught at Baton Rouge, a written test with the passing grade set at 75%, and a practical (field) test.

Fourteen of the participants met all of the requirements and were designated Certified Beekeepers. The majority of the successful participants were from Louisiana (10) but New York, Texas, Georgia and Mississippi now have Certified Beekeepers too. These individuals have received a certificate and a "To Whom It May Concern" letter which identifies them as spokepersons for the SSBF in dealing with local civic authorities, the media, and the public in matters relating to honey bees and beekeeping.

Before providing more detail on the SSBF "Certified Beekeeper" program it is probably useful to distinguish between it and some of the existing beekeeping programs. One of the most widely known programs is the Eastern Apiculture Society's "Master Beekeeper Program" This is a one level program which requires a considerable amount of beekeeping knowledge and utilizes a written test, field test and a lab test. Some people have said that the EAS Master Program is equivalent to an advanced degree from a university. In addition, several states have Master Beekeeper Programs such as Maryland, Washington and North Carolina, but they differ from the EAS program in that they have multiple levels or stages so that the beekeeper may advance to the level of his/her own choice. The North Carolina program is probably the oldest of these, and it is a four-level program with over 2,000 beekeepers currently enrolled. I do not believe that any of these or other operational programs are structured for specifically addressing the needs of the urban/suburban beekeeper in developing or maintaining a "good neighbor" image.

The best way to summarize the SSBF "Certified Beekeeper Program" is to list the subjects covered:

Basic Beekeeping Management
Maintaining Honey Bees in an Urban or Suburban Environment
Control of Swarming in Honey Bees
Dealing with Feral (Wild) Colonies of Honey Bees
Maintaining Disease-free Bees
Pesticides and Minimizing Their Effects on Bees
Minimizing Bee (Insect) Stings
Africanized Honey Bees and The Impact of Their Arrival in the U. S.
Development of Effective Beekeeping Ordinances
Being a Good Neighbor to Non-beekeeping Neighbors

These are all topics of interest to beekeepers but they also impact on the beekeepers' neighbors.

The graduates of the SSBF program were required to pass two examinations, a written test and a practical test. I've included some of the questions that were used in the written test. The primary emphasis was to test the participants knowledge regarding bee management and behavior and how they related to minimizing "bad" neighbor situations. The passing grade for this test was set at 75%. The practical test was a test of the applicants ability to properly manipulate a hive of bees with emphasis on those activities that would reduce situations where the bees might become a nuisance to the neighbors. The three examiners for this test were Bob Cole, Chairman and Master Beekeeper from the Eastern Apiculture Society; Fred Deer, a Master Beekeeper in the NC Master Beekeeper Program; and James Dunkley, the state apiarist from Louisiana.

Graduates of the program received a letter designating them as spokespersons for the SSBF in dealing with public officials, the media and the public in matters relating to honey bees. One of the most obvious roles of such spokespersons would be in dealing with municipalities that are considering ordinances restricting or prohibiting beekeeping. Beekeeping ordinances are not necessarily bad for beekeepers; it depends on the ordinance and the knowledge of those persons who draft the ordinance. The Model Beekeeping Ordinance developed by Carole Booth and Texas Beekeepers is one example of an ordinance that is fair to both beekeepers and their non-beekeeping neighbors. No one ordinance is perfect for all localities but the Texas model is a good starting point. In addition, the EAS publication "Beekeepers and Their Neighbors" by Dewey Caron has a wealth of information on what various municipalities in the EAS geographic area have done regarding beekeeping ordinances.

The SSBF Certified Beekeeper Short Course emphasized the impor-

Testing

True or False

1. The best time of day to apply a pesticide in the garden (from the beekeeper's standpoint) is mid-morning.
2. The presence of chlorine in a swimming pool will keep honey bees from visiting the pool for water.
3. Honey bees only need water in the summer.

Answers: 1(F), 2 (F), 3(F)

Multiple Choice

1. Most formulations of which following pesticide are very toxic to honey bees.
   a. Sevin
   b. Malathion
   c. Certan
2. Honey bees pollinate:
   a. apples
   b. cucumbers
   c. squash
   d. a, b & c
3. The best time to move a hive of bees is:
   a. at night
   b. on a cold winter day
   c. either a or b

Answers: 1) a; 2) d; 3) c

Short Answer and Essay Questions

1. Your neighbor complains that your bees are visiting his/her birdbath and scaring the birds. What would you suggest and do to correct the situation?

Answer: Temporarily empty the birdbath and establish a water source closer to the beehive on your property.

2. What steps/precautions can you take when working your bees to reduce the chance that you or your neighbors will be stung?

Answer: Work on days when the temperature is above 70° and good bee flight is possible, use smoke when working the bees, dress properly, insure that you have enough time to work the bees without rushing through the operation and accidentally disturbing the bees, attempt to work the bees when your neighbors are not outdoors, keep hive manipulation to a minimum, maintain a gentle stock of bees.

3. Why could a lawn mower cause a problem for the beekeeper?

Answer: The vibrations from the mower may upset the bees.

tance of beekeepers participating in the development of beekeeping ordinance. In some cases it is actually beneficial for the beekeepers to take the initiative in requesting such an ordinance because the beekeepers can then be assured of having an input into the process. This program is an attempt to provide beekeepers with the skills and knowledge to be good beekeeping neighbors and also to serve as resources when civic officials or the media require information on honey bees or beekeeping. This designation by the SSBF certifying the individual as a beekeeping spokesperson should assist individuals in "fairly" furthering the interests of the area beekeepers. □

Dr. John Ambrose manages the Southern States Good Neighbor Beekeeper program, the NC Master Beekeeper Program and the EAS Master Beekeeper program. To receive a copy of The Texas Model Beekeeping Program, send a business sized self-addressed, stamped envelope to Marilyn Wilkerson, 3800 Hatcher, Waco, TX 76705. For a copy of the EAS Program, send a business-sized, self-addressed stamped envelope to Loretta Suprenaut, Miner Institute, Chazy, NY 12921.

There are a multitude of tricks beekeepers can use to keep honey bee activity friendly. A Good Neighbor Beekeeper should know them all.

POISON IN PARADISE

PAMELA MOORE

"Your front yard is your living room to the world," goes the old saying. and what we do to keep the carpet and its plant accessories in good shape has caused concern over the health and well being of many home-owners. Keeping a yard in good shape gives a psychological boost for many homeowners, and also for their neighbors. But the cost of creating a showpiece has taken its toll—in time, money, and even the health of the owners.

Pests and weeds are the culprits who drive us to despair when trying to get yards as close to perfection as possible. And though grubs in your lawn won't make you decide to cement the entire area and paint it green, they may encourage you to take action. Even more so if moles have moved in too, and turned your yard into a cafeteria with mounds of dirt for walls.

A popular gardening book, *10,000 Garden Questions* edited by F. F. Rockwell, suggests four steps in controlling plant problems. The first is immunization, using plants selected to resist certain diseases or pests. Exclusion is second, which means not using plants already diseased.

Eradication is next, and means destroying a pest once it is established. For the protection phase, dusting (applying chemicals in a dry state) and spraying (applying chemicals in a wet state) were recommended to stop problems before they began.

Although the above recommendations were made in 1944, we suspect that's how the average homeowner still looks at his yard and garden. The "quick fix" generation has demanded an immediate answer to every problem, and chemicals are an easy answer to lawncare and landscape dilemmas.

The business that grew most in response to this need for a quick fix and a beautiful environment is the lawn care industry. When chemical treatments were needed, they produced chemical treatments. Then, when things started to go wrong they responded to increased government regulations by decreasing the amount or numbers of chemicals used, or by using less toxic chemicals.

Part of what brought about these changes were reported back in 1987 in *Organic Gardening*. That magazine, in its continual campaign to naturalize the world reported an instance where valuable pets were poisoned by a neighbor's lawn care service when the pesticide application drifted onto the owner's property.

In Buffalo, New York, the group Help Eliminate Lawn Pesticides was formed in response to individuals experiencing severe allergic reactions to chemical lawn sprays. This group may

have been the first to pressure state and local officials to require lawn care companies to give prior warning and post signs when treating a lawn. After that, lawn care companies voluntarily began to alert neighbors of spraying. Some even decreased the amounts of chemicals used. Public sentiment was beginning to change the industry.

Dr. Roger Funk, Vice President of Human and Technological Resources for Davey Tree Company of Kent, Ohio (one of the nation's largest lawn and landscape care companies) reports that his company has developed a philosophical change that goes beyond even integrated pest management (IPM).

"With IPM, the emphasis is on the pest. We have developed a system called Plant Health Care, which stresses proper selection of a plant, proper planting techniques, and continued care of the plant afterwards," he said. He indicated that healthy plants repel diseases and pests better, while a less healthy plant may become a feast for pests. When a plant is in a place that resembles its natural environment it will do well. Funk referred to the common white birch clump so desirable in yards, but *native* to Canada and the far U. S. North. "It can't withstand heat and drought, and this stress makes it susceptible to the bronze birch borer." He suggests consulting with the USDA plant hardiness map to select those plants that will do well in specific climates. "We have reduced chemical use by 75%," said Funk, "in response to public pressure."

In a recent survey The Davey Tree Company asked 10,000 customers if they were concerned about pesticides, and then asked if they would accept the resulting pest problem if pesticides weren't used? The answer was no. Would they pay more for fewer pesticides? An overwhelming yes.

"We handle more and more requests for organic methods to control garden and home pests," said Julie Steele, who works at the Ohio State University Plant and Pest Diagnostic Clinic, identifying insect pests and recommending pest management and control methods.

"Some callers think pesticides hurt their kids, themselves, or the environment. Others express concern that insects become immune to pesticides," she added, indicating the public is expressing an increasing concern about pesticides.

However, in a casual survey of lawn care companies found listed in any phone book, it was discovered that few were accustomed to explaining the kinds of chemicals used in lawn treatment to homeowners. However, the smaller and more local the company, the more easily chemicals were discussed.

One of the chemicals often mentioned was Dursban, commonly used to control turf and ornamental plant insects, mosquitoes and cockroaches, to name a few. In *Farm Chemicals Handbook* it is suggested that applicators wear a pesticide respirator when applying this pesticide, but no indications are given as to what the homeowners or their children should wear when standing in the driveway. One lawn service reported that they request no activity on the lawn for 24 hours after applying Dursban.

When considering a commercial lawn care company, there are two questions to ask an applicator. First, is he licensed (ask to see it), and second, what kind of training has he had. Of course, professional applicators read directions on chemical labels, and are trained to use them properly. They must be licensed by the state too, and are usually given training through professional associations before taking the test for license.

Next, check with your local municipality to see if warning flags or neighbor notification is required. If no requirement is made, it makes good sense to do it yourself. However, if warnings are required find out what chemicals will be used. (Write them down, ask about the spelling or sound them out.) Then do a little research. Use the local library, or better yet, visit an extension office and speak with the agent, or ask to use his reference books on herbicides and insecticides. Find out what has been written about the chemical. If problems with rabbits, or rats or any animal have been found — question the relationship that has to humans. Rabbits are a lot more sensitive than people, and they never wear rubber gloves — so this may not scare you. But if you enjoy wild bunnies, or any wildlife in your yard — you won't want the company using something that may injure them.

Dandelions are a perennial lawn care problem, but they are also a beekeeper's best friend.

"As a group they (lawn care professionals) are concerned about the environment. They want to make it a more beautiful country," said Jerry Roache, editor of *Landscape Management*, an Edgell publication. He said he sees the industry using more non-chemical based pesticides, as long as the homeowner is willing to pay more for the service. In a recent article in Roache's magazine entitled *When Chemophobia Strikes*, R. L. Brandenbur, NC State, encourages landscapers to educate the public about chemicals to dispel any

The larva of this sod webworm can cause all sorts of lawn problems and, coupled with grubs, the primary reason insecticides are used on home lawns.

pesticide phobia problems. He advises both sides of this potentially controversial issue to use a factual approach and not an emotional one. With all the self policing, regulations, and responses to consumer demand for lower chemical use, the lawn care industry seems to be doing a responsible job. But they will only be responsible as long as the public demands it. Using a lawncare service may not necessary be a death notice to the neighborhood. But the jury is still out on long term effects.

But maybe you're one of those low-tech types that likes doing things for yourself. You know enough to read the labels and follow application directions, but is your neighbor a low-tech type too? Does he even know how to read? This is where being a good neighbor borders on being a busy-body. He may think that "if a little bit is good, a lot has to be better", so for your own protection you should know the kinds of chemicals he is going to apply to his lawn or garden.

You probably won't know or recognize every chemical mentioned or seen, but some may be familiar because of recent bad publicity. Every year the EPA takes more and more chemicals off the market, and every year chemical companies are coming up with almost as many to test. A former employee of Diamond Shamrock reports that when he was working as a chemist for the company, a compound was being developed that was so toxic to humans simply touching it was fatal. The company did not proceed with development.

Though most of us aren't privy to chemical company testing results, the more personal tragedies are often heard. A greenhouse grower relates a story about her use of Captan, a commonly used garden fungicide.

"I didn't know I was pregnant at the time I working with Captan," she said, "it was a regular chemical used in my greenhouse. While working with it, I was in my "Darth Vadar" suit (chemical application protective suit and mask), and when I was finished in the greenhouse, I triple washed all clothing I had on.

"Shortly after that experience I had a miscarriage, but at the time the doctor said it was not related to Captan. But after a while, after doing some research on it, he said it could have contributed to the miscarriage.

"Needless to say, I do not use Captan any longer, and live with flowers that aren't quite as perfect as before. There is a strong movement to limit Captan to non-food plants, or to ban it completely, but right now, it's still out there," she said.

This grower has investigated many other chemicals, even to the point of taking an exterminators course, and feels that everyone should know about the organophosphate class of chemicals " ... because they build up in the body and cause nerve damage," she said. Organophosphates have also been linked to reproductive disorders according to the Oct., 1989 issue of *Environmental Science and Technology*, where developmental malformations in lab animals and organophosphate exposure were discussed.

"As a group, lawn care professionals are concerned about the environment", Jerry Roache, Editor Landscape Management.

She also talked about Glyphosphate, sold under the names Roundup®, Rodeo®, and Rondo®. It is a non-discriminate systemic weed killer. "I have read that it stays in the soil from one to six months, and the same period in water. When I called the manufacturer to find out what it turned into when it entered soil or water, they hung up on me. That's scary," she said. "People too often think that just because something is on the market — it is safe. I know better," she added.

A good indicator of how many people use chemicals on their own lawn or garden was gleaned from the results of the 1989 Harris Poll commissioned by *Organic Gardening*, a Rodale publication. Forty-five percent of those who said they grow fruits, vegetables or herbs, said that they used pesticides, herbicides or chemical fertilizers. Steele, of OSU also reports, "We worry that too few gardeners read pesticide labels, and that gardener carelessness and ignorance may be doing significant environmental harm."

One question unanswered is who is going to catch a homeowner in the act of improperly using a chemical? And just as important, how does a homeowner know what is illegal? The fine print found on a spray can reads, "It is a violation of Federal Law to use this product in a manner inconsistent with its labeling" Therein lies the key — READ THE LABEL! This, of course, calls for a fair amount of trust.

If you decide to lawn-care-yourself, you can get a wealth of information at a nursery or home-and-garden shop. For that 'perfect' lawn, one major speciality supplier suggests an application of a fertilizer and pre-emergence crab grass control should be used in the spring.

Then, a weed and feed application is suggested for the middle of June, and in August an application of fertilizer with an insecticide would be beneficial to get rid of surface pests. Finally, at the end of September of first of October, a fall and winter fertilizer prepares the lawn for winter by establishing a good root system. Though this same company recommends that homeowners carefully watch for over- or underwatering, and mowing to short, they seldom mention the basics of soil tests, checking for pest populations and the other techniques available that would reduce both fertilizer and pesticide applications. By the way, excess fertilizer in water systems is beginning to cause serious problems. Nitrates are not just a farming problem, but on an ever increasing level an urban one solely because of lawn fertilizers.

Generally speaking though, when used properly, most home chemical applications aren't going to harm people or plants, or the rest of the environment. But the catch is — who's applying the chemical, how aware are they of the potential dangers of over or incorrect application, or of applying the wrong chemical.

There are many ways to reduce, or eliminate chemical problems in the home landscape, but just like recycling, they require a bit of forethought.

First, when applying chemicals, make sure the equipment used is in good working order, and is properly calibrated. Second, make sure the chemical to be applied goes where it is supposed to, and that it stays there. Runoff and overspraying are the most common mistakes applicators make.

If you MUST use chemicals on your lawn, in your garden or anywhere, learn to do so correctly — then do so correctly.

Use natural controls whenever possible. **Gardens Alive,** a gardening research center and supply company, offers a turf seed that carries with it a naturally ocurring fungus that destroys several common lawn insects. And there are varieties of grass that are slower growing than regular types, which reduces fertilizer applications, and mowing.

In 1919, Bacillus thuringiensis, or Bt, was discovered and it may prove to be one of the most successful biological pesticides in history. Proven non-harmful to humans, it is a stomach poison for nearly every Lepidoptera (butterflies and moths) larva, and some mosquitoes and beetles. Discovered as a naturally ocurring disease of the silkworm, and genetically managed to be used as a non-toxic, biodegradable pesticide, it does not harm honey bees, lace wings lady bugs and most other natural predators.

The EPA however, in its reregistration process, will soon require a mountain of data from the companies that produce strains of Bt. Because this substance is not a huge, money making agricultural product, many companies are seriously considering not reregistering the product because of the high cost.

Certan®, a Bt product used by beekeepers to control wax moth larva on stored combs is one such product. "The limited market combined with the high cost of developing the toxicological data begs the question of why should we?", said a Zoécon Chemical Co. spokesman. "There must be an adequate return on investment," he said, "and this product is really questionable when viewed from the bottom line."

Beneficial insects are very often overlooked as a means to control problems. One technique to remember when thinking about beneficials is that if all weed plants in an area are removed, most of the food reserves for those good bugs are gone too. There must be a supply of food for beneficial insects to eat, or they leave for greener, and weedier pastures.

There are, actually, hundreds of ways that gardeners can reduce chemical use on their lawns and in their gardens. A little study and a backward step from the 'quick fix' mentality will go a long way in the right direction. So, rather than living in fear of chemicals, or constantly being angry at others who do so, take these few steps to reduce the problems in your immediate environment —

Find out about the professional lawn care people in your area;

If you must use chemicals, learn how to do so correctly, and then do so correctly;

Learn how nature intended pests to operate in the scheme of things, there is a reason they are there;

Last, take these positive steps and reduce the poison in *your* paradise. □

Long Live the Queen

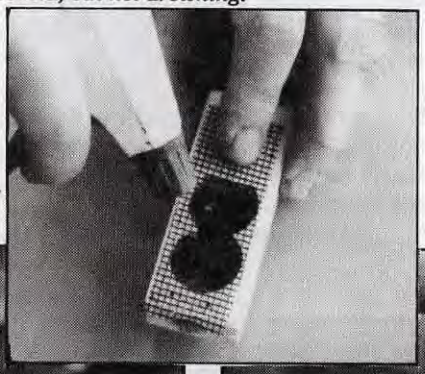
A careful and well-planned introduction is the first step, and the best insurance, for a long and prosperous reign.

KIM FLOTTUM and DIANA SAMMATARO

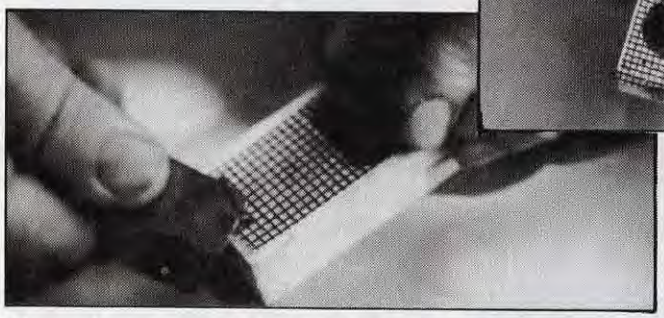
There are many reasons to requeen a colony. And there are usually many colonies that need new queens. Failing production probably leads the pack, but a queen that is producing defensive workers, or has a mild disease problem and even old age follow close behind.

Some beekeepers routinely replace queens entering their third season because they are more inclined to swarm than younger models, and even if they don't their productivity begins to be questionable.

What ever reason you have to overthrow the throne, there are several techniques you can use, and principles you must consider. We've listed a few of each, that, if followed, will insure a successful introduction, and a continued long and productive life.

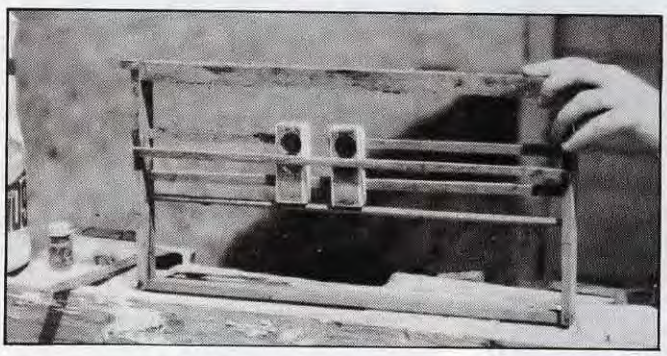


With the staple removed, gently mist the bees in the cage with a warm 1:1 sugar syrup solution. Make sure all the bees are well coated, but not drowning.

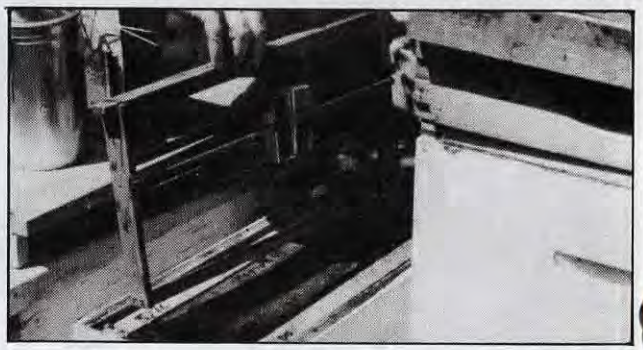


To remove attendants, first loosen the staple that holds the screen on the cage. Only loosen one end.

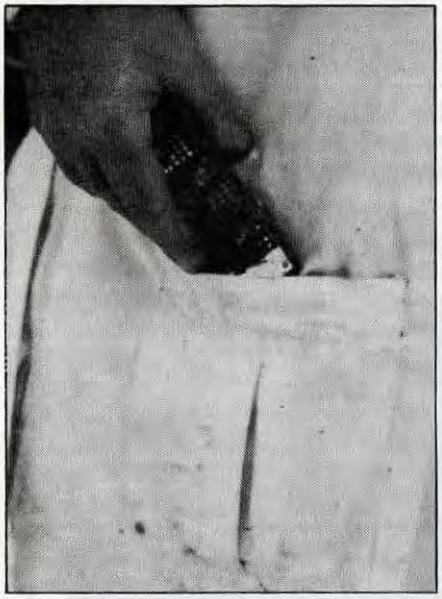
Then lift up the screen just enough to allow a worker to move out. You can release these workers or kill them. A homeless worker stands little chance of surviving. When all the workers are out, reseal the screen.



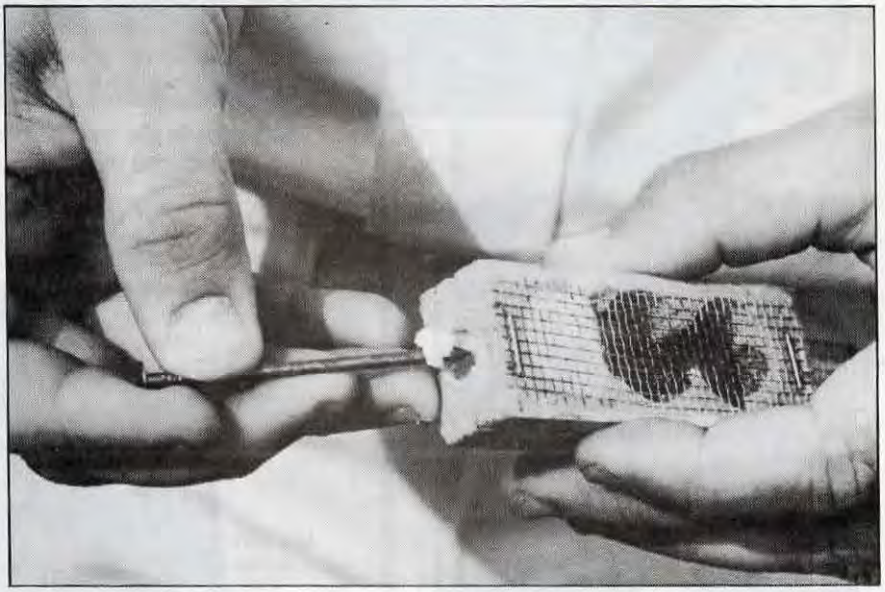
A queen-cage-holding frame is easy to assemble. Note that the bottom is supported so the cage doesn't accidentally slip out and drop.



When placing one of these frames in a colony or nuc, be sure it is near brood and that it has a high population of young workers to care for the queen.



No matter where you carry your queen, remember to keep her warm.



After removing the tab on the candy end, poke a hole through the candy. This makes release easier and faster, especially if the candy has dried out.

When your new queens arrive in the mail (if you have purchased them from a distant breeder), there are a variety of ways to store, handle and introduce them. We have tried all of these and they have all worked for us.

The first thing to do is make sure your queen has some water. She's thirsty after the journey. Water her at least twice a day until she's placed in a colony. Keep her out of drafts, out of the sun and in a warm, but not hot place. Kitchen counter tops are usually ideal.

If you feel it is necessary, and many do, you can remove the attendants before installing the queen. This practice is not absolutely required for successful introduction. However, if you choose to, here's an easy and safe way to proceed.

Prepare a weak warm sugar syrup (1:1, water:sugar) and gently mist all the bees in the cage. Remove one of the staples that hold the screen and slowly slide it back. The workers will investigate and walk out, one by one. They can't fly because they're wet, and won't sting because they're usually confused. When the last one's out, replace the screen and the staple, leaving the queen alone in her cage.

At this point some replace the screen with a wider mesh hardware cloth, so feeding is easier. This doesn't appear to be necessary though.

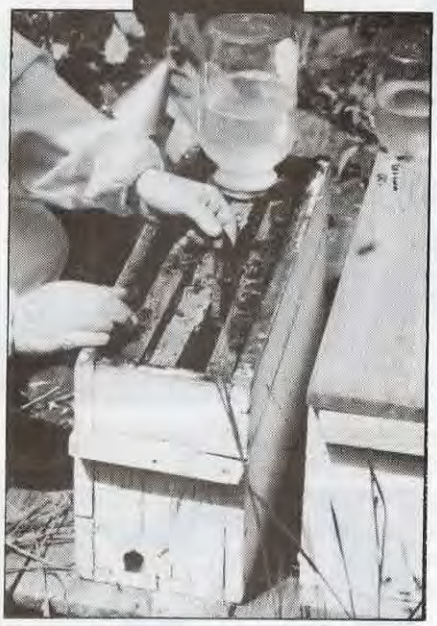
If your colony isn't ready to receive a queen you can hold her in a queen bank colony in a special frame. Queen bank colonies are queenless, and you must be certain they have a high population of young workers who can care for several queens. Placing frames of capped brood in the colony on a routine basis (one/week or so) will insure a healthy population of correct-age bees. A four or five frame nuc can manage 10 or 15 queens, but it is a fairly intensive job. If you go this route, be prepared to do a bit of work. However, it's a lifesaver when you need to hold a group of queens for quite awhile.

Once you have made absolutely sure the receiving colony

Before installing your queen, double check for queen cells or other queens.

Place the queen cage between two brood frames in the center of the receiving colony. Make absolutely certain the screened portion of the cage has maximum exposure to the bees in the hive. You can place the screened side up or down, or vertically between the frames.

Some kinds of cages, like this 'finger cage' are surrounded with screen so nearly any type of placement will work.



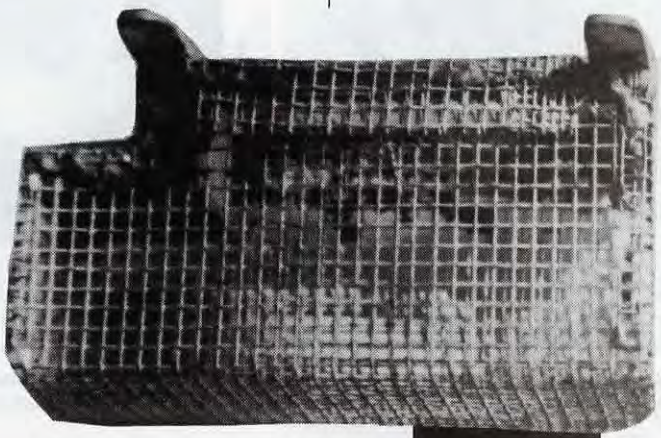
Placing a finger cage in a nuc is easy and nearly fool-proof.

is queenless you may proceed with introduction.

Remove the cardboard or metal tab that covers the candy end of the cage. With a small nail poke a hole through the candy. Be careful not to poke the queen on the other side.

After installing your queen, be sure to record the colony you put her in, the date, queen source, weather and any other event or factor you think may be important.

Another type of introducing cage, called the "Holly System". It offers maximum exposure and ease of installation ...

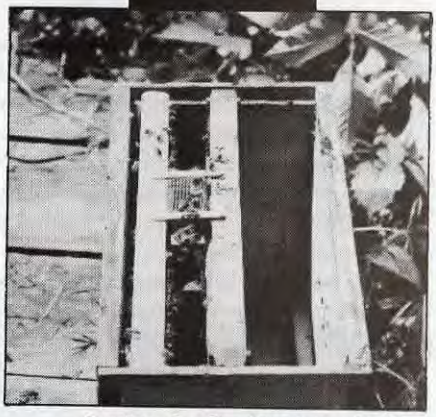


Then, place the cage between two frames such that the screened portion of the cage is completely exposed and not covered by the side of the frame. The frames should be of emerging brood, because as these bees emerge they will care for the queen.

Some beekeepers place the cage vertically, while others place it horizontally. Both work well, but a vertical placement may help eliminate another problem when feeding (see Royal Rules).

The screen must have maximum exposure so that the bees can feed the queen, and have maximum exposure to her royal scent.

If all goes well, and if you follow those simple rules it almost always does, in a week or so you will have a new queen laying eggs at the rate of about 1000 a day, and your colony is on the road to prosperity. □



... but has the disadvantage of taking up a lot of room in a colony.

ROYAL RULES

- Make absolutely certain the receiving colony is queenless, has no queen cells and doesn't have two queens.
- Check to see that the queen to be installed is healthy. Make sure she has all her parts, and that she appears to move freely. An injured or sick queen will do poorly, or be replaced by the bees.
- Install the cage so the bees have maximum access to her so she can be fed, and in turn dispense her royal charm.
- Make sure the candy end has been uncovered and the flap, door or cork removed so the bees can eventually release her.
- Once the queen has been installed, feed the colony, generously. If using a pail feeder, don't place the opening directly over the queen cage. A leaky screen could mean a drowned queen.
- Check the colony in a week or so to see if she has been released, and is laying eggs.

Royal Roundabout

VINCENT DOYLE

"After grafting my queen cells this is the best way to make divides."

You catch the strong sweet smell of the brood as soon as you take off the inner cover. Bees crowd together on the center comb that you've just taken out of the hive body, but in that crowd she stands out. You turn the frame by its lugs to bring her into the warm spring sunlight, the better to admire her broad abdomen, her sleek tapering sides, and you know instinctively that she is special. You've already decided to raise some queen cells this year, and this is going to be the breeder queen. Now, that's a good idea! But getting the cells is the easy part — getting the virgins mated is another matter.

You can bet you'll have more fun and greater queen rearing success if you pay particular attention to the last step in the process.

Strangely enough, while there seems to be reams of information available telling how to obtain quality queen cells, not much attention is paid to establishing mating nucs. Most authors spend more time describing various sizes of boxes than telling us how to ensure properly mated virgin queens. Sure, you can take whatever you use for a nuc and dump a dipper-full of bees into it, give it a queen cell and hope for the best. But if you've gone that route you know that all kinds of problems can crop up. The first time I tried it I used baby nucs with special one-third size frames. After the robbing settled down to a steady roar, whatever was left simply absconded! Of course splits have always been popular for the simple reason that they are simple. But it's a slow process if you're trying to increase the size of your apiary.

The system I use is fast, almost completely foolproof and produces such a high percentage of successfully mated queens that I don't think you can afford to ignore it. Let me tell you about it.

Before we can begin, however, some decisions have to be made. For instance, how many mating nucs do you actually need? Let's say, for the sake of discussion, we'll produce 24 nucs, but you can certainly adjust the system to meet your specific requirements. So, for 24 nucs I'll need three original, full size donor colonies. I feed these colonies a strong sugar syrup until they are strong and crowding four standard hive bodies, with ten frames each.

I equalize them and ensure that each one of the forty frames has either honey, pollen, or brood in it.

My mating nucs take four standard frames. You don't need special nuc bodies, but they take up less room and are more convenient to handle than full-size equipment. Three frame and five frame nucs will work here, but my equipment is all four frame.

When the queens are within 24-hours of emerging from the cells I've prepared earlier (see 'Making Cells'), I take out my nuc boxes and place eight behind each donor colony. I need lots of room to work so I place them behind each donor colony in two rows of four. I leave space for me to walk so I don't have to worry about kicking any over.

I try not to use too much smoke, which seems to demoralize the bees and makes it harder for them to regroup later. What I need to do is to stock the nucs with four frames each, making sure that each nuc has an equal share of honey, pollen, and brood. Naturally,

Using frames similar to these, I can graft and then produce as many queen cells as I need. Since I raise far more cells than I need, I can afford to be VERY fussy on which I choose.

you can't control what will be in any particular frame that comes from the donor, so I have a system to keep track of things.

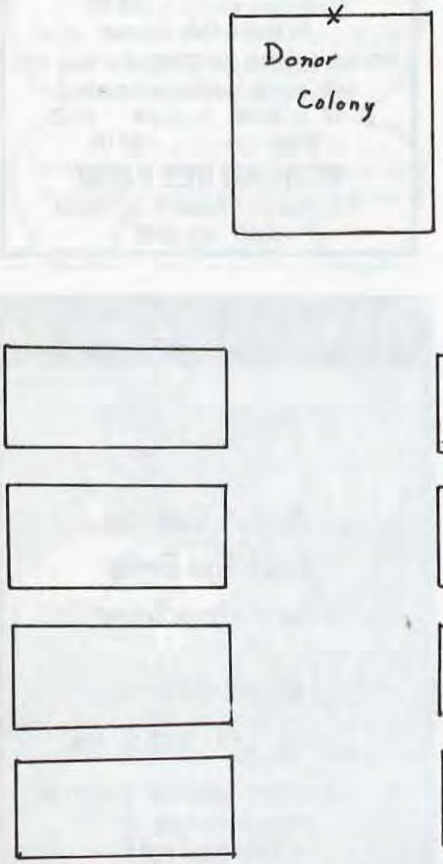
If a frame is mostly honey it goes next to the left hand wall of the nuc; if it's mostly pollen it goes next to the right hand wall; if it's brood it goes in the center two positions. That way as I grab frames from the donors to fill the nucs I can see at a glance what every nuc has, and still needs. As I take a frame from the donor I check to see what's in it and put it wherever it's needed. Of course, most of the bees on these frames go along for the ride and go right into the the nuc without any difficulty. I keep going until all eight nucs are stocked. Eight frames are left over, and these are put back into a hive body in another location or else given to some needy colony.

Next, I place a queen cell in each nuc. How you do this is up to you; there are many ways. Just remember — keep her next to the brood and between the center frames. You don't have to wait. You can insert the cell immediately. The bees won't tear it down.

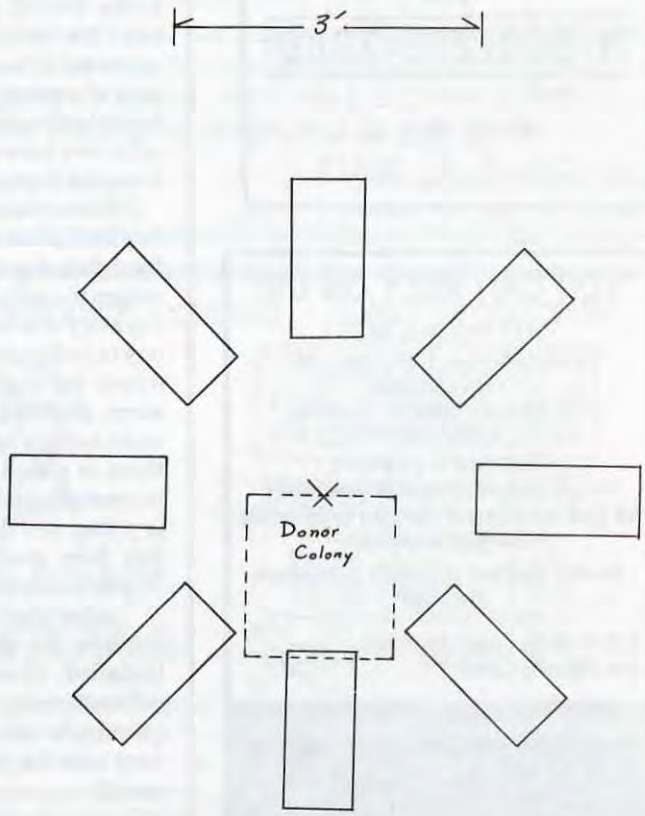
I mark the place where the entrance of the original donor colony was with a small stick or a rock. When I remove the bottom board of the now empty colony I shake or brush all the bees off of the original equipment onto this spot.

Now, imagine a circle roughly three feet in diameter like the face of a large clock centered on this spot. I arrange four nucs at 3, 6, 9 and 12 o'clock and space the other four inbetween. Make absolutely sure the entrances all face inwards, and are all the same distance from the spot where

This is how I set up my nucs and donor colony when putting them all together. Leave lots of room so you don't trip.



After I'm all done, the 'Royal Roundabout' looks like this. It works, it's simple and anyone can do it.



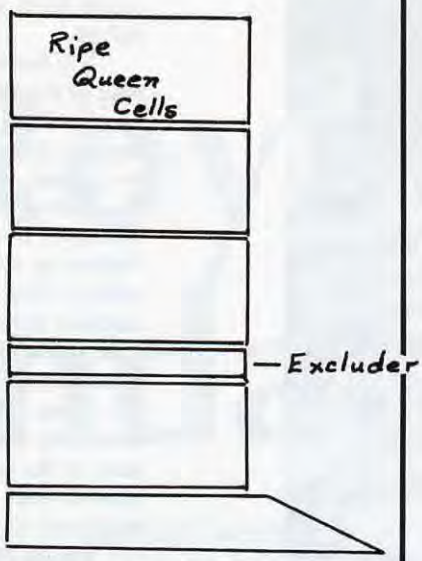
the entrance of the donor colony used to be. Then I put the covers on and repeat the same procedure for the remaining colonies until I have all 24 nucs in three merry-go-round groups of eight.

Notice that I didn't worry about the donor colony's queen. She's there, in one of the nucs, but I don't care which one. Either she or the new queen or both will survive. No, don't worry, all the bees won't go back to her. For one thing they're too confused. What you will notice is the 'fanners' out at all the entrances trying to convince all the wayward bees that 'this is the place' Homeward bound bees, confused for a while, distribute themselves randomly and fairly equally about the merry-go-round. It's really fascinating to watch the bees on the ground spreading out in all directions as they head toward the eight new entrances!

People are usually surprised at the success I've had with this method. They wonder why the newly mated queens don't get crossed up and go to the wrong place since all the nucs are identical and all their entrances are very close together around the circumference of the circle. The answer, however, is fairly simple. One of the things bees are really good at is detecting polarized light. The angle between any two entrances around this circle is not less than 45 degrees! In mating yards where nucs are set in rows this angle can be less than three degrees, and they *are* confused. But here — no way!

Once I've got my 24 nucs set up it's a simple matter to replenish the stores of food or brood from other colonies in the apiary. Of course, once the newly-mated queens are gathered up I can recell the nucs immediately. At the end of the season I reconstitute the original hive, give it a new queen, and leave it on its original site ready for next year.

I like this system because it makes full use of my limited space, uses standard equipment, gives me an 8:1 split, doesn't require that the nucs be fed syrup (although this would certainly be acceptable if other colonies are limited), it is also simple to set up and maintain — and last, but most important, it is highly successful. □



MAKING CELLS

Although you can encourage the bees to make a limited number of queen cells under the swarming or supercedure impulse with splits, I prefer to use grafting methods.

I wait until my colonies are strong to the point of being crowded after the early nectar flows in late May or early June.

I convert one of my four-frame mating nucs into a swarm box. It's ventilated but has no entrance. I stock it from the brood nest of a strong colony one or two hours before giving it a graft of 20-cells (two bars of 10-cells each) in a special frame.

I leave the swarm-box starter in a cool place with the feeder on for a full day and a half. Then I return the cells and the bees to the top story of a four story donor colony to be finished. In this finisher colony the queen is in the bottom story, confined there by a queen excluder. On one side of the cells there is sealed older brood about to emerge; on the other side there is pollen and honey. On the 10th day from grafting I set up my 'Royal Roundabouts'.

After they are ready to go I retrieve the cells and get them installed. Since I have twenty cells and require only eight, I can afford to be selective, and only the very best the get the 'royal treatment'!

HOME HARMONY

ANN HARMAN
6511 Griffith Road • Laytonsville, MD 20882

Our main meals have progressed, thankfully, from an endless list of "courses" to a more rational, balanced meal. One of the courses that has essentially disappeared is the one labeled "Appetizer" This course was originally designed to introduce the meal and to stimulate your appetite. Unfortunately "Appetizers" could range from a simple cup of soup to quite substantial dishes with meats and cheeses. At the end of an appetizer, you were thoroughly convinced you had eaten part of the main meal.

A search through numerous cookbooks reveals that the Appetizer has disappeared, but the recipes re-emerge as Snacks, which is where they belong. Snacks can be eaten any time of the day or night and are designed to be a bit filling — which is why you wanted a snack in the first place.

A carefully chosen appetizer is a nice introduction to many meals and can be a definite part of a simple lunch. Vegetable juices, fruit cups and soups all make a non-filling first course. Appetizers can also serve another function — getting everyone to sit down at the table, thus giving the cook a few extra minutes to put the finishing touches on the main meal. Selected appetizers, as a separate course, are worth reviving.

Since meals progress from non-sweet to sweet, honey dishes would not be found frequently among recipes to begin a meal. However, honey in small quantities enhances flavors without producing a sweet taste.

Although this recipe is entitled a "punch", I find that it also can be used as a lunch appetizer, or even a beverage with a meat salad.

•Tomato Juice Punch

3 cups tomato juice
1/2 cup orange juice
1/2 cup unsweetened pineapple juice
1 Tbls. honey
1/4 tsp. grated orange rind
1/3 tsp. ground ginger
1 cup club soda, chilled
orange slices

Combine juices, honey, orange rind and ginger. Refrigerate until serving time, at least 2 hours. To serve: stir in club soda, use orange slices as garnish. Serve immediately. Makes 5 cups or 10 servings.

the Journal newspaper

Here is another recipe using pineapple and orange juice, but is very different from the usual vegetable juice.

•Carrot Delight

1 pound carrots, scraped and sliced
1-1/2 cups water
1-1/2 cups unsweetened pineapple juice
1-1/2 cups unsweetened orange juice
2 Tbls. honey
1/2 cup water

Combine carrots and 1-1/2 cups water in a saucepan, bring to a boil. Cover, reduce heat and simmer 25 to 30 minutes or until carrots are very tender. Place carrots and the cooking liquid in blender and blend until smooth. Add juices and honey and blend until smooth. Place mixture in pitcher and add the 1/2 cup water. Chill thoroughly. Yield 6 cups.

Cooking Light Cookbook 1989
ed. Oxmoor House

We all have occasions when one extra-special dish turns an ordinary meal into an extra-special one. Although this soup requires a little time to make, it needs to be made ahead of time. Since the recipe calls for fresh cherries, and is served chilled, save it for cherry season.

•Cold Cherry-Lemon Soup

grated rind of 3 lemons
juice of 4 large lemons, about 1 cup
2/3 cup honey, or more to taste
1 cup water
1 cup light white wine
1 pound fresh sweet cherries, pitted
5 egg yolks
10 to 12 ice cubes
1 cup sour cream sweetened with 2 to 3 Tbls. honey

Combine lemon rind, lemon juice, honey, water, and white wine in a large saucepan. Heat until the mixture is well blended, stirring constantly. Set aside 18 of the pitted cherries. Add the rest to the liquid mixture. Simmer gently until cherries are soft, then drain and puree them in blender or food processor. Return them to the soup. Add egg yolks and beat in with a whisk. Continue whisking gently for several minutes, over very low heat, as the soup thickens. Allow the soup to cool somewhat, giving it an occasional stir. Taste and add more honey if desired. When the soup is no longer steaming, put in 10 to 12 ice cubes and stir. Then chill soup until serving time, at least an hour. To prepare the sour cream: add the 2 or 3 Tbls. honey to the 1 cup of sour cream and blend in thoroughly. To serve: Put 3 of the reserved cherries into each of 6 bowls. Ladle in the well-chilled soup. Put a dollop of the sour cream on top and serve immediately. Serves 6.

The Vegetarian Epicure, Book Two
Ann Thomas

Marinated vegetables seem to be very popular right now. I see bowls of them in salad bars, or served as a relish either in place of or in addition to pickles, and as an hors d'oeuvre. Some of these are delicious, others are a total disaster. Some of the mistakes start with entirely too large pieces of vege-

tables: cauliflower chunks that need to be cut into 6 pieces to fit into anybody's mouth, slabs of zucchini, and shoelace-length green beans. Cut, break or slice your vegetables into bite-size pieces for easy eating. Besides they will absorb the marinade much better. another mistake is assuming that dumping some vinegar and miscellaneous herbs over the vegetables will produce a delicious concoction. Wrong — a good marinade takes into consideration WHAT is being marinated and WHAT herbs blend well. I saw this vegetable marinade in a recent magazine and tried it. I was very pleased with the combination and would suggest it to accompany pre-dinner beverages. One word of caution — cut the vegetables into bite-sized pieces.

•Parmesan Vegetable Marinade

1-1/2 cup vegetable oil
2/3 cup wine vinegar
1/2 cup grated Parmesan cheese
2 Tbls. honey
2 tsp. paprika
1 tsp. garlic salt
1 tsp. celery salt
1 tsp. dry mustard
3/4 tsp. pepper
1 head cauliflower
2 medium zucchini, sliced 1/8-inch thick
1 large red onion, sliced, separated into rings
3/4 cup celery, sliced
1 carrot, sliced thinly

In blender, combine all ingredients except vegetables. In large bowl, combine cauliflower flowerettes and remaining vegetables. Pour marinade over them and toss gently. Cover and refrigerate overnight or at least 8 hours, stirring occasionally. Serves 10-12.

Cooperative Farmer
ed. Southern State Cooperative

Since we have not used very much from our jar of honey in preparing some appetizers, we can at least end our meal with a recipe featuring honey. A well-flavored honey is appropriate for this recipe. If you do use a very mild honey, be certain that you have a mixture of fresh fruits to garnish to top of the pie.

•Honey Whip Pie

1 pint whipping cream
1/2 cup well-flavored honey
1 envelope unflavored gelatin
1/4 cup cold water
1 9-inch pie crust, baked or "crumb crust"
Fresh fruits, well-drained: sliced strawberries, kiwi, peaches, raspberries, canned mandarin oranges, blueberries, etc.

Whip cream with honey, adding honey in a stream. Soften gelatin in cold water and fold into cream-honey mixture. Beat until stiff if necessary. Heap into pie crust and chill for at least two hours. Garnish with well-chilled fruit.

The Daily Tribune

You might wish to try this quick and simple pie crust with this honey pie.

•Granola Crust

1 cup granola
1/3 cup wheat germ
1/4 cup coconut
2 Tbls. honey
8 Tbls. butter

Melt butter. Mix all ingredients and pat into a pie pan. Fill — then use in either baked pies of chilled pies.

Honey, in quantities small or large, enhances all courses of our meals. □

Food Chamber

I was asked the other day if slightly fermented honey could be used in cooking. My reply was: "only if you really like the flavor of fermented honey" Much good cooking has been spoiled by using an ingredient that is "a little bit off" Fermented honey will contribute that flavor to any recipe. Wine, "sort of gone to vinegar", will not add the pleasant subtle wine flavor, but one more like the vinegar. However, a vinegar flavor might not compliment the rest of the recipe. Fats, such as oils and butter, "just a touch rancid", will carry that quite disagreeable flavor into the mixture. Whole wheat flour, unless kept in the freezer, will also go rancid and make a baked dish taste unpleasant. Moldy fruits should never be used. In addition to a spoiled flavor, the molds can produce harmful toxins. If you are going to the effort to fix a nice dish, use fresh ingredients and you will be proud of your results. □

Simpson's Honey Plant

B. A. STRINGER
Blodgett, OR

In 1877 J. A. Simpson called it "...the Coming Honey Plant"

On May 23, 1877, Mr. Jas. A. Simpson of Alexis, Illinois, sent seeds of "the coming honey plant" to A. I. Root for identification. He had noted the plant's attraction to honey bees, and had determined the plant was a perennial which began to bloom in its second year of growth.

Some time elapsed before the plant was identified, and in the mean time it became known as Simpson's Honey Plant. By July of the same year, Mr. A. W. Foreman had replied by letter in *Gleaning in Bee Culture* that the "new honey plant" was a very *old* one in White Hall, Illinois and was named *Scrophularia marylandicae*, commonly called Carpenter's Square. Mr. Foreman wrote, "Friend Simpson has not overstated its honey bearing properties. Bees will work on it to the exclusion of everything else I ever saw growing in its vicinity."

The plant is called carpenter's square probably because of the square shape of its stem. Many other common names were also associated with it; figwort, square stalk, heal all and rattleweed (from the sound of the ripe seeds in the pod of a shaken stalk).

In November of 1877, Mr. Jos. C. Deem of Knightstown, Indiana, extolled the virtues of Simpson's Honey Plant, by then called *S. nodosa*, in a letter to *Gleanings*. He said the plant "affords a great deal of honey, is much sought for by the bees, and is worthy of protection and cultivation..." He transplanted some roots of the plant and reported each root made flower stalks 8' high with about 10 spikes. The flowers lasted from the first of July until the first of October and were visited by bees and other insects from "early morn till dewy eve". He offered the tiny seeds for sale or in exchange for other new bee plants.

The December, 1877, issue of *Gleanings* contained a page of information on the Simpson Honey Plant, with glowing descriptions of its worth. "The pretty little ball shaped flower... is usually found filled with honey, unless the bees are so numerous as to prevent its accumulation. This honey is of course thin, like that from clover or other plants, when first gathered, ... and the plant promises to furnish a larger quantity than anything else I have met with." A report of a single plant under cultivation stated that "the quantity of honey yielded was very much increased, and the plant grew to a great height continuing to bloom and yield honey for a full four months."

The potential of this plant seemed unlimited. Mr. Simpson wrote that the flower "is seldom seen in the forenoon without honey shining in it... the honey will fall in drops"

However, by January of 1878, some of the exorbitant claims were

being disputed. Mr. Simpson admitted the plant was not "frequented at all times by bees ... " and when buckwheat and heartsease bloomed, it was "forsaken until they cease" All the same, he was still "pretty well satisfied that one acre thoroughly set with it, would keep up breeding and some honey storing for 50 or 100 colonies during the trying months of July and August."

In February of 1882, Mr. H. A. March wrote from Washington Territory he was "satisfied that an acre of plants, as thrifty as those in my garden, would produce from 400 lb. to 500 lb. of honey" Later that year, a Pennsylvania beekeeper was advised to plant Simpson's Honey Plant to keep bees from the grapes. "$10 a year should cover all expenses" for planting one acre to Simpson's honey plant, and "with a demand of 25¢ per pound of the seed, the seed should pay all expenses" The worst drawback of the plant was that it "ran out" after three years and needed replenishing.

Dr. C. C. Miller of Illinois had reservations about the economics of planting bee forage. He wrote, "I am not yet *certain* that it will pay to raise any crop for honey alone, but I am experimenting in that direction". He had very poor success raising figwort unless it was intensively cultivated.

In April 1884, roots of Simpson's Honey Plant were offered for sale through *Gleanings in Bee Culture*, at 5¢ each, 100 for $1.50, 500 for $7.50 or 1000 for $12.50. A cautionary note was added by the magazine's editor — "Now friends, while we are glad to furnish you these, I feel it my duty to say that they are mostly raised only as a curiosity, unless you should purchase enough to plant an acre, and I do not believe it would pay for the labor and cultivation. As yet, I do not believe there is any plant known that can be cultivated profitably for the honey alone."

Interest in Simpson's Honey Plant continued for many years, and it continued to be planted as a curiosity in honey plant gardens. By the turn of the century, figwort had fallen from favor. The entry in the 1901 *ABC of Bee Culture* states, "the plant is very expensive to grow ... must have deep, rich soil, and must be planted and cultivated like corn. The cost of growing it is such that the value of the honey would not warrant the expense."

While the intense interest and enthusiasm surrounding figwort lasted only a few years, the name of the man who first brought it to our attention lives on in Simpson's Honey Plant. □

SITTINGS

CHARLES MRAZ

The January, 1990 *Bee Culture* article by Jaycox wondering if the language of the bees may be "dead" was published at an appropriate time. For years Dr. Wenner has been trying to discredit Karl von Frisch's research describing the language of the bees. As you are probably aware, bees use this "language" to communicate with each other regarding directions to new sources of pollen and nectar, as well as for finding new locations after swarms leave their old home. There is plenty of evidence that they also communicate in other ways that are not yet well understood.

Wenner claims that bees do not communicate the way von Frisch says they do. He maintains that bees find new sources of food strictly by odor. They just smell the source of food on the scout bee, and then go out and sniff for the new source of food, even if it is miles from the hive in an unknown direction. Wenner has not presented any proof of this theory by actual experiments with bees, but has only expressed his opinions.

Two articles have recently come out with further studies on the language and communication of bees.

The first was in the *Science News Magazine*, October 28, 1989, titled "New Dancer in the Hive" by Rick Weiss, "An insect impersonator helps scientists decipher honey bee lingo."

The second article on this subject was in the January, 1990 *National Geographic* magazine, "Dance of the Electronic Bee" by Mark W. Moffett.

"In the breakthrough experiments, the world's first successful robot honey bee 'talks' to live honey bees in their own language, the dance. With this ungainly but effective mimic, scientists are unlocking secrets of animal communications."

After reading these two articles one must conclude that the language of the bees is far from dead. It is very much alive and far more complex than first believed. Dr. Wenner's new book is going to look awfully silly if he indeed tries to prove the language is "dead" But in this day and age there are still a few people that believe the world is flat and that bees have no language.

•

The next EAS meeting will be held August 1st thru August 3rd, 1990, at Salisbury State University, Salisbury, Maryland. The Apitherapy meeting is scheduled to be held Wednesday evening, August 1st, 7:30 p. m. in the main auditorium. This will be an excellent time because there are no other meetings scheduled at that time.

We hope to have several doctors experienced in Bee Venom Therapy present discussing several uses, such as its effectiveness in the treatment of Multiple Sclerosis. We have only three years experience with M. S. so we have much more to learn. Of one thing we are sure, BV Therapy has no adverse side effects whatever, no matter how long it is used. It cannot do any harm, and anything that can help M. S. is worth trying, since there is nothing else available.

We hope many will attend this meeting, because it is an excellent way to demonstrate to the public the reality of BV Therapy. The best way to counter some of the bad publicity bees have been getting is with information on the beneficial use of all bee products, honey, pollen, propolis — and bee venom. I hope you take advantage of this meeting and learn what has been done so far. What we have learned in the past 100 years is only the beginning. The more people we can get to work with it, the more we will learn. Plan now to attend □

BEE TALK

RICHARD TAYLOR

9374 Route 89, Trumansburg, NY 14886

"Making up for Lost Colonies"

A reader wrote to me recently that he was planning on taking up beekeeping, on a small scale, in a remote region where, he said, there were no other bee hives within fifty miles. He hoped thus to avoid parasitic mites.

I'm not sure that would work. You might be able to avoid varroa mites that way, at least for a considerable time, but not, I think, the tracheal mites.

When tracheal mites were first discovered here a few years ago it was no time at all before they were everywhere. I had never seen any sign of them in my apiaries until last spring, when I found several colonies destroyed by tracheal mites in two widely separated apiaries.

I'm still learning about these tracheal mites, but some things already seem quite clear. One is, that except for being a cause of winter loss, they are not a big problem — though of course their contribution to winter loss can be serious. The sign of a colony killed by tracheal mites is that the hive is likely to have plenty of honey in it, but few if any bees. What happens is this: As the mites spread in the colony, the bees simply leave, not all at once, but almost completely. So by late spring you find a hive that seems to be in pretty good shape, except that there are not bees in it, other than a few dead ones. That's tracheal mites. When you have winter loss from other causes you find dead bees in the combs and on the bottom.

Now if a colony can get through to warm weather, and start brood rearing, tracheal mites are not much of a problem. They'll still be there, but they don't seem to interfere much with the work of the colony.

There are ways to find tracheal mites, but I don't think much of them. I'm told you can look at 50 or more bees without finding a mite, and then find one.

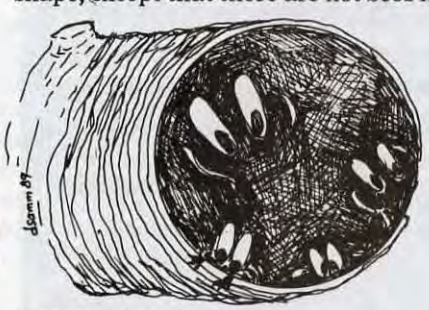
Using packages to replace tracheal mite losses is not the best way to do it anyway. If half or more of your bees have come through the winter, it is a simple matter to restore mite-killed colonies by just giving them some combs of brood and bees from your other colonies, and then a new queen. There is usually still plenty of honey in the hives, so they build back up in no time.

Yesterday, on a warm March day, I checked one of my apiaries to get some idea of how many colonies might have succumbed to tracheal mites. It didn't take long to find out. Every colony had survived. Bees were flying vigorously from every hive. Now I know that I have lost a few in my other yards. But I don't consider this a problem. With a few splits I'll have all my hives back in business in very short order.

Varroa mites are going to be something else. I have had no experience with these yet, and am in no hurry to get it. Varroa seems to be spread primarily by commercial beekeepers trucking their bees up from the south, especially Florida. These mites have been found in two or three places in New York state, and the source has been obvious each time — transportation of bees from the south. In Sweden — or maybe it's Finland, I'm not sure — they have been able to confine varroa to one side of the country just by forbidding transportation of bees. And in France the spread of this mite followed exactly the movement of apiaries around the country.

Well, by the time anyone reads this tracheal mites, at least, will be more or less a thing of the past for this season, and the fruit trees will be in bloom — but I expect to see some more snow before then. My honey house is a complete clutter, and I have not assembled a single comb honey super. But that's the way it is every spring. I'll have everything organized in time. I always have. □

(Questions and comments are welcomed. Please enclose a stamped envelope and use Trumansburg address above. No phone calls, please.)



Tracheal Mite

Varroa Mite

QUESTIONS? ANSWERS!

Richard Taylor

Pollen Problems

Q. How do you prevent the bees from storing pollen in comb honey sections?

A. You get pollen in comb honey when there is no honey barrier between the brood nest and the supers. Bees usually store pollen below honey and raise their brood below that. So the solution is to have honey in the hive when the first super goes on.

Summer Loss

Q. My hives were very strong at the end of June, and one swarmed. Then I began to notice many dead bees in front of the hive, and others struggling to fly. The colony dwindled and by the end of September I found many yellow jackets at the entrance. What was wrong? And can I use the supers and frames to start another colony?

Joseph Trapasso
Katonah, NY

A. Sounds like tracheal mites, except that colonies usually die off before summer if they have these. A colony killed off by tracheal mites can be gotten back to use by giving it combs, brood and bees from another colony and requeening. The mites do not survive in a dead colony, so the equipment can be reused. Some beekeepers try to control tracheal mites by using menthol, but I am against this for many reasons. The yellow jackets had nothing to do with the colony dwindling.

Comb Again?

Q. I had a colony of bees die out this winter, apparently from tracheal mites. There was still plenty of light, quality honey in the top hive body. I stored this hive body in my basement, and soon after had the house sprayed for insects, but was careful not to get any spray near the honey. Is the honey safe to extract and eat? And can I use the combs again even though they will be sticky?

Nathan Miller
Farmington, MO

A. I cannot advise with confidence concerning the pesticide, since I do not know what it was, but in general, I would think that any spray which was safe to use inside one's house would present no danger to the honey if, as indicated, there was no contact with the honey. And yes, the combs can be given to any colony, even though sticky, without danger, assuming the colony succumbed to mites and not to foulbrood.

Nosema?

Q. Do you think I should medicate my colonies spring and fall to prevent nosema?

Douglas J. Lake
Dedham, MA

A. Opinions differ on this, but I have never medicated my bees for nosema, and it has never been a problem for me. My own view is that colonies that are strong and *well-ventilated*, all year round including winter, do not develop nosema.

Topsy Turvey

Q. I bought some hives which had not been supplied with frames, so the bees had built their own combs in the hive bodies. How can I transfer the bees to proper hives?

William Deveaney
McDonald, PA

A. This is a question that comes up fairly often. Come spring, turn those hives upside down, remove the bottom boards, and set the new hives on top of the upside-down hives. The bees will soon, after a few weeks, abandon the old hives, moving up into the new ones.

Good Neighbor Question

Q. My single hive is close to the house and to a walkway, but there has been no problem of stings. Is this because there are no other hives there? If I add another will the bees become more protective and thus aggressive?

W. S.
Montclair, NJ

A. Bees are not made more aggressive by the mere proximity of other hives, but of course the more hives you have in an apiary the greater the likelihood that one of them will be testy.

Ventilation

Q. This year I moved the two top supers back about an inch, on a five super hive, to provide additional entrances. The bees just cluster at these entrances, continuing to use only the bottom entrance for coming and going. How come?

M. D. Rydbert
East Greenwich, RI

A. The bees continue to use that one, just from force of habit. They cluster at the openings created up above so that the honey there will not be exposed to robbers. The purpose in creating additional openings during the summer is to improve ventilation. Such openings are of little use in the case of hives that are not exposed to abnormal heat, by being in the hot sun, for example. When very large clusters of bees form on the front of a hive in late summer, whether there are extra openings or not, this is merely a sign that there is little nectar in the fields, and hence, not much for the bees to do.

RESEARCH REVIEW

DR. ROGER A. MORSE

Cornell University • Ithaca, NY 14853

"There may be ways to calm bees other than smoke."

The principal alarm odors in honey bees, iso-pentyl acetate and 2-heptanone, were discovered between 1962 and 1965. Since then several additional alarm odor components that work in concert with the first two have been found. Alarm pheromones are characteristically very volatile and act rapidly. Since they are so volatile they also disappear rapidly, and thus after the danger is past, a colony is not kept in a state of alarm for an undue period of time. This also means that the bees do not have an opportunity to become accustomed to their own alarm odors under natural conditions. All of the alarm pheromone components have been synthesized in the laboratory and are available from at least one commercial chemical supply firm.

What has been learned recently is that if synthetic honey bee alarm odor is released slowly and steadily over a period of time within their hives, bees become accustomed to it. The result is that they are less inclined to react to natural alarm odor released by their sisters and are therefore less likely to sting. The question is, can we somehow use these materials to calm aggressive colonies in the field and thereby make colony inspections easier? What is being presented at this time is theory only, but it seems to me that we should be able to put this knowledge into practical use.

Two recent papers report on this topic. In one of these, mixtures of the alarm pheromones were released from spirit lamps (alcohol lamps with a wick) kept inside ten test colonies for a period of 24 to 48 hours. At the end of this time the hive covers were removed and black muslin balls stuffed with cotton were jerked for 60 seconds above the combs of these and ten control colonies. The number of stings in the balls were then counted. Similar tests were conducted with the same hives before the pheromones were put into them. It was found that colonies exposed to the alarm substances stung the balls less and were always less aggressive. In the first of these two papers it was found that this was true even when the balls were contaminated with alarm pheromone.

These results are consistent with some of my own experiences with *Apis dorsata*, the giant bee of Asia. The workers of this species are more than twice the size of our own bees and the colonies may contain as many as 70,000 worker bees. These bees do not occupy cavities as do our own bees. The giant bees build a single exposed comb, often three or four feet across. These can often be seen under overhanging roofs, under tree limbs and on water towers in many Asian countries. I have seen as many as 5,000 workers attack from a single nest within a few seconds of being disturbed. Those who have worked with this bee agree it is the most ferocious stinging insect on earth.

It is possible to calm and work a colony of the giant bees; we did this many times in the Philippines. To do so we would first bang on the tree where the nest was located to disturb the bees and let them attack. We always made sure we had a hiding place where we could take cover so that the bees could not find us. After about five minutes we would disturb the bees again, and again they would attack. We would continue to do this three or four more times over a period of about 20 minutes. After this time we would smoke the colony very gently as heavy smoking causes the giant bees to abscond. After about 30 minutes of disturbing and smoking the bees gently we found we could approach a colony and even remove our gloves and push bees around on the comb surface to work on the comb itself. I have always assumed this approach worked because we had exhausted the giant bees' alarm odor in the process of repeatedly disturbing its nest. I had not considered that perhaps the bees were becoming accustomed to the alarm odor and consequently were less responsive when alarm odor was released by others in the nest. We observed that a day later the bees were again responsive to alarm odor and if we were to work with the nest again we needed to repeat the whole process all over again.

A second observation I have made with *Apis dorsata* in India also bears on this subject and is worth further discussion. My observations are that these bees are as ferocious in India as they are anywhere. However, I have seen many nests hanging under roofs and in alcoves where people walk nearby. I have safely passed within a few feet of such nests myself and have never seen anyone attacked. If these same nests were in an area remote from people I am certain the bees on them would be aggressive. No one I have ever talked to has had a good reason why these bees are so gentle in an urban area. It has been suggested that they may become accustomed to the odor of people and the commotion of people walking nearby but this is difficult to believe. In light of the two papers cited below I now wonder if it is possible that with people

moving about near their nests these bees are in a constant state of low level alarm and are accustomed to their own alarm odor?

I agree with the suggestions made in these two papers that there may be a way to calm bees other than with smoke (which has been used traditionally for thousands of years). But how do we do it? It is certainly not practical to wait 30 minutes, as we did in Asia, to calm bees in a commercial apiary. Here is a fertile area for research. Of course, we should not forget that honey bee colonies need their alarm pheromones to protect against other predators such as bears, skunks, mice and a host of insects, that would invade their homes and rob them, so the alarm system should not be totally destroyed. □

Al-Sa'ad, B. N,. J. B. Free and P. E. Howse. *An adaption of worker honey bees to their alarm pheromones.* Physiological Entomology 10: 1-14. 1985.

Free, J. B. *Adapting honey bees to synthetic alarm pheromones to reduce aggression.* Journal of Apicultural Research 27: 227-229. 1988.

BRITISH BEE UPDATE

KIM FLOTTUM

On July 4, 1989 Dr. Roger Morse entered the U. S. carrying 26 queen honey bees from Great Britain. A permit to import these queens had been obtained earlier from the Animal and Plant Health Inspection Service (APHIS) with approval from the Agricultural Research Service (ARS), both of the USDA. He reported on the status of the program as of early December in the January issue of the *Speedy Bee* and February issue of the *American Bee Journal*. In the article he related that on December 7 he received approval from APHIS to take the remaining British queens to Florida to finish the winter. Art Gerber, a New York beekeeper, volunteered to drive a Cornell pickup with the nucleus colonies containing the queens and several of their daughters to Florida. When he arrived he turned the colonies over to Melvin Greenleaf of Hybri-Bee Inc. in Florida. This is a report on the current status of Morse's program as of mid-March.

Mel Greenleaf, Hybri-Bee Manager, with a comb from a nuc with one of the original British Queens. M. MORSE PHOTO

Dr. Morse arrived in Florida on February 12 and graduate student Dr. Carol Henderson came two days later. They were at the Archbold Biological Station south of Lake Placid, a well equipped field station with an excellent library and other facilities necessary to conduct research. Morse has been working for a few weeks at this station most winters for over 30 years. Last year he left about ten colonies of bees on the station grounds, and a neighboring Florida beekeeper, Chester Winegarner had an additional ten that Morse was free to use in his research.

After an initial examination he found that bears had torn up and destroyed all of the colonies in one location, and though they caused damage in the second location ten colonies were salvaged. He found eight of the ten remaining were dead, and it appeared all had died in the previous two to four weeks. The symptoms pointed to tracheal mites. There were no bees in the hives though some still had plenty of honey. Wax moths had only recently invaded the empty hives and most combs were salvaged.

Two colonies were alive. The first one had plenty of bees and honey and a good brood pattern. The second live colony had an advanced case of American foulbrood. Morse and Henderson burned most of the frames torn apart by the bear and those from the colony with foulbrood. All in all it was not a day to gladden one's heart.

Several beekeepers came to the rescue, however. William Perry and his son Willie from Dallas, PA and Arcadia, FL; brothers Art and Dan Davis from Union Springs, NY and Sebring, FL; Felix Uzzell and his son Boyd from Sebring, FL; Arthur Brew and his nephew Robert from Leroy, NY and Umatilla, FL and Mel Greenleaf from LaBelle, FL, loaned a total of over 60 colonies. Actually, several more beekeepers came by to visit and to offer help that wasn't needed at the moment.

Vermont Chief Apiary Inspector Richard Drutchas and retired Vermont Apiary Inspector Roger Jones came by for a visit shortly afterward and were promptly put to work preparing colonies for experiments. Their help saved hours of time.

On February 13, Morse and Mel Greenleaf examined the six-frame nucleus colonies that had been brought down from New York in early December. They found that 19, including eight with original British queens, were alive and well. The colonies were plugged with new orange blossom honey and they removed a full comb from each giving the queen and the bees more room. The colonies were examined again on February 19, and samples to examine for tracheal mites were taken. In those six days all of the colonies had

filled the empty comb placed in them and another full frame of honey was removed from each colony.

On February 26, Morse wrote and reviewed his position, and outlined what he proposed to do next with Dr. H. Shimanuki of ARS, and Philip Lima of APHIS. Two days later they verbally concurred with what was proposed, with only minor changes.

The British queens and their daughters in Florida, as well as the approximately 400 colonies headed by daughters of British queens, that are under test in New York and Vermont, are still under quarantine by APHIS. By agreement they will remain so until it is demonstrated they have some degree of resistance or tolerance to the tracheal mites.

Three years ago Drs. Norman E. Gary and Robert E. Page Jr., from the University of California at Davis, had conducted experiments at the Archbold Station that showed that some bees in the U. S. had a certain degree of infestation resistance to tracheal mites. They returned on March 11 and 12 to perform these same tests on the British queens.

"How Good are those British Queens?"

On February 28 Mel Greenleaf grafted larvae to grow new queens from four of the original colonies headed by British queens. Larvae from the remaining four colonies were grafted on March 8. These will be instrumentally inseminated (II) with drones from colonies of other British stock. These queens, which will be pure British, will be held in small colonies for future use. On March 5, queens in three of the British queen colonies were caged for 24 hours to obtain frames with eggs then delivered the following day to David Miksa for grafting on March 9. Ripe queen cells were picked up by four cooperating New York State beekeepers on March 19. Both David Miksa and Mel Greenleaf have agreed to grow 1000 queen cells to be given free to cooperating beekeepers for testing for honey production and other qualities in New York State and Vermont this summer. Additionally, David Miksa has agreed to grow and furnish from British stock a limited number of locally mated queens to non-migratory beekeepers in New York and Vermont; these will be sold at a reduced price.

If the tests with Gary and Page go well, and it is demonstrated the bees have the expected resistance to tracheal mites, Morse will request the original stock be released from quarantine allowing more queens to be grown for testing this summer. Meanwhile, researchers from Ontario, California, Arizona, Texas, Pennsylvania and Washington (state) have expressed interest in obtaining stock and are negotiating to join the program.

How good are the British queens and what can be said about them to date? "Over the years I have visited Great Britain many times," says Morse, "and I have examined some colonies and watched while others were being worked. In that country colonies appear to build populations similar to our own.

"In our examination of colonies with British queens, and their daughters," says Morse, "we have seen no symptoms or signs of new or exotic diseases. These queens have normal brood patterns, and while the nucleus colonies became plugged with honey during the orange honey flow this is not testimony to their ability as honey producers; they did nothing more than we would expect from American colonies under the same conditions.

"However, I can testify the daughter queens in these colonies are not easy to find. They are dark in color and they run on the combs, and dark, runny queens are never easy to find," Morse adds.

"But", he goes on, "the workers do not run. If one is fortunate the queen is found on the first or second brood comb

Drs. Page, Morse, Henderson and Gary.
M. MORSE PHOTO

examined; if they are not found there I have observed that a little smoke will cause them to run and they can be anywhere in the hive including on combs of honey and the sides or bottom of the hive."

Dr. Morse has received many phone calls and letters almost all of which support the importation project. Time has limited the number of responses, and he apologizes to those who haven't heard from him yet.

Morse states he is aware that this is not an in-depth research project designed to select the best of the stock that has been imported. A project of that scope would take several years. It will be necessary for beekeepers and queen breeders to test and sort out the best of what is eventually released, if any. Morse sums up his position, "At this time the most important thought on my mind is to do our best to eliminate the use of in-hive chemical treatments for diseases. They are too costly, too time-consuming and could perhaps lead to the contamination of hive products." □

In addition to support from many beekeepers and Cornell University this study is supported by a grant from the New York State Department of Agriculture and Markets, Contract Number 509, Development of Honey Bee Stock Resistant to the Parasitic Mite.

INNER . . . Cont. from Page 260

Another observation made by Dr. Eric Mussen in CA certainly supports these findings. Dr. Bill Wilson in TX has picked up on this, too. What they've seen is that beekeepers who fed their colonies either pollen supplement or terra patties this spring, and used vegetable shortening as a base (Crisco and the like), had reduced, and in many cases *NO* mite problems later.

In the *Globe* this month, there is a report released from the ARS that mixing menthol with vegetable oil speeds the evaporation of the menthol. This, says Dr. Bill Wilson, is a good thing to have happen.

However, in light of this new information (or old information used in a new way) I wonder if the oil has something to do with the increased efficiency. This sort of double whammy might be just what we need.

Well, the story ends here. A lot of people are interested in this phenomena and are trying to find out the what's, why's and wherefore's of it. In the meantime, some pretty sound advice has come out of this. If you can, get some vegetable shortening to your bees, right now! Don't use terra though, that's not legal everywhere. But shortening and sugar is.

Feeding bees is a time honored tradition. Powdered sugar seems better than granulated. Don't use a lot of shortening, just enough to hold the sugar together. We've listed some recipes we've already tried — bees will eat the sugar and spread the oil throughout the colony. It's too early to tell is this will cure or control mites on a colony wide basis, but all the evidence points in that direction. Spring is the best time to do it too, because that is when there are the most young bees, and the most mites.

I don't think menthol used in the regular way should be abandoned though. Especially in the south, where the fall weather allows a long enough exposure time after removing the honey. However, in the north this isn't always the case, and a sugar/shortening feed will certainly help.

If you are interested in putting a mix on your colony, all common recipes call for a mix of 1:2 ratio of shortening:sugar. One lb. of shortening and two lbs. granulated sugar makes about 6-8 patties — enough for that many colonies. □

KIM FLOTTUM

GLEANINGS GLOBE

MAY, 1990 ALL THE NEWS THAT FITS

A Double Whammy for Mites

MENTHOL & SHORTENING

Faster evaporation of menthol to kill tracheal mites, a major parasite of honey bees, now appears possible by mixing the chemical with vegetable shortening and spreading it on cardboard sheets.

In ARS tests, the menthol-shortening blend evaporated much faster than in earlier delivery systems: Twice as fast as loose menthol crystals in a screen packet, three times as fast as menthol pellets, and five times as fast as solid menthol cakes during the first 3 weeks of use. All forms of the menthol were inserted into hives and left in place for up to 10 weeks.

Speedy evaporation of the chemical is important to effectively control the mite, *Acarapis woodi*, a serious and growing problem for beekeepers across the United States, particularly in California, Washington, and New York.

The mite clogs the breathing tubes of adult bees, blocking oxygen flow and eventually killing the bees.

According to William T. Wilson, an entomologist at the ARS Honey Bee Research unit in Weslaco, Texas, the reason the menthol-shortening blend evaporates quickly may be tied to the uniform distribution of menthol molecules throughout the shortening.

Spreading the mixture in a thin film on a sheet of corrugated cardboard increases surface area, which may aid evaporation of the chemical.

"There may also be an interaction between the vegetable fat and menthol that transports the menthol to the surface of the film, where evaporation takes place," he says.

Besides vegetable shortening, the study included cardboard sheets with mixtures of menthol and petroleum jelly. Researchers found, however, that 50 grams of menthol added to 50 grams of shortening evaporated nearly four times faster than the same amount of menthol added to 50 grams of petroleum jelly.

Wilson cautions that more work needs to be done on the vaporization of menthol. While the chemical at correct treatment levels does not harm bees, he says, some bees were driven from their hives when field tests were conducted in hot weather. Menthol on the cardboard sheets evaporated faster than expected when temperatures climbed above 80 degrees, forcing the bees to evacuate and cluster outside the hives.

Cheryl Fenner was crowned the "1990 Virginia Honey Queen" in Waynesboro, VA March 3. Cheryl is a Senior at Turner Ashby High School where she is a member of the Honor Society.

USDA RELEASES ANOTHER

The USDA Extension Service has recently released a fact sheet on Africanized honey bees. This is the second in a series of USDA fact sheets on bees, beekeeping and honey bees. Written by Dr. James E. Tew, National Program leader — Apiculture Extension Service, USDA and OSU, it has been thoroughly reviewed by AHB researchers and experts.

It outlines the history of the bee, its behavior and the effect it may have on the U.S. beekeeping industry, and the public in areas where it will probably become established.

MILESTONE ANNOUNCED

In honor of their 50th wedding anniversary, the children of **Homer and Lois Park** wish to announce there will be a celebration June 9, 1990 at the Millville Grange Hall, Palo Cedro, CA. Friends and well wishers are welcome to attend. No gifts please.

For more information contact Glenda Wooten, 11189 Deschutes Road, Palo Cedro, CA 96073, (916) 549-3555.

Food Safety Issues Cause Concern

U. S. consumers fear that their food is unsafe, are confused over conflicting reports concerning food safety and, as a result, are frustrated with the agricultural community — producers, processors, and manufacturers alike. However, this problem can be solved with a strong program of policy development and education, according to Luther McKinney, senior vice president of Quaker Oats Company in Chicago.

McKinney says agricultural producers and processors must develop environmental and food safety policies to address the consumer's concerns. Importantly, these policies must be ar-

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Choose with Caution

AUCTION ACTION?

Beekeepers wanting to get in or out of the business sometimes use auctions as their medium of selling or buying. Most use auctioneers that have been suggested by other beekeepers, or use an auctioneer they have come to know and trust.

Because auctioneering has been loosely controlled in the past, and because liabilities are rising for the profession, the auction business has set new controls and guidelines to upgrade the profession.

Max Walton, Walton and Associates, Inc. Auctioneers, of Medina, Ohio, has started the Walton School of Auctioneering, in an effort to assist those who want to get their auctioneering license and also to give a sense of professionalism through education to the general public through his graduates.

Max suggests that beekeepers (and he is one himself) first try to find an auctioneer who knows something about bees. If that isn't possible, find an auctioneer that you trust and give him a quick course in equipment. He does remind buyers and sellers that if bees themselves are being sold, inspections are required.

Although not all states require auctioneers to have a license, most municipalities require an auction permit. In addition to making sure your auctioneer has a license, ask if he has attended any schooling, or who he has done his apprenticeship with. Max reports that Ohio, which is leading the way in education, will eventually require continuing education in the field.

Some of the areas covered by the Walton School of Auctioneering, include: history of auctioneering, contracts, bonding, fees, advertising, and licensing. This is in addition to developing a chant that sells merchandise.

There are 36,000 auctioneers in the U.S., and Max reports that "Auctions are the last bastion of free enterprise, where fair market value is determined in a free and open competitive system"

FOOD SAFETY, Continued

ticulated to government policymakers and consumers nationwide.

"There can be an end to the fear, confusion and frustration that is besetting American agriculture and American consumers — if American agriculture takes the lead," McKinney says in the First Quarter 1990 issue of *CHOICES* magazine. "We can begin by taking positive steps to restore consumer confidence in the nation's food supply, and we can build on that confidence by taking an active role in shaping the nation's food safety and environmental agendas."

McKinney urges the agricultural and agribusiness communities to develop a credible environmental policy that will allow it to continue to provide consumers with abundant supplies of reasonably priced foods in ways that minimize adverse impact on the environment.

He suggests a two-step approach in the area of food safety. First is educating the media and public, not only about the benefit/risk equation of food safety, but also about the safety steps currently in place.

Food manufacturers in particular need to educate consumers about stringent testing procedures most manufacturers employ to ensure the highest quality possible.

The second step is in improving the government's performance by increasing resources for the Food and Drug Administration (FDA), the federal agency responsible for ensuring food safety. He also recommends updating federal food inspection programs and regulations at the state and federal level.

RED TAPED TO DEATH

Honey Commission Disbands

The South Dakota Honey Commission has been stung by state bureaucracy and is ready to call it quits after less than four years' existence and a track record characterized as good.

State Sen. Mary Wagner, R-Brookings, is helping the commission put an end to the honey checkoff begun by the 1986 Legislature. She has introduced a bill that simply repeals the promotional effort.

The measure has been passed by the full Senate, and the House is expected to follow suit.

Wagner said the Honey Commission has had to spend half of its checkoff funds, which total about $3,600 a year, for liability insurance coverage from a state liability pool.

"They resent having half of their checkoff funds go for insurance," she said. "That only leaves them with about $1,800 for promotion activities."

Liability coverage for each of the 12 members on the commission costs $144.63 annually, Wagner said.

The People Fund, as the state liability pool is called, was to review the commission's cost of coverage in March. An official for the program said the initial cost was set at $1,800 because the Honey Commission was new, and had no record upon which to base losses, Wagner said.

Although the cost of the liability coverage may be reduced after the March assessment, commission officials decided to disband anyway, Wagner said.

"It's too bad because they did some pretty terrific things in the short amount of time they had," she said.

The commission printed a honey cookbook, distributed other promotional literature and started a honey-queen competition, Wagner said.

"Honey production is an $8 million industry in South Dakota," she said. "We produce some of the finest honey in the world.

"Here they are, their hard-earned money going into the checkoff program for what they thought was promotion. They really want to spend their money on promoting their products."

Commission members even donated their time and absorbed travel expenses for the promotion program without deducting those costs from checkoff fees, Wagner said.

Bob Reiners, state apiarist, said the checkoff fee was 50 cents for each beehive location. There are about 7,800 locations where bees are kept in South Dakota, he said.

From the Tri-State Neighbor

A Green Move for Bush

ENVIRONMENT GAINS ONE

President Bush's request for $250 million to purchase new land for public outdoor recreation areas could mean more green, says Neil Andrew, recreation specialist at Ohio State University.

"I wouldn't be surprised to see Congress raise that amount to $300 or $400 million," Andrew says. "There's a large fund of money available to purchase and develop outdoor recreation areas, but it hasn't been allocated in recent years."

The Land and Water Conservation Fund was set up in 1964 to authorize 50-50 matching grants to state and local governments to acquire and develop land and water for public outdoor recreation. There is nearly $7 billion in the fund, mostly from offshore oil royalties, says Michael Cook, grants administrator of the Land and Water Conservation Fund for ODNR. Only the funds allocated by Congress are available to the states.

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Summer by the Shore

EAS TO MARYLAND

Salisbury, Maryland, is a town of about 60,000 people, and sits 30 miles west of Ocean City, a popular Atlantic Ocean resort, and 20 miles east of the famous Chesapeake Bay. Surprisingly the town is the busiest port in Maryland, after Baltimore.

Salisbury State University, although located on Route 13 (a main north-south road on the peninsula), is nestled in a beautiful residential neighborhood. The campus is flat, but beautifully landscaped with trees, shrubs and beds of flowers. The red brick buildings reflect the colonial heritage of Maryland.

One pleasant aspect of the campus is its compact size — you can walk from one end to the other in five minutes. The University has undergone a massive building program over the past few years, resulting in new dormitories and a beautiful University Center.

One advantage of holding the EAS Conference at a small school is that no other large conference will be on campus at the time the beekeepers are there. We will have full use of the facilities.

The Georgian-style Holloway Hall, although the oldest building on campus, has a newly refurbished 750-seat auditorium. This auditorium features 'ramped seating' and has complete audio-visual facilities. The morning programs will be held here, as will the Wednesday evening Apiotherapy workshop with Mr. Charles Mraz.

The University Center will house the Commercial Exhibits in a spacious and well-lit area, complete with excellent security. Meeting rooms have been set aside in the Center for the Honey Show.

The Devilbiss Science Center will be a busy place with the Short Course, the Master Beekeeper Exams, and the afternoon workshops.The Bee Hives will be located in a lovely tree-shaded area near the dormitories. The dormitories are new and feature a cluster of rooms with a spacious bathroom. With 2 per bedroom, each cluster will have a maximum of 10 persons.

The dining hall with cafeteria is well equipped to serve a large number of people efficiently (after all, Salisbury State University has 5,000 students). The food is delicious the Maryland State Beekeepers Association held a 1-1/2 day meeting there and thoroughly enjoyed its stay.

Air Conditioning?? Yes! Everywhere. Salisbury state University hosts many, many conferences each summer, some with small groups and others of 600 people or more. A good summer conference is a cool conference. Bring your bathing suit to wear at the ocean, then come on inside to be cool at EAS.

ENVIRONMENT, Continued

"The program has been drastically reduced in the last decade," Cook says. "In 1979, $600 million was appropriated. In 1989, $141 million was allocated.

President Bush campaigned for a "National Endowment for the Environment," which he calls his "America the Beautiful" program. It includes massive tree planting throughout the United States as well as an environmental trust fund similar to the Land and Water Conservation Fund.

"President Bush has characterized himself as someone who enjoys the outdoors and cares about the environment," Andrew says. "There's a lot of pressure from conservation organizations and Congress for additional public outdoor recreation areas. President Bush can't talk about environmental problems like global warming and then ignore domestic programs that enhance the environment.

• Poetry Corner •

The Kindest Kind

Here come the first bees of spring,
Honeyed sunlight catching wing,
Disappearing among the trees that ring
The pasture where alfalfa is the thing
Of interest to the little bugs that sting.

Today alfalfa. Tomorrow clover.
Season changes. The bugs move over.
Flight of bee, song of frog, cicada, ants moreover.
Intricacies of Nature cover
Where intelligent insects keep their mother.

— Charlie Simon

BEEHIVE

A queen with her ladies in waiting
Rules firmly in feudal accord,
Accepts protocol from her minions
And homage from every last lord.

Her queendom is ancient and stable,
Relationships settled and sure.
She rules with an iron precision,
Enjoys a rich reign quite secure.

The ladies in waiting are faithful
They spend themselves to the last dime,
They dance in their utter devotion,
They offer their bounty sublime.

The gentlemen serve on short notice —
They give of their all to the cause,
They render full strength to their sovereign
Observing her system of laws.

No patriarch ever was better;
She rules her dominion with grace.
Her monarchy functions superbly
With every last lackey in place.

Raymond S. Nelson, Professor of English
Friends University, Wichita, KS

NEW FOODS IN 1989

During 1989 consumers were offered a record 9,200 new food items — including 1,700 more food-enhancing condiments. Sauces, flavoring and pickles with Cajun, Jamaican, Thai and Creole flavors challenged the dominant Italian, Mexican and Chinese offerings, says Donna Montgomery of the LA Cooperative Extension Service. There were more than 1,300 new snacks and candies, 1,348 dairy items, almost 1,200 bakery items (many with oat bran) and many entrees offering low-fat, low-salt, low-cholesterol choices.

While at the same time the Conservation Reserve Program will boost net farm income and improve environmental quality over the life of the program. However, these gains will come at the cost of somewhat higher food prices and government administrative expenses, according to a new USDA study.

There may also be potential downturns in farm input industries. Net economic benefits of the program range between $3.4 billion and $11 billion in present value, according to estimates in the report.

WESLACO GETS NEW LAB

The Honey Bee Research Unit, ARS-USDA, Weslaco, Texas, moved into temporary quarters during December, 1989. They are now located with other ARS research units and the Texas Agriculture Experiment Station on a research station in Weslaco, TX. This temporary move has reduced the available work space somewhat but the facility is modern and more functional.

Funds have been allocated for plans of a new facility at the main ARS location near the Texas Experiment Research Station in Weslaco, Texas. The search for an architect has begun. Building completion is expected for late 1992 if construction funds are made available next fiscal year. A new honey house had just been completed that will serve as a permanent location for the lab's beekeeping operations.

The Unit's new mailing address is: Honey Bee Research Unit, USDA, ARS, SPA, SARL, 2413 E. Hwy. 83, Bldg. 205, Weslaco, TX 78596

Honey Board and Summertime

This summer, the National Honey Board will team up with California Summer Fruit to promote a fresh, sweet taste.

A honey dressing for peaches, pears, plums and nectarines will be demonstrated in the produce section of key supermarkets in nineteen markets. Consumer brochures highlighting honey and fruit recipes will be distributed along with the samples at the demonstrations.

"We want to lift the typically low summer sales of honey," said Dan Hall, executive director for the National Honey Board. "By positioning honey in the produce section and sponsoring in-store demonstrations, we are guaranteed success."

Bob Lyons

Honey Show Winners

Despite a short honey crop, which usually limits both the entries and the quality in honey shows, Chairman Rick Sutton said the 1990 American Honey Show had the most uniformly top quality entries he had ever seen. The show is an annual feature of the American Beekeeping Federation convention.The Best of Show trophy, sponsored by the American Beekeeping Federation, was captured by Bob Lyons of Pincher Creek, Alberta, Canada, with his Water White Honey entry.

The entries were sold at auction to benefit the American Honey Queen program. Nearly $2,500 was raised through the auction.

The first place winners and the best of show each received a silver tray for their prize. For more information on the 1991 American Honey Show to be held in Mobile, AL, Jan. 22-26, 1991, contact the American Beekeeping Federation, P. O. Box 1038, Jesup, GA 31545.

In addition, the Honey Board will co-sponsor a national radio and television publicity tour and a full page color story in newspapers' food sections featuring honey and fruit recipes.

To extend honey's visibility in the produce section, the Honey Board has developed display bins, available for purchase at cost.

The summer promotion will begin in mid-June. Let your customers know that it's time for fruit and honey!

Wants more Research

YEUTTER SPEAKS OUT

American agriculture needs more income from the market place and less from the government, says U. S. Secretary of Agriculture, Clayton Yeutter.

"It is in the long-term best interest of farmers to look for ways to grow what the market wants, not what they might prefer to grow ... and it is in their best interest to market their products instead of storing them for the government," he argues.

In an interview included in the 1st Quarter, 1990 issue of *CHOICES, The Magazine of Food, Farm, and Resource Issues*, The Secretary outlines his priorities for farm policy in the 1990s.

Mr. Yeutter points out that serious attention must be given to environmental objectives and research. "Research is the one factor that has consistently kept America ahead of its competitors in agriculture." And he states that he intends to aggressively seek additional funds for research.

Dismissing the suggestion that he secretly wants a one year extension of the 1985 Farm Act, Mr. Yeutter indicates that he wants a five-year bill on the President's desk before summer recess.

Display Index

You're not bothered by an occasional 'perhaps', or some 'maybe's' now and then, but you get really upset by 'mites'.

You have an electric clock with an alarm that buzzes.

You like wall paper with flowers on it.

You celebrate the start of a new honey season by popping the cork on a queen cage.

You learned about the birds and the bees years ago, but you remember more about the bees than the birds.

You've melted enough wax to fill a cathedral with candles.

You've launched a bee-space program.

You think of the air quality 'pollen count' as the ones that got away.

The number of combs you have with teeth in them is statistically insignificant compared to the number without.

You lift more frames in a day than a filling station that's running a special on oil changes.

You consider the honey house your second home.

You've never, or almost never, met a bee you didn't like.

You go out of your way not to step on honey plants.

If all the supers you've ever stacked were all stacked on a single bottom board, you'd have a wooden skyscraper tall enough to require aviation warning lights.

You've extracted enough honey to satisfy even a bear's sweet tooth.

You dust off your bookshelves with a bee brush.

You have something in common with bees ... they can't see red, and nothing they do when you're around them can make you 'see red' either.

You find yourself strangely attracted to certain foods by their names alone – nectarines, honeydew melons ...

You wouldn't be caught dead at an anti-nuc rally.

You've learned how to say hello in Swahili (Salam alekum), just in case the African bee gets closer than you think.

You get a crazy craving for sweets every time you smell smoke.

You're so familiar with local trees and flowers you could give directions to scout and field bees, if only you were a little bit better at dancing.

You go with the flow.

You know 101 uses for a hive tool.

As long as things are going well, you're all hums.

Your lifestyle dovetails well with Mother Nature's.

You'd consider changing your agricultural interests if you could find a breed of chicken that lives on pollen and nectar, and lays 1000 eggs a day.

Your ambition is ***"to bee all that you can bee!"***

You Really Know You're A Beekeeper When ...

JOHN DROMEY

(Second Edition)

BOTTOM·BOARD