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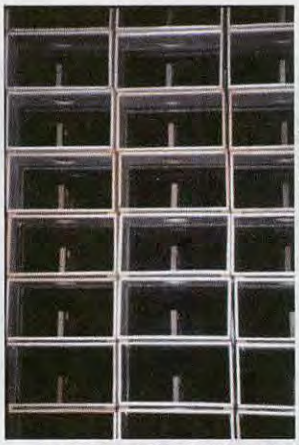
Bee Culture

THE MAGAZINE OF AMERICAN BEEKEEPING

DECEMBER 2001 VOLUME 129 NUMBER 12



Is this the best we can do when shipping live bees? See pages 8 and 26. (photo by Kim Flottum)

FEATURES

DEPARTMENTS & COLUMNS

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MAILBOX

Too Small To See

Well, I have been getting *Bee Culture* for years now. I still like to get it and read it from the front cover to the end. I have been thinking of writing to you for some time, but just keep putting it off. Though, not after reading the October issue, or trying to read it. Where in the heck do you come up with such small print? I agree with Fred Deer from Cary, NC with what he said about your small print. Why don't you ask in the next issue if any one else likes the small print? I think you will soon see where you have gone wrong.

If you have to print so much, you sure had better add a couple of pages to the magazine. If it doesn't change soon, when my time is up I sure will not reorder it anymore. So if you want to lose more readers, just keep up with the small print. Maybe you would like to print this in the November *Bee Culture*. I am sure I know the answer to this one, it will never get printed. Take care.

Bert Otto
Yakima, WA

Editor's Note: *Readability of any printed material is a function of several things. The 'font, or style of letters that are used, the actual size, or 'point size' of the letter style chosen, the distance between the lines of type, commonly called the 'leading, and the paper they are printed on. The style, size and leading we use is in the 98%+ range, as judged by criteria published by* Editor & Publisher, *the journal of newspaper publishing, published by the Adweek Division of UNV Inc. The* Gleanings *section in the back of our magazine is smaller and the lines are closer together, and the rating is only 85%+. This means that 98% of our readers should be able to read the copy without difficulty, and roughly 85% should be able to read* Gleanings *without difficulty.*

Tweaking the front of the magazine would seem troublesome, but we'll look again at Gleanings.

Small Hive Beetle

Like many beekeepers, I have felt besieged by mites, diseases and then the Small Hive Beetle (SHB). Being an organic gardener, there is a distaste for using ever stronger pesticides. With no identified SHB in my hives, there was time to think of less toxic treatments options.

The SHB lays its eggs in the hive and the emerging larva proceed to make a mess of the combs but the larva leaves the hive to pupate in the ground when it is fully developed. This ground phase lends itself to control and conventionally this is done with GardStar® pesticide. What pesticide residues are left are unknown but must exist and in other types of pesticides have proven to be significant problems to water supplies, the environment and humans.

A non-toxic alternate for treating the pupating stage is worth exploring and has been used in the following fashion for the last two years. A package of nematodes (*Steinernema* sp. and/or *Heterorbabditis* sp.) is mixed in water and then put into a new sprayer (no pesticides ever). The solution is then sprayed around the hives to a distance of about four feet. This year 25 million nematodes were used to spray around ten hives where the hives are three to eight feet apart in two different locations. No pesticides have ever been used around the hives for at least the seven years I have owned the property.

The nematodes are microscopic ground dwelling parasites that are already found in our soil in very low concentrations. The nematodes enter the body of ground dwelling insects (SHB larva?) and kill them. While the nematodes are used for termite control and other ground dwelling pest control there has been no test of their effectiveness against SHB but they should last all year long. If ordered early in the Spring before special shipping is required to keep them cold, they seem relatively cheap and they are definitely non-toxic.

If no rain is forecast the nematodes can be kept in the refrigerator since they should be sprayed on damp or even wet ground such as during a rain. They can be kept for several weeks in the refrigerator. Since most areas of the country can count on rain in the spring, this seems the best time to spray them on the ground. The evening is critical to spraying if it is not raining as the sun can dry them out and kill them before they can burrow into the ground.

In 2000 both species of nematodes (two packages of ten million) were bought from ARBICO (800-827-2847) in Tucson, AZ. In 2001 a single larger package of nematodes (25 million) was bought from IPM Laboratories in New York (315.497.2063) since the price and shipping were lower. You can review a listing of other parasite and predator bug sellers at http://www.cdpr.ca.gov/docs/dprocs/goodbug/organism.htm.

While these nematodes are not for use in the hive and if sprayed in the hive could be harmful to any bees directly contacted, they are on ground patrol in my apiary locations while an in-hive alternate is considered. Now if there was only an alternate like Trichogamma wasps for SHB instead of just the wax moth.

Eldon Winston
Martinsburg, WV

Happening!

I've been meaning to send you this 'happening' in one of my beeyards (namely the ones I can see from my patio window) of a swarm (from one of the six hives) that I watched 'issue' from hive to crab apple tree and stay for about 40 minutes, while I was working in my shop and can see the hives and

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trees from the open shop door. These are my main "observation hives" and where I raise my swarms and splits and package bees and about three or so for honey production.

Some swarms do go back to the hives particularly from superceded queen hives. My mentor Carl, 94½ years old now, told me some years ago that occasionally a swarm will issue with a supercedure virgin queen on a mating flight. So, if you live with the bees, you will see things that many others do not get to see or know about.

So I've seen this and many things with the honey bees. So, what triggers the bees to do this?

Also, maybe sometimes it's the only swarm queen left for that hive and the bees are still excited to swarm but the queen knows she is supposed to return and populate that hive and does so.

Of course we know that sometimes the whole hive swarms together and sometimes swarms "to death" with one too many after swarms.

Voron Baughan
Chattanooga, TN

Wax Free Utensils

I am a new subscriber to *Bee Culture*, and I really enjoyed the September issue. I liked reading the article "18 extracting tips & tricks." I would like to offer an amendment to "Use once, then not again." I ran into this problem my first year as a beekeeper. While cleaning beeswax in boiling water, I found that every kitchen utensil I used became coated with an indelible coating of beeswax and I couldn't figure out what to do to remove it. Since this was all new to our family, we were using our normal kitchen pots, pans, etc., and my wife was quite upset with me for "ruining" all of these utensils. I was nearly at my wits' end when a phrase from high school chemistry popped into my head: "like dissolves like." Since beeswax is basically a hydrocarbon, and vegetable oil is a hydrocarbon, and vegetable oil is fairly easy to remove from pots and pans with ordinary household dish detergent, I added a sizeable dollop of vegetable oil to the pot with boiling water/melted beeswax residue. Presto! It worked! Now, instead of a coating of nearly impossible-to-remove beeswax, everything had a coating of easy-to-remove vegetable oil/beeswax mixture which came off fairly easily with dish detergent. We did not try this, but I'll bet it would come clean in a dishwasher as well, without coating the dishwasher with beeswax.

I have used this method since then for cleaning our kitchen utensils, and it continues to work very well. You do have to use boiling water, so that the beeswax is melted, and so that it mixes in with the vegetable oil. Use this to clean everything that has the beeswax on it.

Mark Pearson, M.D.
Springfield, MO

Help AAS

The Charles Mraz Memorial Bench/Scholarship project is in danger of failing for lack of contributions. We have had little or no response since last year. We're asking for your help.

Please send your donation to AAS Charles Mraz Memorial, James Higgins, 5390 Grande Road, Hillsboro, OH 45133.

Thanks for anything you can do. We are really desperate.

Barry Finch
Ridgefield, CT

You Get The Rabbit

It's no secret what has been happening between the two opposite sides on how the National Honey Board should be handled. Some years ago I wrote that it would be nice if we put all the scared cows in one pen and try to work out what is best for the Beekeepers and the Honey industry. I have now come to the conclusion that some spokesmen have elevated this simple idea to a different level.

My late husband John had a saying when you were right and he was wrong – he would say, "you get the rabbit." Now I have no idea what it meant but it seems to fit what is now going on with all this in-fighting. Those that are working so hard to make us a united industry seem to have to waste their time and energy defending their actions against half truths that are cropping up in the bee publications. It seems to me that those so totally against the board are all working for the rabbit award but will never get it.

I guess I would like you to look over the Honey Board (all bee people one way or the other) and honestly try to pick the ones that are not truly serving the industry for the industry's sake. All the members who serve on this committee are not paid. I know of some that do not even turn in slips for expenses incurred. Maybe we should call the board our designated drivers. They will never be able to please or give service to everyone's wish list. In this day and age I would say let's repair the car we have. There is room for everyone. It still runs and just may need a tune up by positive mechanics. Any of you who think we should junk the old and get a new better car remember that a new car always costs more, one way or the other in the end. My thanks to those who in their own honest way have put the needs of the industry in front of personal gains they may receive as a result of giving of their time and talents.

It's fine to remember the past but let's get with it to live and work for now and the future.

Elizabeth Vaenoski
Clinton, WI

U.S. Honey Promotion?

The events of September 11, 2001 have affected each and every American in some way, but who would have imagined that honey in the Middle East would be implicated in Osama bin Laden's tangled web as a means to supply money and cover for his terrorist network? Within a few hours of the New York Times front-page story on October 11th, the National Honey Board prepared and issued an informed response to this startling revelation. It is indeed fortunate for the honey industry that the NHB was there to once

Continued on Next Page

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again protect the good name of honey. In spite of the events of September 11, my optimism about the future of our country and industry is stronger than ever. As in my previous letter, the comments I present here are my own, as a private beekeeper, and not necessarily those of the National Honey Board.

Honey producers and importers will decide by referendum vote in February 2002 whether the National Honey Board will continue serving the industry by researching and promoting honey. This referendum was originally scheduled for August of 2001, but all groups represented at last February's industry Roundtable signed a letter requesting that USDA delay the referendum. The purpose of this request was to allow an ad hoc committee (made up of members from each of the eight participating roundtable organizations) the necessary time to formulate possible alternatives or improvements to the National Honey Board.

Subsequent ad hoc committee discussions (via teleconference) suggested several possible board scenarios, but the following three received the most support:

1. Continue the National Honey Board with its current structure
2. Continue the current NHB with some changes in structure/ operations
3. Establish a "packer-importer" board

In addition to the teleconferences, the ad hoc committee met in conjunction with the National Honey Board at its June meeting, and various committee members suggested the following possible changes to the National Honey Board:

1. **The Nominations Committee** – Some committee members felt that the current nomination process could be improved by allowing producers within a region to more directly select their region's nominees for Board positions. (The Secretary of Agriculture selects from the nominees to appoint Board and Alternate positions.)

2. **Change in Exemption Level** – Some committee members expressed the desire to raise the current 6,000-pound exemption level. Opinions ranged from keeping the level at 6,000 pounds to setting it up to 250,000 pounds.

3. **U.S. Only Honey Promotion** – The committee discussed that this change could only occur by eliminating assessments on imported honey, which would reduce the NHB budget significantly. Some committee members view the current NHB varietal honey promotion as a form of U.S. honey promotion.

4. **Eliminate Packers on the Board who do not pay assessments** - Two honey packer (handler) member seats have existed since the inception of the NHB. Discussion centered on recognizing that knowledge of markets and additional breadth and perspective were the reason packers were originally asked to participate as members of the NHB. An attempt to add a packer assessment was not approved by the industry in the referendum held during the fall of 2000.

5. **Beekeeping Research** – The NHB can fund beekeeping-related research but the committee felt that it should be done on a limited basis.

If any of the first four suggestions were to be implemented, the enabling legislation under which the National Honey Board operates must be amended, since each of these is considered a "major" amendment to the Honey Research, Promotion, and Consumer Information Act. As always, any change to the Act requires congressional action and, since this would require lobbying, the NHB is prohibited from playing a role in this effort. The Order would also need to be amended and a referendum held before any of these changes could be adopted. Due to the fact that there was not enough time to complete these steps prior to the February 2002 referendum, none of the organizations represented on the ad hoc committee believed it was prudent to start the process in mid-2001. If any of these changes are to be pursued, interested industry organizations will need to approach Congress for legislative action after the February referendum results are announced.

This discussion of the Act, Order, etc., brings back thoughts of just how long this entire process can take. The original Honey Research, Promotion, and Consumer Education Act passed through Congress in 1984. The Order was developed in 1985 and public comments were submitted during the summer of that year. The first referendum was held in May 1986, and during the Summer of that year the first nominations committee met to select the initial Board. The new Board met later in 1986 and selected a manager who hired the first employees and established the office in Longmont Colorado. Finally, the National Honey Board began collecting assessments and opened for business in February of 1987 Quite a long process, indeed. Using USDA's "Generic Statute" the process may be shortened to 14 to 24 months if there is no industry opposition or controversy. If the honey program is not approved by the industry in February 2002, how long will the industry wait for another board to be up and running? Would another board ever come along?

In my last letter I posed the questions:

1."Should we expect that the honey market will take care of itself and that we will always be able to sell our honey, or is research and promotion a necessary part of our future?"

This fundamental question must be answered, as it cuts to the heart of the question of whether or not we believe the honey industry needs a research and promotion board. New threats to the viability of our industry challenge us and new opportunities are waiting to be discovered. No individual honey producer or honey company can do alone what the industry can do together. If we don't research and promote our own product, who will do it for us?

2. "Is product differentiation (i.e. varietal research and consumer education) a good idea or should honey merely be bought

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and sold as a commodity?"

In order to maximize the income we receive from honey sales, it is imperative that the differences among varieties continue to be be researched and promoted. This is a long-term venture that may not necessarily bring great immediate returns on investment, but rather it lays the foundation for a more prosperous future. The National Honey Board is committed to the idea that the specific variety does matter when it comes to honey; whether it is used as a gourmet food, as an ingredient in home cooked or manufactured foods or drinks, as a healthy alternative to other sweeteners, or possibly for medicinal uses. Developing new markets in these areas is critical to the future of our industry. Research is essential to this process of finding the unique, promotable aspects of honey. Differentiating honey from other sweeteners not only adds value to honey, it also helps ensure a future for the industry.

3. "Is a producer-dominated board like the NHB necessary to guide US honey producers to a more prosperous future?

This is an important question to ponder in light of the fact that the National Honey Packers and Dealers are considering the creation of a "Packer-Importer Board" in the event that the current honey program is not approved by the industry in the February 2002 referendum. Some individuals, who view a "packer-importer" board as better than having no board at all, welcome this effort as a "fall-back" position in case the honey program is not approved. There are a few producers who claim that such a board would serve their needs, and therefore support this endeavor as their primary choice. Still others believe that the packer assessment would actually be paid by producers (in the form of a lower price offered for their honey) yet producers would likely have no representation on such a board.

The National Honey Board has served the industry well since it opened for business in 1987 It has evolved and grown into THE source of quality honey research and promotional information in this country and is the envy of many in the honey industry throughout the world. We are truly fortunate to have such a professional, dedicated, hard-working staff at the National Honey Board working for the betterment of our industry.

What is the future of U.S. honey promotion? If you are a producer or importer of honey, the answer is in your hands.

Gene Brandi, Beekeeper
Los Banos, CA

Roadside Tips

Ann Harman has provided some very useful information for beekeepers with her article on roadside stands (October 2001). I've been selling honey that way for over 30 years, and perhaps I can add a few tips to what she has written.

It is certainly true that roadside stands are a good outlet, especially in areas visited by tourists. Some suggestions: Don't let your honey granulate on the stand. If it starts to, exchange it. If you find another beekeeper's honey granulating, swap yours for it, jar for jar. If the operator of the stand is reluctant to buy your honey, let him pay you after it is sold. That way he can't lose. His discount should be about 30-35%.

I note, from your cover picture, that this beekeeper uses regular mason jars and home-made labels. Very good. This distinguishes his honey from store honey, giving it a truly home-grown look. Such jars are perfect for chunk honey, shown in your cover picture, and you can pick up recycled ones very cheap. The lids and rings are expensive, but the regular cap for a five-pound jar, costing only seven cents, fits a regular canning jar. A one-quart canning jar is supposed to hold three pounds of honey, but it doesn't, so what I do is just write on the label, "one quart." Most of the honey I sell is in mason jars. People like them. They don't look anything like the supermarket honey.

My stand is run on the honor system. You need to have a little sign or two in the stand reminding customers that you are trusting them to be decent, honest people. It works very well for me, but I did have one theft this year, of about $30. So I decided to rig up a door bell, to let me know when someone was out there. To my great astonishment, I found that a modern door bell, costing about $18, needs no wires! So I fastened the button on the little platform in front of the stand and tacked a sheet of masonite over this. So people had to step on it to get close. Simple. Installation took about 15 minutes. Now whenever we hear the "bing bong" of the bell we look out the window to see who's there. If it is several people, talking, then we know its okay. If it is just one person, who has perhaps turned off his car engine, and is trying not to attract any attention, then one of us steps out to ask whether we can be helpful. We seldom have to check, but there will be no more thefts.

If you're going to sell honey this way you need road signs, big ones, up and down the road, a mile or so from the stand, the more signs the better.

It's a great way to sell honey, and very little work. All I have to do is fill the jars, keep the stand well supplied, and empty the cash box (which is labeled HONOR BOX) from time to time.

Richard Taylor
Interlaken, NY

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INNER COVER

There's a lot of low-tech in beekeeping. With the exceptions of medications, plastic and mechanized moving, the keeping part of beekeeping is pretty much unchanged in many decades. And although uncapping and extracting are shinier now the mechanics are pretty much unchanged for just as long.

But the lowest tech, least complicated, least expensive beekeeping tool? It's gotta be that rock on top of the hive. Now think about that. It's nearly 2002, and ever since whoever designed a box to put bees in, beekeepers have been putting rocks on top to keep the covers from blowing away.

Of course lots of things work bricks (how else to keep records), chunks of cement, concrete blocks, scrap metal all things heavy.

My friend Buzz made the astute observation that rocks are perfect for what we use them for. They work (tops don't generally blow off if you have a rock on top), rocks are available almost everywhere (not quite, but almost), rocks are, essentially, free, and, from a thief's perspective, rocks have absolutely no value, so aren't ever stolen. And vandalizing a rock is, at best, difficult (though smaller ones could, I suppose, be thrown far enough to be lost).

No doubt bricks and cinder blocks are better used in a beeyard than filling valuable landfill somewhere. Rocks, though, are simply moved out of the way if not used on a hive. They are disagreeable when it comes to mowers, and those large enough to actually hold down a cover can be a nuisance underfoot.

Using a snug-fitting migratory cover negates the need for rocks, so is, I guess, a step in the right evolutionary direction. But these have as many drawbacks in design and use as the wind blown-prone telescoping covers. Ventilation being a major problem, but propolis is right up there.

In all these years it seems nothing as practical as a rock has emerged as the best way to hold down the cover of a beehive. No hooks or levers or straps or widgets that work as well, or better, and are standardized. It'll always be a rock.

In that same vein, look at the container your bees arrive in each Spring. The basic design is over 100 years old. Now I'm a strong advocate of 'if it's not broke don't fix it, but that design is broke. Pure and simple.

The Post Office doesn't like it (see the article on shipping bees) because it leaks it leaks bees and the cans leak syrup. It's cumbersome to handle, it's expensive to make, it's inefficient to ship it's broke.

The Australians figured out a decade ago how to stop syrup leaks by using syrup that was jelled, or just using candy. Some queen shippers have been using the pasteboard Rite-way Queen Shipper, which includes about a pound of loose bees, for several years. Lots of ventilation, no leaks, efficient and safe to ship. Other safe-shipping containers exist that have been developed.

My guess is that shipping bees via USPS is going to get trickier and more expensive. The costs they have incurred because of the facility they lost in NY in September, and the nightmare in the mail lately is going to test them dearly. And irradiation? Lead lined queen envelopes? No, neither of those work for small packages of queens.

UPS does offer some options, but they are examining what they can, and will do also. In either case though, that 1900 style cage has got to go.

This year, think about how you'll get bees to your yard. Can you go get them? Can a major shipment to your area be organized? A friend? How? Maybe the Post Office will work, but at what price?

Isn't it time we finally got rid of that outdated cage. Isn't it time to look at better shipping containers for live bees?

•

Finally, as another year draws to a close all of us here at *Bee Culture* wish you and yours a safe and happy Holiday Season. Next year will be better.

Kim Flottum

Kathy Summers

Dawn Teagarden

Jim Thompson

Isn't It Time To Change

NEW FOR THE HOLIDAYS

Branding Irons Enter New Age

BrandNew Industries, Inc. – established in 1990 – is a company that makes custom branding irons that are used to quickly, permanently and indeliby identify tools or other equipment. A piece of equipment branded with your name or logo permanently establishes it as your property discouraging theft or pilferage. For those who package their products for retail sale, the same branding iron can be used to brand small wooden crates that hold a selection of different honeys. The branding irons work on wood, leather, cork, cardboard, canvas and plastics. The heated iron is simply placed on the workpiece for about two to three seconds and produces a sharp, clear, indelible impression.

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Branding irons are available in gas heated and electrically heated models and are very competitively priced. The company charges by the square inch and can usually quote right over the phone or by FAX within 24 hours or less. Delivery of the finished branding iron is never more than two weeks.

The company invites interested parties to FAX their design or logo. Delivery of your finished iron is promised at two weeks or less.

Call or write for more information, Paul Burri, BrandNew Industries, Inc., 800.964.8251 FAX 805.964.4262, email: pburri@brandnew.net. Or visit the web site at www.brandnew.net.

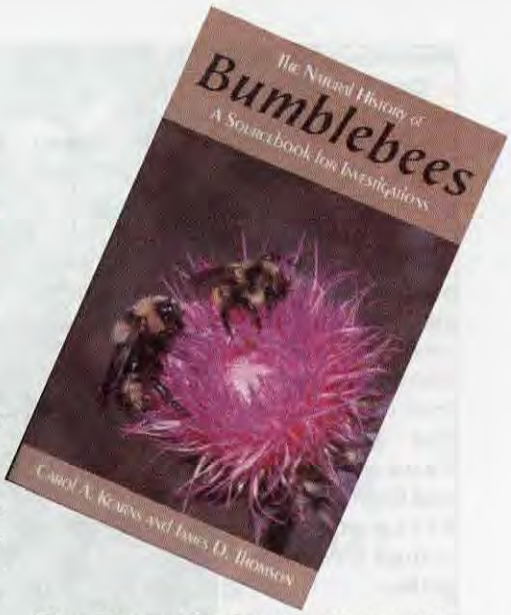
New Hive From Betterbee

The "Beemax" hive, the first polystyrene hive developed specifically for North American conditions, is now in full production. Like the polystyrene hives produced for many years in Europe, the hives are dovetailed for strength and ease of assembly and come knocked-down for economical shipping.

Various improvements have been made to make this hive ideal for the range of climactic conditions in North America. 1)The built-n *Varroa* screen uses 6 mesh galvanized cloth so that less hive debris blocks the screen. 2)Provision is made in the top and the bottom for hive straps to enable the hives to be easily moved for pollination. 3)Increased material is used to increase the R-value for a warmer hive in cold northern climates and a cooler hive in hot southern climates. 4)More dovetails are incorporated for increased strength. 5)The handhold is redesigned and deepened for ease of lifting. 5) No-stick, hard plastic frame rests are used to make frame removal easier.

Among the many advantages that polystyrene hives evidence are: 1)increased brood rearing, 2)Lighter weight for harvesting, 3)Better wintering with fewer moisture related problems, 4)Increased honey production.

The Beemax hive is available at Betterbee Inc. 800.632.3379, Dadant and Sons 800.637 7468 and F.W. Jones 800.665.6637



The Natural History Of Bumble Bees. Carol A. Kearns and James D. Thompson. University Press of Colorado. 130 pages, 5½" x 8½" soft cover, color photos. $25.00.

This book has been long overdue. We almost made one happen here a couple of years ago, but even that would have only focused on bumblebees in the Midwest. This new book serves in part as a picture-based field guide for North American bumblebees, and a series of suggestions for studies and exercises.

It explains very well their life cycle, the bumble society, foraging activities, pests and diseases, and what I found most interesting – how to raise them. There are exceptional color photos of every North American species, showing queen, worker and drone. With the photos are North American maps showing distribution of each species.

At the end there is an extensive collection of supporting photos of nests, mimics and larvae and other ID hints. A long list of references is included, along with sources of equipment and bees and other information sources.

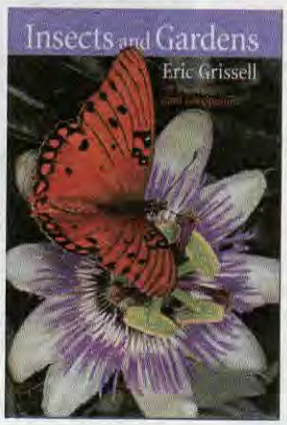
If you've considered raising bumblebees, for fun or profit, or have a beekeeper's curiosity about yet another amazing insect, this book will answer many, if not all of your questions.

Available from *Bee Culture's* Bookstore, Cat. #X94, $25.00 includes U.S. postage.

Contined on Next Page

Insects and Gardens: In Pursuit of a Garden Ecology. Eric Grissell, photos by Carll Goodpasture. Timber Press. 340 (heavy weight, glossy) pages, 105 color photos, 6" x 9" hard cover.

You can't be a beekeeper without being something of an entomologist, and almost every beekeeper I know is some type of gardener. The three go hand-in-hand, and this book very attractively brings them together.



From The Publisher: If the estimates of some scientists hold true, there may be as many as 29 million species of insects still to be discovered. An entomologist (who was also a gardener) once spent a year counting the larger, more common insect species in his suburban plot and reached nearly 1500. Although our society has declared war on insects, to the tune of about one billion pounds of pesticides applied in the United States in a recent year, insects are not likely to surrender. In fact, author Eric Grissell warns that the average gardener is likely to suffer from combat fatigue – or worse – if he or she becomes dependent on pesticides to keep a garden "healthy." In this intriguing book, professional entomologist and amateur gardener Grissell suggests that it might be time to declare a truce with the enemy. Gardeners may be surprised to discover the hidden wonders of the insect world when these creatures are welcomed into the garden.

With a sound basis in science and a practical grounding in gardening experience, Grissell seeks to introduce the reader to insect biology and the role of insects in garden ecology. He describes the various orders of insects the gardener is likely to encounter, and writes knowledgeably about how insects grow, feed, and reproduce. Unlike other books on insects for gardeners, this is not a handbook on how to recognize and eliminate "pests." Instead, Insects and Gardens casts a more appreciative eye on the doings of the class Insecta and seeks to find a middle ground in which both humankind and insectkind can share the garden to mutual benefit. No absolute purist, however, Grisell guiltily confesses to having broken down and used pesticides in desperation more than once. Gardeners will find here a companionable friend with high ideals rather than an unyielding taskmaster.

More than 100 of Carll Goodpasture's remarkable color photographs reveal the captivating beauty and vital energy that insects bring to the garden, and illuminate the intricacies of interdependence that characterize a garden's ecology.

My professional background and training bridge these topics . . insects and gardening. I was pleased to see old friends from both fields in the references Mark Winston was mentioned.

If you already know of bugs and gardens this book will entertain and educate. If you are just starting it is a perfect introduction to insects including honey bees, and how they and gardens fit together.

Available from *Bee Culture's* Bookstore, $30.00. Cat. #X95 which includes U.S. postage.

Kim Flottum

QueenRite Calculator. This is one of those 'Why didn't I think of that?" items that's handy, easy to use and inexpensive. Simply, it is a chart that tells you when to do things when raising queens. If you transfer day-old larvae on the 7th of the month, at a glance the chart tells when she emerges, when she starts mating flights and when she'll start laying. Laminiated, it has a 30 day month and 31 day month figured out so you don't have to refigure it every time you start. $5.95 includes U.S. postage. Contact James Littley, 8125 E. Beal City Rd., Mt. Pleasant, MI 48858.

QueenRite

...ueen Emerge Date	Queen Ma...
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Beekeeping Principles. A Manual for Beginners. A Guide For Gardeners. James E. Tew. Paper, b&w, 245 pages. Published by the Walter T kelley Company. Available from *Bee Culture's* Book Store, $19 includes U.S. postage.

The idea for this book came about after Jim made an offhand comment to Sarah Manion about the book Walter T. Kelley did years ago entitled *How To Keep Bees and Sell Honey*, first published over 50 years ago. After some thought Sarah decided that a new book was in order, but to simply redo Walter's book wouldn't do as an update was needed.

It's obvious though that Jim didn't stray too far from Walter's original, as the organization and concept are similar. Jim has updated those topics that have changed since the last edition, and he has added a wealth of information in some areas.

Jim's strengths in biology and basic science are prominent when compared to Kelley's, but Walter's sense of salesmanship aren't matched in this new edition.

Jim has added a new twist to this book, specifically a guide for gardeners. This includes a long list of plants and their value as nectar or pollen sources.

Other appendices include characteristics of beeswax, a generalized treatment schedule, a bibliography and an extensive glossary.

There's lots of useful information for a beginning and novice beekeeper in this book. And, although it's organization is a bit erratic, so are Jim's articles, and it is to be expected I suppose. We'd be disappointed if it was otherwise.

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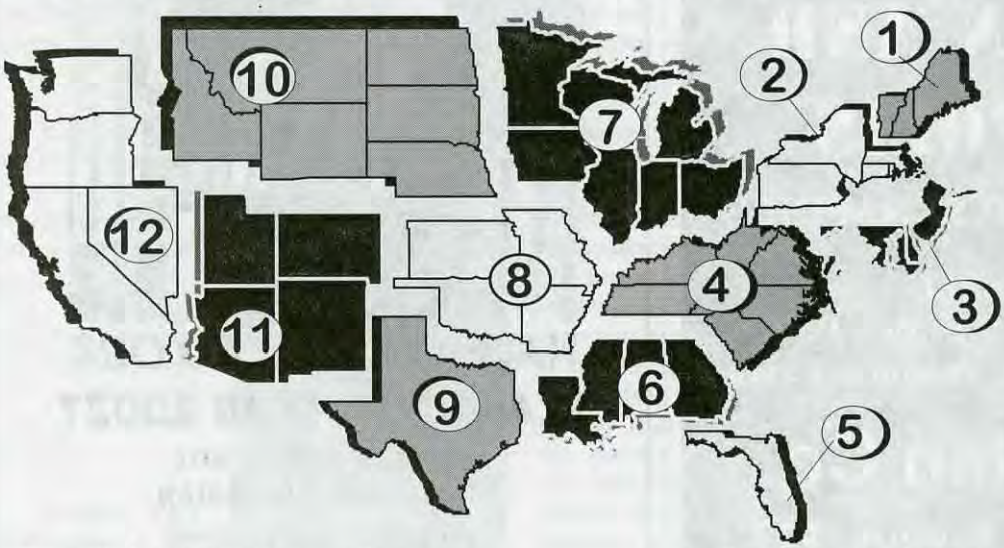
DECEMBER - REGIONAL HONEY PRICE REPORT



We polled our reporters about a variety of things this month, including asking about their business profitability, whether they will increase colonies next year and what kind of product mix they'll look at next season.

Demand for this year's crop, compared to last year's was up for 37% of our reporters, steady for 40% and less than last year for 23%. Meanwhile, only 25% of our reporters are selling the 2001 crop for more than the 2000 crop, 68% are staying the same, and 7% are actually selling at less than last year's prices.

Profitability has improved this year for 27% of our reporters compared to last year, remained the same for 44% and has been unprofitable or very unprofitable for 13%.

34% plan to increase the number of hives they have next year, 50% will stay the same, and 16% will actually reduce colony counts.

When it comes to products, 14% will increase the number of things they sell next year to improve business, 71% will keep the same number but do them better, and 14% will actually reduce and focus on strengths next season.

•

We will be changing the format of this report somewhat next year (in January), and are looking for reporters to cover regions 3, 4, 10, 11 and 12. If you sell honey wholesale and/or retail, and can fill out most of the numbers most of the time, we'd like to talk to you. Please contact Kim at 800.289.7668, Ext. 3214 for more information.

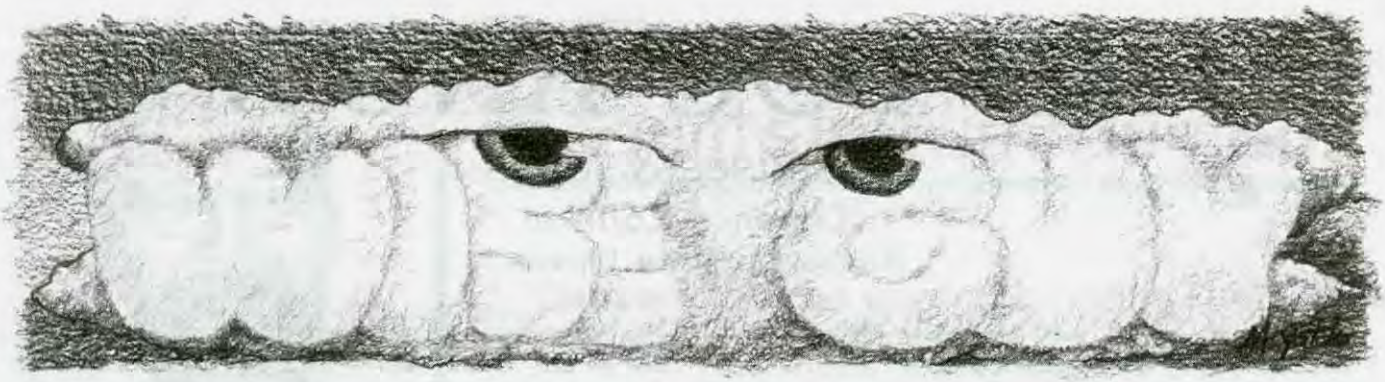
FLASH

The antidumping action against China and Argentina was found in favor of the American Honey producers and Sioux Bee Honey on November 7, 2001. The vote was 6 - 0 in favor of the complaintents. Duties to be placed on honey from these countries range from 32 - 60% for Argentine companies and 25 - 57% for companies from China.

Honey brought into the U.S. between the time the action was filed and the November conclusion will have these duties applied also.

Circumvention, bringing honey from Argentina or China into the U.S. without paying the duty is illegal. Customs is aggressively pursuing violations using newly developed chemical analyses. Violation requires mandatory prison sentencing.

	Reporting Regions												Summary		History	
	1	2	3	4	5	6	7	8	9	10	11	12			Last	Last
Extracted honey sold bulk to Packers or Processors													**Range**	**Avg.**	**Month**	**Yr.**
Wholesale Bulk																
60# Light (retail)	70.00	74.50	80.16	74.07	75.00	65.00	62.50	62.50	75.00	62.00	81.50	59.67	59.67-81.50	70.16	69.29	68.32
60# Amber (retail)	68.00	65.19	74.78	73.83	64.00	62.00	62.00	65.00	85.00	62.00	78.00	51.50	51.50-85.00	67.61	65.43	67.75
55 gal. Light	0.69	0.70	0.69	0.63	0.60	0.62	0.70	0.69	0.69	0.69	0.68	0.69	0.60-0.70	0.67	0.68	0.61
55 gal. Amber	0.62	0.65	0.63	0.59	0.55	0.56	0.67	0.63	0.53	0.63	0.67	0.63	0.53-0.67	0.61	0.62	0.58
Wholesale - Case Lots																
1/2# 24's	31.68	28.72	32.56	31.25	32.56	24.85	30.84	32.56	30.00	32.56	25.00	36.00	24.85-36.00	30.71	29.25	30.47
1# 24's	43.20	41.83	45.81	47.16	55.81	46.00	46.79	42.00	44.00	38.40	40.54	48.89	38.40-55.81	45.04	44.27	43.77
2# 12's	38.16	38.84	40.40	47.42	40.40	38.00	36.30	40.40	42.00	31.80	37.00	38.39	31.80-47.42	39.09	40.41	39.21
12 oz. Plas. 24's	39.48	35.68	36.47	34.02	36.47	36.00	33.75	33.00	36.00	27.60	50.00	36.12	27.60-50.00	36.22	38.25	36.48
5# 6's	54.31	52.66	59.82	56.43	59.00	59.92	56.66	59.00	52.00	60.12	52.00	55.75	52.00-60.12	56.47	45.29	42.27
Retail Honey Prices																
1/2#	2.00	1.65	2.83	2.17	1.99	1.50	1.56	1.54	1.83	1.49	2.50	2.13	1.49-2.83	1.93	2.02	1.74
12 oz. Plastic	2.00	2.32	2.81	2.66	2.44	2.05	2.05	2.24	2.47	1.90	2.50	2.13	1.90-2.81	2.30	2.29	2.20
1 lb. Glass	2.75	2.46	3.13	3.30	2.60	2.62	2.98	2.66	3.59	2.52	3.25	2.89	2.46-3.59	2.89	2.72	2.67
2 lb. Glass	5.00	4.29	4.55	4.70	3.69	3.85	4.09	4.71	4.95	3.91	4.55	4.55	3.69-5.00	4.40	4.34	4.51
3 lb. Glass	6.89	6.90	6.80	6.94	6.89	6.99	6.11	6.55	6.75	6.19	6.89	5.83	4.19-6.99	6.64	6.26	6.22
4 lb. Glass	8.64	7.60	8.64	9.08	8.64	7.05	7.57	7.99	7.25	8.64	8.64	8.64	7.05-9.08	8.20	8.40	7.07
5 lb. Glass	10.75	9.70	10.13	10.52	10.00	9.00	10.07	10.96	10.50	9.90	12.00	8.15	8.15-12.00	10.14	10.36	9.34
1# Cream	4.19	3.46	4.19	3.13	4.19	3.90	2.81	3.11	4.19	3.04	4.00	4.96	2.81-4.96	3.76	3.70	3.12
1# Comb	4.00	3.71	5.13	4.55	5.13	4.00	4.64	3.62	5.13	5.13	5.00	4.88	3.62-6.00	4.58	4.55	4.10
Round Plastic	4.00	3.15	3.99	4.28	3.99	3.25	4.27	3.62	3.99	3.99	4.00	3.75	3.15-4.28	3.86	3.67	3.54
Wax (Light)	2.50	3.24	2.94	2.45	2.94	2.95	2.67	2.50	2.20	2.94	2.50	2.94	2.20-3.24	2.73	2.33	2.39
Wax (Dark)	2.50	2.33	1.38	2.13	2.00	2.75	1.48	2.10	1.95	2.15	2.25	1.95	1.38-2.93	2.13	2.03	2.18
Poll. Fee/Col.	50.00	40.50	30.00	35.25	25.00	30.00	39.71	40.00	39.69	39.69	50.00	40.33	25.00-50.00	38.35	39.77	37.48



In its present form and function The National Board's largest benefactors are the staff who have well paid jobs, the board members who get free airfare, room and board plus other benefits of being a board member, and the nominating committee – again airfare and room and board at their meetings.

The old 80-20 rule works perfectly in this organization and it seems closer to the 90-10 rule. It goes like this. This Honey Board collects approximately $2,000,000 to $2,200,000 in domestic honey assessments and they collect that much from approximately 3,000 people, but about 100 American producers pay 90% of that $2,000,000 to $2,200,000! When you look at the Honey Board and the nominating committee, both of these groups slant the other direction with 90% contributing about 15% of the total assessments. Even funnier, there are people on the board who no longer are in the bee business but are helping to spend your 1¢ per pound. Maybe they are no longer in the business because low honey prices forced them to get out?

Back to the 90-10 rule. It appears that the strongest supporters of the Honey Board are mostly members of one of the national organizations. Also from where I stand it appears the ones yelling the loudest to keep the Honey Board fall into the 90% that pay only 10% of the cost. I guess if you can get some one to pay for a program and you don't have to contribute an equal amount why not support it?

The National Honey Board and others tell us that one area they help the industry is to deflect any bad press the industry may be exposed to. Shouldn't that be a function of the honey packers since they should be testing for problems in honey? The packers put their name on labels and bills of lading. They negotiate with end users so it's their reputation that is at stake, and they pay nothing to the National Honey Board! Again the 90%are subsidizing the 10% contribution.

Here's another thought. Why do some queen breeders that produce small amounts of honey so strongly support the honey board? They are active in their support, and some even serve on the nominating committee, and want the Honey Board to continue? What do they know that the people that pay the most do not know?

Let's be realistic, nothing of *significance* has been accomplished to date by the Honey Board. There has been only one accomplishment so far and that has been the Honey Board's expanded budget because of imported honey. If we are to be fair let's put a maximum you pay to the Honey Board of $1,000 per entity per year. With 3,000 current payers that would give them $3,000,000 and all people would be treated fair. Otherwise the Board must go.

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? DO YOU KNOW ?

Diseases & Mites

Clarence Collison
Mississippi State University

To be successful, each beekeeper must develop a bee disease/mite management program based on periodic colony inspections, sampling for mites, and treatment when infestation levels exceed economic thresholds. Beekeepers must learn to recognize the symptoms of the various bee diseases and know what corrective actions must be taken upon finding evidence of their presence. The process of disease diagnosis begins when the beekeeper enters the apiary and continues as the colonies are broken down and examined. Colony health must be a major consideration in the spring, if colonies are to develop into strong productive colonies.

Please take a few minutes and answer the following questions to find out how familiar you are with bee diseases and parasitic mites.

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

1. ____ Female honey bee tracheal mites lay eggs almost as large as their body.
2. ____ *Varroa* mites can kill a colony.
3. ____ Tracheal mites are found only in the worker caste.
4. ____ *Varroa* and tracheal mites lack eyes.
5. ____ Male tracheal and *Varroa* mites are smaller than the females.
6. ____ European foulbrood is usually a seasonal disease.
7. ____ Sacbrood infected larvae are unable to molt from the larval to the pupal stage.
8. ____ European foulbrood kills honey bee larvae faster than American foulbrood.
9. ____ European foulbrood spores remain viable in brood combs for many years.
10. ____ ____ The two states that have ETO (ethylene oxide) chambers for the treatment of diseased hives.
    A. New Jersey
    B. Maryland
    C. Pennsylvania
    D. North Carolina
    E. New York
11. What is the primary approach to preventing or delaying the development of insecticide resistance by Varroa mites. (1 point)
12. Give two reasons why brood combs should be replaced periodically. (2 points)
13. Purple brood is a malady of bees in the southeastern United States. What is the cause of this disorder? (1 point)
14. What condition is required before Ascosphaera apis, the causative agent of chalkbrood disease forms brownish-green fruiting bodies known as spore cysts on the mummy? (1 point)

Please match the following honey bee disease symptoms with the appropriate disease.

A. American Foulbrood
B. Sacbrood
C. European Foulbrood
D. Chalkbrood
E. Nosema

15. ____ *hind gut chalky white in color*
16. ____ *dead larva strings out or is "ropy"*
17. ____ *larva dies with a raised head*
18. ____ *dead larvae or mummies are often found at the front of the hive*
19. ____ death normally occurs in uncapped cells with the larvae still in the curled stage
20. Requeening is often recommended for colonies that have European foulbrood and sacbrood. Explain why this is a useful approach. (2 points).
21. Name two diseases/maladies of honey bees that are diagnosed by dissecting adult honey bees. (2 points)

ANSWERS ON PAGE 38

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Mark Winston

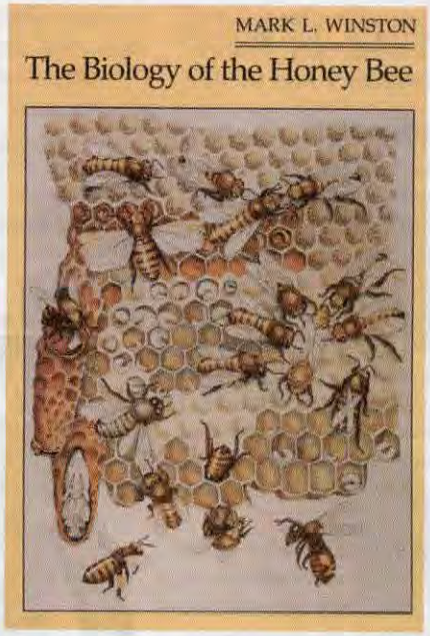
Encounters With Humans

"Beekeepers are eccentric, and my fellow academics a bit weird, but we all seem pretty normal when these out-of-the-blue calls and messages come in."

I receive quite a few pesky phone calls and e-mail messages every week. You know the type, the caller with a frantic proclamation that he has found a killer bee in his garage, a woman who heard that I remove wasp nests for "study" and could I send over some students to take down the nest on her porch today, a query from a children's book writer who claimed to have read and loved my honey bee biology book but nonetheless wanted to know the answers to questions that were answered clearly in the book.

I am unfortunately polite by disposition and trained by upbringing to respond courteously and promptly to phone calls and messages. I may call back quickly and answer patiently, but admit that I deal with many run-of-the-mill queries while on autopilot, with my mind otherwise engaged even as I talk or type a response. Sometimes, however, a call or message comes through that is either so unusual or so intense that it breaks through my protective barrier and piques my curiousity.

I had an e-mail message like that the other day, from an arts student in Colorado who admires honey bees. He first admitted that he wasn't a science type, but went on to describe a fascination with insects in general and bees in particular. His focus on bees could only have come from the keen observational abilities and focus on detail shared by talented artists and committed entomologists.



This fellow does not create in the typical mediums of the painter, sculptor fashion designer, or graphic artist. No, his medium of choice is the tattoo needle, and he wrote to me excitedly that he finally had found the perfect picture to emboss upon his own body. The image came from a WEB site that he directed me to, and when I went to the WEB address it turned out to be the cover drawing on my book The Biology of the Honey Bee.

This was a frightening thought. I am pain-averse by nature, and quickly recognized the intense agony that this detailed drawing would evoke on human skin when punctured in as a tattoo.

If you haven't seen the picture, it's a pen and ink representation of a comb with brood, honey, and pollen in cells, and adult bees walking on the comb conducting their diverse jobs. Rendered by my favorite artist Elizabeth Carefoot, it was painstakingly drawn with stippled dots of ink, each stipple translating into one poke with a sharp tattoo needle. There must be tens of thousands of stipples, painless by pen but each one a painful stab when applied as a tattoo.

He hasn't told me where it's going on his body, and my limited fantasy life prevents too much speculation. However, he did promise to send me a picture when he's done tattooing, so I assume it's somewhere fit for family viewing. I hope he survives in good cheer.

I had another recent encounter that involved pain and bees, but this agony was the psychic, emotional kind, and involved bees at a distance. A call came in from our municipal health department asking if I could please go by so and so's house (I'll call her Madame X to protect her privacy) and investigate bee feces. According to the health officer, this was not your normal bee poop call, but some Guinness-Book-of-Records amount of bee droppings, more like a herd of flying cattle dropping manure patties rather than our beloved and small little insects.

I did go by, and discovered that indeed there were some yellow bee leftovers spotting porches, skylights, and neighborhood cars, but nothing I thought out of the ordinary. What

Continued on Next Page

ENCOUNTERS ... Cont. From Pg. 15

was unusual about this call was the intense reaction that a few fecal pellets inspired in Madame X, and the distance of the guilty bees from her property.

I was attacked with a verbal barrage the moment the door opened, and it was only by timely exit that I escaped with my hide intact. This woman was hung up with bee feces, to the point where she spent time every day searching for droppings and scouring them with a scrub brush as soon as they fell. It wasn't only feces; her home, porch, car, sidewalk, and lawn were immaculate, and the bee droppings tormented her mostly because she had no control over their arrival.

I did try to talk up the bright side. She had an extensive garden full of flowers and produce, and as best I could I inserted a few comments between her tirades to inform her about how fortunate she was that that were so many bees in the neighborhood to pollinate her plantings. No go; in the tradeoff between pollination service and yellow droppings, the good work of our bees stood little chance of softening her judgement.

The guilty colonies were nowhere to be seen, and after an extensive search I could find no managed or feral colonies within a city block of her home. There were two backyard beekeepers who each had colonies about two blocks away, in different directions, and apparently these were the origins of the fecal bombers.

This may be a world's record for distance of fecal attack. Perpetrator colonies more commonly are found immediately adjacent to complainers, and cleansing flights are thought to occur closer to hives. Perhaps there's a good research project here for a joint psychology/biology major to study the distance of cleansing flights and the emotional impact on Madame X.

Calls about bee feces are not unusual, although this was my most intense encounter. The only experience I've had with similar intensity involved another woman who had a phobia about bee stings. Phobia is an understatement; she experienced disabling panic attacks whenever a bee was nearby.

I received a call from her psychiatrist one day seeking assistance to deprogram her phobia. Interestingly, the patient had an uncanny ability rivaling that of our finest entomologists to distinguish bees from flies or wasps on the wing at 20 paces. Other insects did not bother her in the least; it was only bees, especially honey bees and bumble bees, that evoked her hysteria.

The treatment was classic conditioning. In the first session the psychiatrist put the woman in a relaxed state with meditation exercises, and then we exposed her to a dead drone in a sealed vial placed across the room. As the weeks went on the doctor moved the vial closer, until finally the woman was able to tolerate the sealed vial in her hand, and then an unsealed vial with the dead drone inside.

The sessions moved along to the woman being able to hold the dead drone directly in her hand, and finally to tolerating a live drone flying around the room. Once she crossed that threshold the rest was easy, and today she no longer panics when a bee moves in range. She hasn't become a beekeeper, though; even modern psychiatry has its limits.

This was my only encounter with psychiatric beekeeping, but I do have an upcoming bee-related date with family counselors that began with a reading that led to another unusual phone call. The reading was at the Sunshine Coast Festival of the Written Arts here in British Columbia last year. I was invited to read from my writings, and among the works I chose were a few samples from *Bee Culture* columns and a book that collected some of those into essays, *From Where I Sit*.

A woman in the audience came up to me afterwards overwhelmed, going on about how they simply had to invite me to their next conference, since my perspective on bees was exactly like the approach they took to counseling dysfunctional families. I didn't think too much of it at the time, since a lot of people come up to me after I lecture and say all sorts of things that seem obvious to them but make no sense to me.

However, a few months ago the director of the counseling centre where she works called me to indeed invite me to do a workshop at their upcoming meeting in Vancouver. It turned out that this group adheres to a particular type of family counseling theory that considers social insects as excellent models for family dynamics.

Ever hesitant, I looked into it further and discovered that E.O. Wilson, the great social insect biologist from Harvard University, had spoken a few years ago at this group's international conference on the relationship between social insects and human families. With such an esteemed role model in mind, I agreed to participate, an interesting prospect since I know virtually nothing about family counseling. I do know what happens when bees are stressed and their societies challenged, so hopefully I can make some sense in a few months when I enter the counseling *den*.

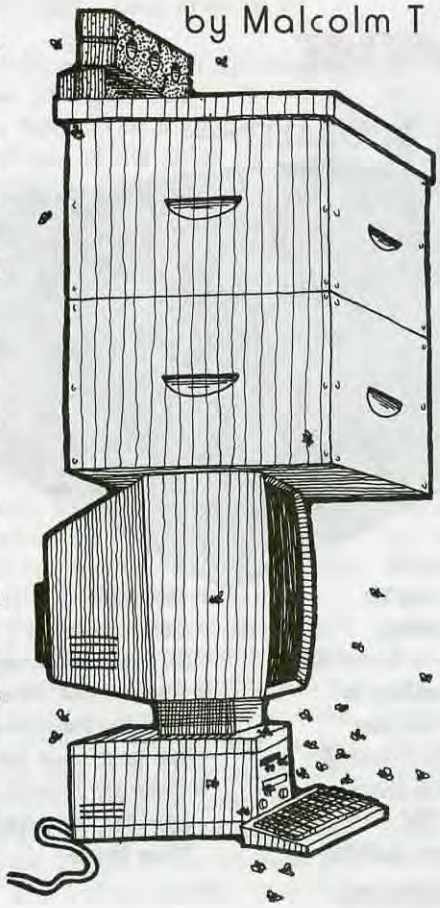
Tattoo artists, fecal obsessives, phobia-ridden patients, and family counselors; they never told me about those aspects of an academic career in graduate school. Beekeepers are eccentric, and my fellow academics a bit weird, but we all seem pretty normal when these out-of-the-blue calls and messages come in.

Maybe a tattoo on my posterior wouldn't be so bad, after all BC

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

Beekeeping In The Digital Age

by Malcolm T Sanford



Specific Issues on the Web – The SMR Selection Site

I said the following in the **October issue** of this column, which discussed Integrated Pest Management: "Web sites specifically targeting other specific diseases and pests of honey bees are not yet available, but may be soon. Possible candidates include, the foulbroods, wax moth and small hive beetle, although descriptions of these are found tucked into other web sites, most notably the **MAAREC** site described above and the **ARS Bee Laboratory** in Beltsville, MD."

A specific issue Web site has been mounted at the **Honey Bee Breeding, Genetics & Physiology Laboratory** in Baton Rouge, Louisiana. It discusses so-called "smart" or SMRD bees. I wrote about this phenomenon in **one** of my last ***APIS*** newsletters: "Dr. Jeff Harris of the USDA Honey Bee Breeding Lab in Baton Rouge, Louisiana provided some exciting information at the latest meeting of the South Alabama Beekeepers' Association in Mobile. It seems that suppression of mite reproduction is a genetically inherited trait that results in *Varroa*-tolerant bees. This characteristic, called SMR, is just one of **several** found in Africanized honey bees that have potential use in selection programs. Fortunately, the trait is widespread in the U.S. honey bee population and so is readily available in the present gene pool. However, in order to begin a selection program, there must be a technology to measure the trait. A full description of the work done by Dr. Harris along with Dr. John Harbo appears in the May 2001 issue of *Bee Culture* (Vol. 129, No. 5, pp. 34-39) and on the ARS web site." The URL is **http://msa.ars.usda.gov/la/btn/hbb/jwh/SMRD/SMRD.htm**

Those subscribing to *Bee Culture* have no doubt already read the article in question, which describes metamorphosis in worker bees, normal reproduction of Varroa mites and abnormal reproduction of mites found in colonies of bees selected for the SMR trait. The Web site discussed here also describes these, but in much greater detail. The nicely defined photos in the magazine article, for example, have also been mounted there along with **fuller information** concerning each of the described stages.

The Web site describes further the philosophy of the investigators: "We needed lines of bees that consistently and predictably limited the growth of *Varroa* mite populations before identifying genetic traits related to resistance. Our strategy was to use queens from colonies of bees that significantly limited mite growth as breeder queens. Virgin queens and drones were raised from several different breeder queens. Then various combinations of drones and queens were made using instrumental insemination to control the matings. The newly inseminated queens were tested for *Varroa* resistance in short field tests during the following season. The best queens were again chosen as breeders. The entire process was repeated through several generations until the ability to limit growth of *Varroa* mite populations had been enhanced. Because selection for *Varroa*-resistance was based on overall mite growth, we knew little about the mechanism of resistance. All colonies started a field trial with the same mix of bees and mites. The only known differences were the test queens. We measured characteristics known to be associated with *Varroa*-resistance (e.g. hygiene, grooming, reduced post-capping period, etc.) from all colonies during field trials. Then we searched for those traits that correlated best with the mite populations at the end of a test."

It also lists the steps required in finding possible candidates for later selection, along with pictures of each process:

Step 1: A field test begins by collecting and mixing 50-70 lbs of bees from colonies that are not resistant to *Varroa* mites. We choose colonies that have substantial populations of the *Varroa* mites.

Step 2: The large mass of bees and mites is subdivided into smaller 500 gram units. Scoops of bees are added to pre-weighed cages. The cages are weighed again after bees are added to get an accurate estimate of the weight of the bees.

Step 3: Each test colony is given two cages of bees, a test queen, 4 combs and a feeder. The cages are paired so that each colony receives about 1 kg (2.2 kg equals one pound) of mite-infested bees. The colonies remain closed (screen over entrances) for two days to minimize drift between colonies.

Step 4: Bee and *Varroa* mite populations grow during an 80-115 day period when populations of bees and mites are estimated from each colony. We select colonies with the lowest mite growth as breeder queens.

According to the Web page, "A key component in identifying SMR bees is **estimating** the mite population in a colony." The total number of *Varroa* mites in a colony of bees is determined by estimating the number of mites on adult bees and the number of adult mites within the capped brood cells.

"Our procedures for these measurements are as follows:

Mites on adult bees

1. Weigh the entire hive, equipment and bees. We screen the colony's entrance during the night before weighing so that bees cannot leave during weighing.

2. Weigh the hive equipment without the bees. We brush all of the bees from the hive body and combs into an empty box before re-weighing the empty hive equipment. We do not shake the combs if they are to be examined for mite reproduction because immature progeny mites can be killed in a brood cell when the pupa is rattled against them.

3. The difference in these two weights is the weight of the adult bees in the colony.

4. Scoop ca. 1,000 bees from the box (after mixing) and put them into a pre-weighed jar. The jar is re-weighed, and the difference gives the weight of bees within the sample.

5. Wash each sample of bees with 75% ethanol. The bees are washed over a sieve that allows *Varroa* mites to filter through the mesh while retaining the adult bees. We rinse each sample until we get two consecutive washes that contain no mites. This procedure gives us an estimate of the number of mites per gram of bees. For example, if 30 mites were counted from 150 grams of bees, the estimate is 0.2 mites per gram of bees.

6. The total number of mites found on all adults bees is found by multiplying the total weight of bees (3) by the mites per gram estimate (5). For example, a colony with 3,000 grams of bees containing 0.2 mites per gram would have a total of 600 mites on all adult bees.

Mites in capped brood cells

1. Estimate the total area of capped worker brood cells in the colony. We use a 1 x 1 inch wire grid placed over the brood comb to estimate the total square inches of brood for each side of the comb. We only measure worker brood because we do not allow drone brood within our test colonies.

2. Convert square inches of capped brood into number of cells of capped brood. There are 23.6 worker-sized brood cells per square inch of capped brood. Multiply the total brood area by 23.6 to convert the area to number of brood cells. For example, 185 square inches of worker brood equals 4,366 cells.

3. Estimate infestation rate of capped brood. We select two brood combs from each colony to estimate the number of mites per 100 capped cells. We choose one comb containing young capped brood (prepupae and white-eyed pupae) and the second comb containing older brood (purple-eyed and tan pupae). We open 50 brood cells from each side of a brood comb and count the number of *Varroa* mites within each cell. Brood cells are opened along a straight horizontal line that bisects the brood patch along its middle. "Only foundress (or adult females that entered the cell) mites (and not progeny) are counted in this estimate. If 56 foundress mites are found in a total of 200 cells, we report 28 mites per 100 brood cells or 0.28 mites per brood cell.

4. Total mites in the capped brood is found by multiplying the total number of brood cells (2) by the infestation rate (3).

For our current example, the total mites in the capped brood cells is (4,366 cells) x (0.28 mites per cell), or 1222 mites.

Total mites = (mites on bees) + (mites in brood) = 600 + 1222 = 1822 mites"

The Web site thus provides valuable information both similar and supplementary to that in the referenced magazine article. It not only discusses in more detail the philosophy of selecting for SMR bees as described in the article, but also specifics about how this is accomplished, which were not given in the magazine. This provides a guideline for beekeepers who might want to investigate their own stock for SMR traits. It also is a good basis for anyone who would like to estimate mite populations in their colony, something increasingly important in **Integrated Pest Management**. Finally, those who are frustrated by what they might see as meager results of this project in specifics or mite tolerance efforts in general can now begin to understand some of the reasons why this process is not as rapid as hoped, given the huge amount of effort it takes to find the stock. Hopefully in the future the Web site will have information from users of the stock concerning their successes and/or failures. Stay tuned.BC

Dr. Sanford is former Extension Specialist is Apiculture, University of Florida. He published the APIS *Newsletter:* ***http://apis.ifas.ufl.edu***

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The Latest On Russian Bees

Jan Suszkiw

This is public stock, something every queen producer should be using.

After a harsh Winter, it looks to be a honey of a year for a sturdy breed of Russian bee that's helping U.S. beekeepers fortify their hives against parasitic tracheal and *Varroa* mites.

"Last Winter was one of the toughest we've had in the Midwest, and also in the South," notes Manley H. Bigalk, a beekeeper in Cresco, Iowa. For winter-weakened hives, the mites' presence can be a costly, one-two punch. "Even with all the death-losses in domestic bees this past Winter, this Russian was superb," says Bigalk, of Golden Ridge Honey Farms.

He is one of three commercial beekeepers who've been evaluating the Russian bees since 1999 in cooperation with Agricultural Research Service scientists at the Honey Bee Breeding, Genetics, and Physiology Research Laboratory in Baton Rouge, Louisiana.

The program began in 1996, after ARS supervisory geneticist Thomas E. Rinderer traveled to a rugged stretch of land on Russia's Pacific coast called the Primorsky Territory.

Observing how well local honey bee hives fared despite parasitic mites and prolonged winters, Rinderer requested – and in July 1997 received – permission to import into the United States 100 queens from the region. After quarantined monitoring on Grande Terre Island, Louisiana, the Russian bees were moved to apiaries at ARS' Baton Rouge lab, where scientists subjected the Russian queens and their offspring to rigorous cycles of breeding, selection, and testing for mite resistance and other desired traits.

In 1999 those efforts culminated in a cooperative research and development agreement with Bernard's Apiaries, Inc., of Breaux Bridge, Louisiana.

Under the agreement, third-generation beekeeper Steven S. Bernard is authorized to raise and sell pure-Russian breeder queen bees on a first-come, first-served basis. The breeder queens cost $500 each. From each of these, beekeepers produce thousands of production queens, which are placed in hives for pollination and honey producing. Strict mating control of production queens is not done, so they now sell for about $10 to $15 each. Some of these expensive breeders go directly to commercial operations who produce their own production queens, not for resale.

Although this year's domestic orders for Russian queens are about the same as last year's, Bernard reports high numbers of sales to European beekeepers.

Bernard decided to breed the Russian queens commercially after Rinderer approached him with the idea as a way to transfer the benefits of the ARS lab's research to U.S. apiarists.

"I was reluctant at first because we had just gotten into producing and bottling honey," says Bernard. He had been a queen producer until the late 1980s, when a tracheal mite infestation decimated his breeder stock.

"When I realized I could still raise the breeder stock and make a living at it, the idea just appealed to me," he says.

Although tracheal mites remain a problem, particularly in northeastern states, *Varroa* mites pose a

European honey bee with a Varroa *mite on its back. (photo by Scott Bauer)*

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RUSSIAN BEE ... Cont. From Pg. 21

broader threat to America's honey bees, whose pollination adds $14.6 billion to U.S. agriculture. About 1 millimeter long, the reddish *Varroa* mites can kill or weaken adult and larval bees by sucking their blood or exposing them to diseases.

Fluvalinate is one of two registered chemicals for controlling *Varroa* mites, whose attacks can otherwise destroy an entire hive within weeks or months. Cost, handling concerns, and the mite's ability to develop pesticide resistance have driven the search for alternatives.

The best long-term solution for both domestic and feral honey bees, experts say, is to fortify them with mite-resistance traits – whether from Russian or other bee stock.

An adult female Varroa *mite feeds on a developing bee. (photo by Scott Bauer)*

"These mites are real good at building resistance, so we're looking at genetic approaches as a long-term solution," says Richard Adee, president of the American Honey Producers Association. "We're looking to cut down on the use of chemicals and chop away at the costs of using them."

Backing that optimism is data from ARS' Baton Rouge lab. Studies there since 1997 show that mite reproduction levels are two to three times higher in domestic colonies than in Russian colonies.

With lower mite counts comes less reliance on chemicals, notes Hubert D. Tubbs, an ARS cooperator who manages 3,500 colonies at Tubbs Apiaries in Webb, Mississippi. "My test yards are purebred Russian, and we haven't treated those colonies in 2 years," he reports.

Other than the bees' diligent mite-grooming behaviors, "we don't know all of the mechanisms of resistance yet," says Rinderer. "In general, they differ from domestic bees in several small ways acting in concert."

Since 1999, Bigalk, Bernard, and Tubbs have evaluated the bees' mettle against the mites, as well as their temperament, pollination habits, and honey production.

Like Bigalk in Iowa, Tubbs had an opportunity to witness the Russian bees' durability thanks to a harsh winter. Of his 1,500 domestic colonies, 1,200 to 1,400 were lost, whereas of his 2,000 Russian-bred colonies, only two didn't survive.

Based on test-yard evaluations, Tubbs reports average honey yields of 130 to 150 pounds per hive. The usual yield is about 84 pounds per hive.

"This bee is a real nice bee. It's very hygenic, very gentle," Tubbs says. "Matter of fact, we pulled honey off them last year wearing shorts and T-shirts. They're excellent pollen gathers; they just hoard pollen." Bigalk suspects that a similar miserliness with honey also helps carry the bees through the Winter better than domestic hives.

Rinderer also attributes their "superior winter survival to being highly resistant to tracheal mites, something that's still uncommon for standard commercial colonies."

Adult Varroa mites. (USDA photo)

In volved with the ARS program since it began, Tubbs and Bigalk both acknowledge that other apiarists may be more cautious about the breed's commercial potential, particularly if their hives aren't fully "Russianized."

For Andrew L. Webb, of Calvert Apiaries near Mobile, Alabama, mite resistance is a lesser question than whether the bees will earn their stripes commercially. "I've got the Russians around mainly for their genetics," says the queen bee breeder. "But as to their honey production, the jury's still out on it," he adds. To find out, Webb teamed up with the ARS scientists this past summer to compare the Russians with an elite bee line and an English breed called Buckfast. Along with such evaluations, they'll continue importing Russian queens to further improve and diversify the existing bee stock, Rinderer says.

Over the next five to eight years, the goal is to furnish beekeepers with up to 40 different, elite genetic lines of Russian queens. By using them sequentially, bee breeders can avoid inbred colonies. On a broader front, this will help ensure that the best of the Russian breed's traits reach the U.S. honey bee population in a uniform manner.

"We originally got into the program to deliver Varroa mite resistance," says Rinderer. "But since Russian bees are also resistant to tracheal mites and are good honey producers and good winter survivors, the program is now focused on producing a stock improved for all these traits."

Adds Bigalk, "We're seeing improvements in stock each year. One of the key points is that it's public stock. So it's something that anyone can easily work into their own program." – By **Jan Suszkiw,** Agricultural Research Service Information Staff. BC

Suggestions & Comments

Mostly on Wax Moth

James E. Tew

At a recent bee meeting a peer of mine accused me of giving pessimistic talks when I reviewed where our industry is now and where we have been in recent years. I have certainly been wrong at times in the past, but having my beekeeping opinions called pessimistic surprised me. I would argue that I am anything of pessimistic. True, in both my talks and articles I strive to show the real world of beekeeping – both the good and the bad. Could that be seen as negative? But what purpose is ever served if only the perfect academic beekeeping world is described whether written or verbal? That simply is not the honest bee world.

Happy Days Yes, happy bee days are here again because the beekeeping industry worked diligently and made sacrifices to get to this point. I would hotly argue that our present state of beekeeping didn't just happen by blind luck. Our beekeeper numbers are smaller, but our worth to the world of pollination and honey production has increased proportionally. I continue to believe that beekeeping for all of us – commercial beekeepers and hobby beekeepers alike should be rewarding and enjoyable. But in the conduction of our passion, things will go wrong and things will go right. Both of those end results should be discussed as necessary – even if it is distasteful.

You Told Me Many of you have paid me a compliment by writing or calling to discuss various beekeeping procedures and techniques and I thank you for each of them (though I am not always prompt at responding.) One of the comments that I made at the meeting I discussed above was that we need the eclectic collection of people we have in our industry. There is no *standard beekeeper*. We simply don't have beekeeping engineers, welders, botanists, or physicians that are assigned to a governmental agency or university department. If you are a beekeeper, who in real life has a skill or talent that can be used to advance beekeeping, please use it for our good.

Jimmy C. From Alabama Several months ago, Jimmy C, an Alabama beekeeper gave me photos of one of the largest bee removal jobs I have ever seen. The stately house of an elected official was also home to several bee nests that were situated in the gable of the house. Unfortunately, several of the nests were directly above the main entrance and bees occasionally dropped down on unsuspecting people using the front entrance. The homeowner didn't particularly hate bees, but having this many feral hives in the building was disconcerting. Commercial equipment was required to gain access to the hives and the bees were successfully removed but it took a crew of super beekeepers who were not afraid of heights.

This is the largest bee removal project of which I aware. Congratulations to all the beekeepers involved.

Harassing Wax Moths Mr. Herb R. wrote me describing the following technique for removing wax moths from an infested frame. I don't think I have ever heard of the procedure.

In the summers of 1938 and 1939 I worked for a commercial beekeeper – H.E. Graham – in Cameron, Texas. Even though he operated about 3,000 hives with no power equipment and shortage of help, he had a tender spot for any small colony fighting a losing battle with wax worms. He would take time to sit and reduce the worm population in any salvageable comb. He would shake the bees off of a frame and while holding it vertically a short distance from the hive, he hit the bottom bar sharply several times over the end bar with his hive tool to jar it considerably. Then the frame was reversed and the other end done likewise. Just about all the worms would quickly wiggle out of their tunnels and drop to the ground.

I have not found any present day beekeeper who knows about this. I have the same philosophy about weak

Beekeepers working from a boom to remove bee colonies.

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SUGGESTIONS ... Cont. From Pg. 23

colonies and still use his method of reducing the worm population. It may not be a practical procedure, but is satisfying.

The arrows point to either living or dead colonies. The beekeepers opened up the eves of the house.

This probably would not be an appropriate way to eradicate large number of wax moths, but as Herb said, it is satisfying.

More Wax Moth Discussions Brenda G. from North Carolina sent the following. *In western North Carolina the best way to deal with wax moths, if the swarm of bees have died, (such as the queen dying of old age etc.) is to break the hive apart and lean the hive bodies up against a tree and let nature run it's course. Yellowjackets and ants will soon destroy the adult wax moths, larvae, and eggs. Wax moths will not enter a healthy hive. The bees will kill the adult moths.*

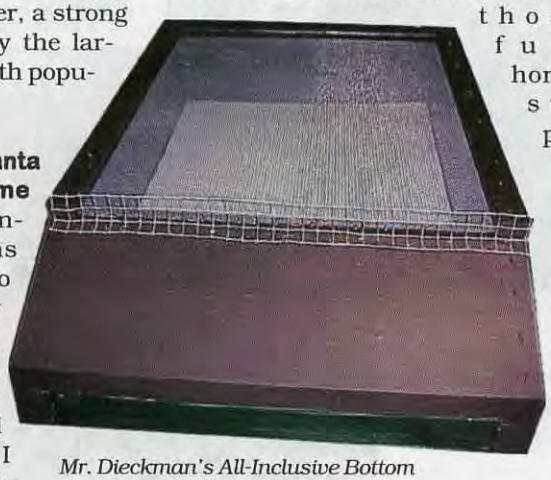
Actually, adult wax moths will frequently enter a strong hive and even lay eggs. It is a constant way of life for the hive. However, a strong hygienic hive will destroy the larvae and keep the wax month population suppressed.

Mr. Keith T. from Atlanta wrote with a troublesome wax moth story I had inspected all the sections of this hive 4 weeks ago and it was completely clean and well populated with bees and brood. I had two and a half medium supers of capped honey on this hive since I harvested the spring popular crop in mid June. Most of this honey was sourwood. I should have removed it in mid August, but I had other things to do around the house and I procrastinated. I can only assume that as the hive population declined (as they normally do) in August, the moths moved into those honey supers and took over the hive. I came home for lunch on Wednesday and the bees were in the process of absconding. The yard was absolutely full of bees and I initially thought that I was having a Fall swarm. The hive emptied very quickly and within 15 minutes all but a handful of the bees were gone. I opened the hive yesterday and it was a sickening scene. Most of you may have seen this before, but it was new to me. Combs complete destroyed woodenware chewed up, honey dripping from damaged combs, dead and decaying worms and bees, maggots from flies, webbing, etc, etc.

I believe that if had removed those full honey supers 3 weeks ago and forced the hive population into a smaller area, I could have prevented this. I will never may this mistake again. I spent 5 hours yesterday washing frames and supers with a hose. I threw out over 40 frames worth of honey and brood comb. Since I live in a subdivision, this was my only hive. I will start over next spring with new foundation and package bees; however, any hope of a honey crop for me next spring is lost.

Keith, I'm sorry this happened to you, but I cannot quite explain why it occured. A strong populous hive can defend itself against the ravages of the moth. Leaving the supers on too long probably was not the problem. The infestation was clearly advanced. I wonder if the colony was queen-right? Maybe others can offer a guess.

Keith's wax moth infestation. This happens to all beekeepers sooner or later.



Mr. Dieckman's All-Inclusive Bottom Board.

The Wax Moth Rates High

With all beekeepers have to worry about, the old, traditional wax moth still rates very near the top of the list. Of mail for the past six months or so, probably 1/3 was related to wax moth concerns.

Scuba Diving Beekeeping Equipment Mike L. had a novel solution for my camera controls getting messy with propolis and honey as I used it. He said, *In my scuba diving days, we mounted cameras in Plexiglas cases to take underwater. Controls were operated by shafts that went through the case. You should be able to have someone make a case, without*

a front, that will allow you to operate the controls, which don't need to be water/pressure proof, from outside the camera. Check a local magazine stand for a scuba diving magazine and see the ads.

So what do you think...could I use the scuba diving mask for face protection against stinging bees? And what about that rubberized suit for adaptation as a bee suit? (I'm only kidding.)

A Custom Bottom Board Larry D. from Indiana has designed a unique bottom board with a few modern twists. He said, *I have made the new screened bottom boards for all of my colonies and am coming to appreciate them more and more. During hot, muggy days of July, I felt that ventilation was better with the screened bottom boards. In moving hives in the summer, I didn't need a screened top as there was adequate ventilation from beneath. Surveys with powdered-sugar rolls indicated that most of my colonies don't seem to have but very few Varroa mites. The bottom boards also allow water to pass thru and not collect on the solid bottom board. Yes, they're big and heavy but they seem to work well for me. I've averaged over 128 lbs. /colony of honey from the few over-wintered hives I have in production this Summer.*

Mr. Dieckman's bottom board includes a mouse/skunk restrictor. The hardware cloth has sharp points that discourage skunk predation. A landing board incorporated as well as insert for monitoring *Varroa* populations. Essentially, this bottom board includes a hive stand, a landing board, a *Varroa* monitor (a sticky board), a screen bottom board, and a vermin restrictor. As he said, it is heavier, but in incorporates several common hive bottom board features into one device.

As you might expect, I am restricted in my space for writing in *Bee Culture*. There was a high degree of randomness used when I selected the various comments and remarks. I still have an embarrassing amount of unanswered mail. As I have done in past articles, I apologize for that.

I hope you all continue to have productive experiences in beekeeping – even if some of the experiences are a bit painful. Keep experimenting and modifying. Your ideas constitute a good deal of beekeeping's evolution. BC

Dr. James E. Tew, State Specialist, Beekeeping, The Ohio State University, Wooster, OH 44691, 330.263.3684, Tew.1@osu.edu

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SHIPPING BEES IN '02

"It's going to be a tricky year, next year!"

Jim Thompson & Kim Flottum

In early October the post office issued a press release stating that it would continue to accept live animals that do not require delivery within a 72-hour period, including earthworms, lizards, snails, crickets, grasshoppers and (package) bees, which can move by ground transportation. They will also continue to accept live animals for which the postage is $3.50 or less using air transportation (queens). And, they will provide limited service for live animals for which the postage is more than $3.50 that require air transportation, such as day-old poultry, adult poultry and queen honey bees (in boxes). The latter, however, will only be available to and from 20 major U.S. airports in only 18 states, within very specific time frames each day, dealing with only very specific people at these airports and only on week days.

So, packages will be mailable, with special handling fees. Queens will be available, via airmail with no problems for a few, but significant problems if mailing more than a few.

It gets messier.

The post office has not had an easy Autumn. Even before September 11, volume and income were down, costs were increasing and they were asking for a rate increase (10% on periodicals alone). The New York disaster took out a major USPS center that needs to be replaced, and the poison letters since then have stressed the situation even more.

At the same time, concerns about shipping package bees in general had been mounting. Two concerns were the focus however...leaking syrup cans causing slippery floors in trucks, and leaky packages, or, packages with loose bees on the outside (one and the same as far as most postal workers are concerned).

These and other factors have driven up the shipping, or special delivery costs drastically in the past few years to the point where shipping costs were nearly as much as the bees themselves. Add to this the fact that individual post office districts were using slightly different interpretations of official regulations and the confusion factor only increases.

One interpretation...shipping bees past zone 4 from the origin can be allowed if the shipper organizes it. There is additional cost, and some post offices allow it, and some don't. Who is to know who will and who won't?

Shipping a very few queens priority mail will go unchanged, but the postage needs to be less than $3.50. Larger queen shipments, those in even small battery boxes will need to go by air if shipping USPS and only to those 20 airports in 18 states, so far. UPS, however, will take them. But the costs are higher and the service better. You get what you pay for, but how much is it worth?

Add to this the lobbying that organizations such as PETA (People for the Ethical Treatment of Animals) are conducting on doing away with shipping *any* live animals (especially chicks). Meanwhile, other groups are pushing congress to make USPS handle all of these animals not as special handling, but as regular mail, reducing costs significantly. This bill may pass before the end of the year, clearing up much of this confusion. Or it might not...pass at all, or pass in time for spring shipments. (See the article in the Gleanings section for more details on this bill and other developments).

So. Increased costs of delivery across the board (probably). Restricted delivery sites (maybe). Problems with safety (definitely). Inconsistent regulations (consistently). Outside groups lobbying to eliminate shipping live animals (mistakenly). Other groups lobbying to make live animal shipments routine (ongoing). Finally, individual post offices unclear on what will, and won't be acceptable, and when. What to do? What to do?

Simple. Go get the bees yourself. Or work with someone locally who can or normally does go to get bees each spring. Start now to organize this. Better, start now to organize several local suppliers in your state or area who normally take individual trips and make one big trip so each has less time and money invested in the project. Money up front from customers covers liability (but you can't insure bees, so that can be a gamble, but it always is). One trip saves time and money and reduces the loss of bees dying in the mail. It reduces the stress on the bees if done correctly, and if ordered early enough, you can have the bees you want, when you want and need them.

Right now nobody knows what will be come spring. You can wait and hope, and pay...or you can take control now and not be held hostage to fickle postal regulations, expensive UPS charges and distant delivery points. The bill may pass, and it may not. Can you affort to bet?

Bees will be Gold next spring because honey prices will be higher than they have been in years. Demand will, again, be extraordinary. If you miss the spring hit, you miss the season. Get organized now and get yours early. Plan Ahead. BC

Scientists Confer

Pollination, queen introduction, Varroa *mites, mite resistance and Africanized Honey Bees*

Ann Harman

The American Bee Research Conference (ABRC) (sponsored by The American Association of Professional Apiculturists or AAPA) is held each year to give honey bee scientists around the country an opportunity to present their work, to share ideas and to plan for future investigations.

The presentations given at the conference are short – just 15 minutes for each one. But much information can be given in that time and questions and comments that remain can, of course, be continued during breaks, lunch, and correspondence after the conference has ended.

Many beekeepers occasionally wonder just what honey bee scientists are up to. Is there any practical value to the work they do? The answer is most certainly – yes! Honey bee scientists across the country are working hard on honey bee health –American foulbrood and European foulbrood; parasites – *Varroa* and tracheal mites; pests – small hive beetle; medicines – antibiotics for American foulbrood; pollination – blueberries, for example; improvement of queens and honey bee stock – bees resistant to mites; miticides – possible effects on bees; problems waiting on the horizon – the Africanized bee.

Several years ago AAPA initiated two awards for students working in the field of apiculture. One is called the Student Research Scholarship Award. This award, usually $1000, is a stipend for the student's research. The award is to recognize a graduate student who demonstrates outstanding performance in or potential for honey bee research. The student must submit documents describing the research project along with a letter of recommendation. A panel of three judge the project and the student's description and selects a winner.

A second award, called the Student Presentation Award, is given to a student who actually presents a talk about the work in progress. This award consists of $50 and a plaque. Three judges listen to the presentations and evaluate them on their abstract of the work, their presentation and the quality of the research.

This year both awards were given to Selim Dedej, of the University of Georgia. He is working with Dr. Keith Delaplane on the pollination of rabbiteye blueberry. These blueberries, a southern variety, are an important commercial crop. Pollination is necessary for both quantity and quality of the blueberries. Four different kinds of bees visit the blueberry flowers – honey bees, bumble bees, carpenter bees and the southeastern blueberry bee. Since it was not known how effective honey bees are as pollinators, Selim studied not only the effect of honey bees on pollination but also their interaction with carpenter bees.

It seems that carpenter bees prefer to puncture the blueberry blossom at the base and steal the nectar without achieving pollen transfer. In short they are robbers. Honey bees have some difficulty with the shape of blueberry flowers and quickly learn to become robbers, too. But since the honey bee cannot puncture the blueberry blossom, she follows after the carpenter bee has made the slit and takes advantage of it.

Selim decided to cover the blueberry bushes with screen cages so no bees could enter. He then could put a known number of honey bees in one cage, a known number of carpenter bees in another cage and a combination of honey bees and carpenter bees in still other cages. Now the resulting number of blueberries could be counted and also effective pollination could be determined.

His experiment showed that honey bees were effective pollinators of rabbiteye blueberries. The carpenter bees were not effective as pollinators. In addition, even with carpenter bees robbing the flowers of nectar without pollination occurring, honey bees increased fruit production. So, although some honey bees became robbers, others were able to collect nectar and pollen and achieve pollination.

What does this mean for beekeepers? Certainly a commercial grower of rabbiteye blueberry will want to rent honey bee colonies for maximum production. So here is an opportunity for beekeepers to increase their pollination income with convincing information that the crop will be bigger and better.

Queen introduction is a popular subject for articles in beekeeping and also a topic found in many books on beekeeping. However, some of the information can be confusing for beekeepers. Just listen to beekeepers discussing the question of whether to remove attendant bees from queen cages during queen introduction. Books, articles and beekeepers have a variety of opin-

Continued on Next Page

"Although the talk was mostly bees, an enormous, ageless Ginko tree caught everyone's attention."

ions. Some say to remove attendant workers, some say it does not matter, some say to leave them in. What is the best approach?

Dr. Wyatt Mangum of Mary Washington College, Fredericksburg, Virginia, decided to investigate what does happen inside the hive with queen introduction. He chose the typical three hole Benton queen cage and used observation hives to study the results of introduction with and without attendant workers.

Wyatt did not wish to conduct his studies during a strong honey flow since bees seem to accept queens readily at that time. Beekeepers need to requeen at various times, not just during a good honey flow.

He found that the initial reaction to the new queen was vigorous balling by the hive's workers. They clustered on the cage and acted in a very hostile manner. However this balling action did decrease over a period of time. What effect did the attendant bees have on this hostile behavior?

With the attendants removed and just the queen in the cage, balling behavior decreased significantly and was not apparent after about 24 hours. However, with the attendant workers, balling continued much longer, up to three or more days. Some hives showed a decrease in hostile behavior for a short time but resumed balling. One colony never quit hostile behavior. Obviously that colony would be almost impossible to requeen in a normal way.

What does this study mean for beekeepers? That is easy to answer – remove attendant workers from the queen cage for best chances of success in requeening. This study also points out the value of observation hives. They can be a very revealing window on the behavior of honey bees.

Is anyone doing anything about mites? Dr. Medhat Nasr of Rutgers University, New Jersey, is investigating quite a number of possible miticides, the best methods and the best times of application. New miticides will give beekeepers various alternatives which will help prevent mite resistance to the miticides. Dr. Marla Spivak of the University of Minnesota is working hard on her hygienic bees to determine how they detect *Varroa* mites on the bee pupae. Dr. Tom Webster of Kentucky State University is investigating whether any feral bees carry traits for *Varroa* resistance. Dr. John Harbo of the Baton Rouge Bee Lab is continuing his work on the non-reproduction of *Varroa*. Keith Tignor reported on work done at Virginia Tech on the effects of miticides on queens and drones.

Dr. Zachary Huang of Michigan State University has invented the Spartan Mite Zapper! He has devised a frame with a simple electric device to zap the mites within the hive without harming the bees.

Dr. Dewey Caron of the University of Delaware and Dr. Keith Delaplane of the University of Georgia are encouraging beekeepers to take an IPM approach to *Varroa* control. They have studied the *Varroa* population within a hive and have found that beekeepers can sample a hive and decide whether it needs treatment with chemicals or not. You will be hearing more about this "economic threshold" in the future on these pages. This term refers to the number of mites that can cause damage to the colony. Dr. Nancy Ostiguy of Penn State compared several ways of sampling and showed that the powdered sugar method of detecting and sampling *Varroa* is indeed better than the sticky board and much easier for beekeepers to use. Besides the bees are returned to the hive a bit sticky but unharmed.

With this impressive array of researchers studying mites and their control, beekeepers can be certain that attention is being given to perhaps the greatest problem they have with their bees.

The history and current status of the small hive beetle was an important topic since this pest is now being found in 16 to 18 states. Beekeepers can be assured that this beetle is receiving attention from the scientists.

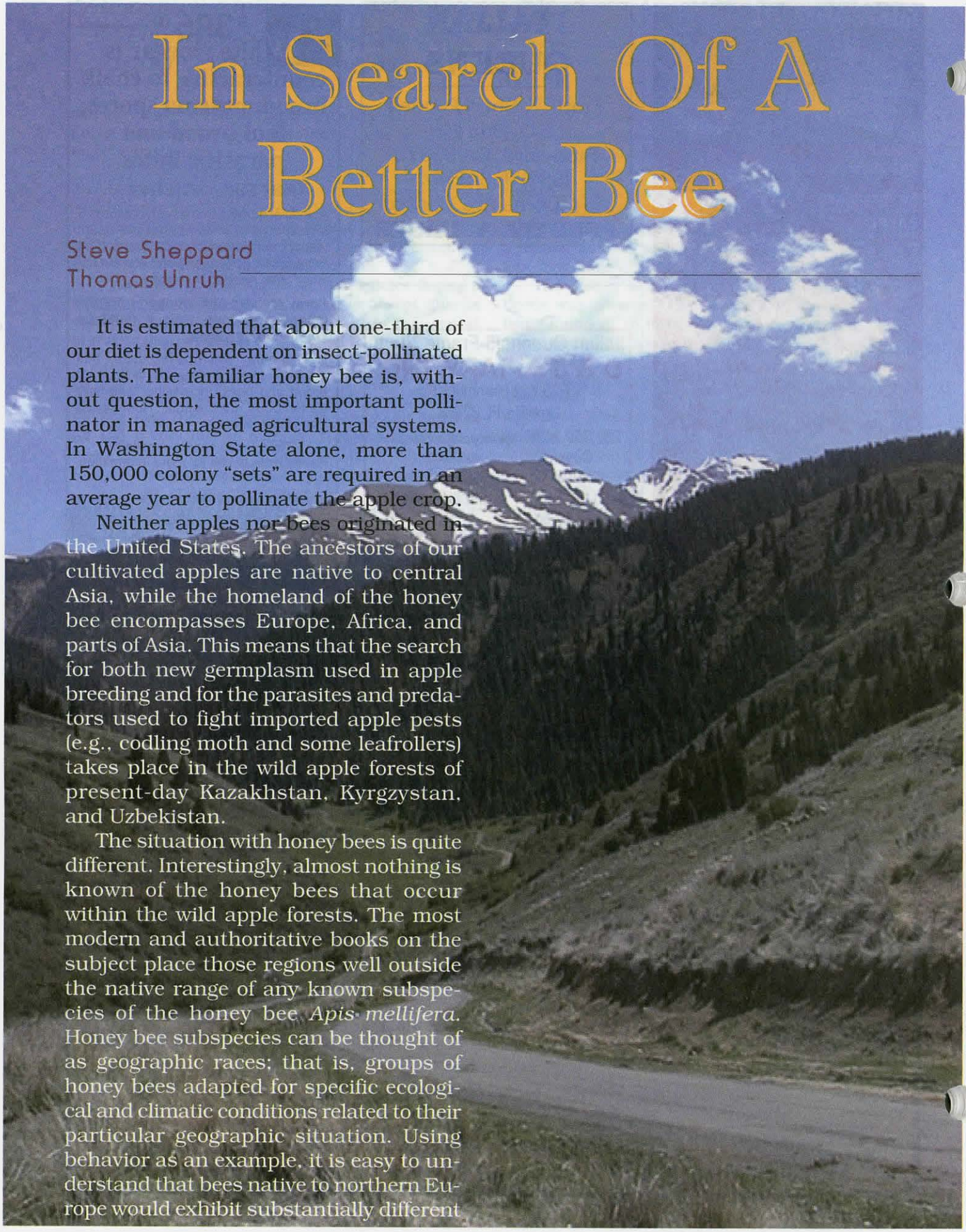
Although the Africanized bee is still confined to the southwest, it, too, is not ignored. Tracking it and its impact on beekeeping will continue so that both beekeepers and the public will stay informed.

An informed beekeeper is a better beekeeper. The beekeeping community should show appreciation whenever and wherever possible to these scientists. Where would we be without all their hard work? Consider that the next time you open up your hive. BC

Ann Harman is a sideline beekeeper, and an international marketing consultant.

In Search Of A Better Bee

Steve Sheppard
Thomas Unruh



It is estimated that about one-third of our diet is dependent on insect-pollinated plants. The familiar honey bee is, without question, the most important pollinator in managed agricultural systems. In Washington State alone, more than 150,000 colony "sets" are required in an average year to pollinate the apple crop.

Neither apples nor bees originated in the United States. The ancestors of our cultivated apples are native to central Asia, while the homeland of the honey bee encompasses Europe, Africa, and parts of Asia. This means that the search for both new germplasm used in apple breeding and for the parasites and predators used to fight imported apple pests (e.g., codling moth and some leafrollers) takes place in the wild apple forests of present-day Kazakhstan, Kyrgzystan, and Uzbekistan.

The situation with honey bees is quite different. Interestingly, almost nothing is known of the honey bees that occur within the wild apple forests. The most modern and authoritative books on the subject place those regions well outside the native range of any known subspecies of the honey bee *Apis mellifera*. Honey bee subspecies can be thought of as geographic races; that is, groups of honey bees adapted for specific ecological and climatic conditions related to their particular geographic situation. Using behavior as an example, it is easy to understand that bees native to northern Europe would exhibit substantially different

Reprinted with permission from Good Fruit Grower Magazine, October 2001, Yakima, WA

behaviors related to overwintering and colony reproduction compared to the honey bees of tropical climates.

Cold Weather

Apples often bloom in times of uncertain weather. A few days of cold weather at the wrong time can jeopardize pollination. The majority of bees used for pollination and honey production in the United States are direct descendants of a race from Italy, bees adapted for Mediterranean conditions. There are a number of reasons for the popularity of Italian bees in the United States, some of which are historical. At the time they were introduced, their gentleness, yellow color, disease resistance, and a few other characteristics shone in stark contrast to the common black bees initially introduced to the United States. They became wildly famous and were described in almost poetic terms by advertisers of the day. They remain popular today, due to their easy management, rapid population growth when food is available, and high honey production. However, they have other characteristics rather poorly suited to cold temperate conditions, such as continued brood rearing late in the Fall. This depletes honey resources that could be used to support the colony through the Winter, thus underlying the reputation of Italian honey bees as less thrifty than races from colder regions.

In an effort to find a honey bee better adapted to pollinating tree fruits in cold Spring conditions, the Washington Tree Fruit Research Commission funded an initial research effort by Washington State University (WSU) researcher Dr. Dan Mayer. Mayer and his research technician, Jeff Lundin, studied the foraging activity of honey bees from the mountainous regions of the Ukraine. However, preliminary results showed that the Ukrainian honey bees foraged at virtually the same temperature as nearby colonies of Italian honey bees. Based on these results, Mayer decided that the Ukrainian subspecies was not a good candidate to pursue as a potential apple pollinator in the Pacific Northwest.

Native Land

What about the situation 1,000 miles to the east of the Ukraine – in the original homeland of the apple, the Tien Shan Mountains of central Asia? Honey bees from this region were unknown to science, but it seemed a logical bet that the pollinators of apples in their native land would be potentially well-adapted to pollinate apples in Washington State. Thus, when the U.S. Department of Agriculture's Wapato, Washington, laboratory undertook a search for predators and parasites of apple pests in the apple homelands of the central Asian republics, it was a golden opportunity to combine forces with WSU to examine apple pollinators.

We began our research in the Republic of Uzbekistan, in late April 1999, Uzbekistan borders Afghanistan on the south. We traveled throughout the country using a four-wheel-drive Russian "jeep" with Uzbeck colleagues Drs. A. Khamraev and A. Kreuzberg. After more than a week of collecting of bees and apple pests and parasites, we determined the extensive beekeeping in the country was done with honey bee stocks originally imported from Russian, Ukraine, and elsewhere in Europe.

Nature Reserve

Our travels then took us to Kazakhstan, a vast country to the north of Uzbekistan that extends eastward to the boarder of China. There, we began our collecting in the Oxul-Jabagly Reserve of the western Tien Shan Mountains near the village of Jabagly. This reserve is perhaps most famous as an area for the protection of

Above, the rim of the Oxul River canyon where the authors found a wild colony in the base of a juniper tree. Steve Sheppard, right, holding one of his collecting nets.

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SEARCH ... Cont. From Pg. 35

snow leopards. The term "nature reserve" is somewhat akin to wilderness area in the United States, in that there are no roads, and wheeled vehicles are prohibited. However, unlike in the United States, hunting and camping are prohibited, and only controlled daytime entry is allowed, effectively restricting access to only the outer fringes of the reserve. The Tien Shan Mountains lie in an east-west direction and stretch more than 1,500 miles east to western China.

Close to Jabagly, we found a large abandoned apple orchard, with wild apples growing on the hillside, an ideal collecting site to search for parasites of apple pests. We also heard, for the first time on the journey, that "local" honey bees had existed in the area prior to settlement by Russians with their imported honey bee stocks.

With the help of local beekeeper Shufar Urazazaev, we traveled up some rugged dirt roads onto a large grassland that sloped upward toward the reserve. Kazak shepherds and herds of horses were occasionally seen as we forded small rivers and generally left any vestiges of civilization. Twenty miles from Jabagly, we were at the edge of the reserve and stopped at a ranger's house located at the rim of the Oxul River canyon.

Blooming apple trees seen around the property were various cultivars grafted onto wild apple rootstock. We were at last in an area where wild apples were becoming more common. A few more miles and we were at another site on the Oxul canyon. This view was something special. We stood at an elevation of 6,500 feet, looking down at a raging blue-white river about 4,000 feet below. Surrounding us to the east and south were spectacular mountain ridges covered with snow and reaching elevations of 13,000 feet. At this site, there were some steep sloping meadows below and a relatively gentle path for the first 1,000 feet of the descent. We found a wild colony of honey bees in the base of a juniper tree about a third of the way down to the river.

The next day, we collected extensively from Shufar's home apiary made up of locally caught swarms. We then left for the city of Almaty (formerly known as Alamata or "grandfather of apples"), where we made arrangements at the Zoological Institute to collect bees in two eastern areas of the Tien Shan Mountains.

We first visited the Ketman Range (part of the Tien Shan) near China and found an apiary made up of colonies of bees taken from the wild near the village of Tujuk. The area consisted of somewhat drier, lower elevation mountains, although in mid-May, they still had snow fields remaining in north-facing pockets. En route to Almaty, we made a long detour and managed to find another apiary miles up into the mountains on a dirt road.

Back in the U.S.A.

The honey bee samples were dissected, mounted, and measured for more than 35 morphological (physical) characteristics. The data were analyzed using a computer program specifically designed for the discrimination of honey bee subspecies. The samples were compared to the known subspecies occurring closest to the Tien Shan Mountains and to other subspecies that were known to have been introduced into the region by Russian beekeepers. The results were clear: honey bees from all three locales within the Tien Shan Mountains belonged to a distinct, as yet undescribed, subspecies.

The preliminary work was done. A honey bee new to science (but quite old to the local people of the Tien Shan!) had been found. However, what about its potential as a possible new apple pollinator? Honey bees are not native to the United States, and any new honey bee stocks have to undergo extensive quarantine and study before importation. Subsequent discussions with Dr. Tom Rinderer, director of the USDA-ARS Honey Breeding, Genetics and Physiology Laboratory, were encouraging. His laboratory has been involved in recent honey bee importations, and the USDA quarantine facility could be used if the appropriate data were available to demonstrate the promise of the new honey bee.

The Washington Tree Fruit Research Commission provided funds for further study of the new honey bee in the year 2000. The primary goal was to study the apicultural characteristics of the bee (behaviors such as minimum flight temperature, defensiveness, overwintering), the status of parasites and diseases, and to establish a collaborative queen breeding arrangement for the importation phase of the project. The primary goal for the 2001 season was to implement testing and quarantine procedures that can lead to sponsored release of the stocks into the United States.

Based on the potential relevance of the honey bees of the Tien Shan Mountains to the tree fruit industry, beekeepers of Washington State have expressed keen interest to be involved in the testing and evaluation of this new stock. The added possibility that these bees have superior overwintering abilities to current stocks and good honey productivity would be especially beneficial to beekeepers who keep their bees in the Pacific Northwest over the Winter. We'll keep the readers of *Bee Culture* informed about the status of this project following the 2001 research season.

For updates on honey bee research and extension activities at WSU, check out the Web site at http://entomology.wsu.edu/apis/. BC

Dr. Steve Sheppard is an Associate Professor in the Department of Entomology who came to Pullman to become an unpaid bush pilot. He received his M.Sc. and Ph.D. from the University of Illinois, Urbana-Champaign. His research interests include evolution of the Apinae, the genetics of colonization and origins and diversification of honey bee subspecies. Current projects include molecular systematics of Apis, biogeography of Old World honey bees, and genetic analysis of introduced (New World) honey bee populations. Related collaborative projects involve the study of population structure and source populations in introduced or host-shifted pest insects. He holds the very prestigious Thurber Chair at the University, is the Editor of The Scientific Journal Apidologie, *and next month begins a regular column on these pages reviewing current apicultural and related research throughout the world.*

Thomas Unruh is with the USDA ARS at Wapato, WA.

?Do You Know? Answers

1. **True** Female tracheal mites lay almost one egg a day, each of which is about two-thirds the weight of the female herself. The females have an unlimited supply of bee blood to feed upon and produce very large eggs.
2. **True** *Varroa* mites are considered to be one of the most serious beekeeping pests of honey bees in the world. Colony symptoms and impact are dependent upon the degree of infestation. If mite population development is left unchecked, colony mortality will generally occur in the second year after initial infestation.
3. **False** Tracheal mites will infest all three types of bees in a colony, including young queens, drones and workers. Drones have larger tracheal trunks and there is evidence that they are preferentially infested over workers. Queens due to their longevity, may serve as a reservoir for mites. Workers, however, being much more numerous, are of prime importance when examining the effects of tracheal mites on bee colonies.
4. **True** Unlike insects, the mites lack eyes. Instead, they have sensory hairs which allows them to maneuver within their environment.
5. **True** In both tracheal and *Varroa* mites, the male is smaller in size than the female. The female tracheal mite measures 143-174 microns long, the male 125-136 microns long. The female *Varroa* mite measures 1.1 to 1.2 mm in length and 1.5 to 1.6 mm in width. Males are about 0.7mm by 0.7 mm.
6. **True** European foulbrood is considered to be a stress disease and is most prevalent in spring and early Summer. The disease frequently begins to disappear with a nectar flow and may disappear entirely for the balance of the year, or it may reappear during nectar dearths in the Summer and Fall.
7. **True** Healthy bee larvae normally pupate four days after they have been sealed in their cells. Larvae with sacbrood fail to pupate, and remain stretched on their backs with their heads toward the cell capping. Fluid accumulates between the body and the tough unshed skin, and it turns from white to pale yellow. Within a few days it dies.
8. **True** Larvae infected with European foulbrood usually die while still in the coiled stage when they are four to five days old. In comparison, larvae with American foulbrood are almost always killed after they have spun their cocoons and stretched out on their backs with their heads toward the cell cappings. Death normally occurs during the prepupal stage but some pupae die as well.
9. **False** Melissococcus pluton, the bacterium that causes European foulbrood does not form spores. This bacterium overwinters on the sides of the cell wall or in feces and wax debris on the bottom of the hive.
10. B) Maryland, D) North Carolina
11. *Varroa* mites, like many other agricultural arthropod pests have developed resistance to the predominantly used acaricide, Apistan Strips. Fluvalinate-resistant *Varroa* is now a reality in many areas of the United States. The primary strategy in preventing or delaying the development of acaricide resistance is by rotating the active ingredient used for controlling the pest. Beekeepers in recent times have been limited, however, to only one registered active ingredient. Now with the registration of coumaphos strips (Checkmite+, Bayer Bee Strips) and possibly formic acid in the near future, the beekeeper will have two or three different active ingredients to rotate in their control programs, which will delay the development of resistance.
12. Brood combs should be replaced periodically for several different reasons:
    Over time brood combs become narrower in diameter, producing smaller bees.
    Old wax comb, loaded with impurities, has been associated with increases in diseases, like chalkbrood, foulbrood, and nosema.
    Wax comb acts like a sponge, accumulating toxic levels of air pollutant particles like lead, mercury and pesticides.
    To reduce the amount of drone comb/brood in the colony.
13. Purple brood is caused by the shrub summer titi or southern weatherwood (*Cyrilla racemiflora*). It occurs in swampy areas of the southeastern United States. The disorder gets its name from the fact that affected larvae turn a purple or blue-like color. Dead larvae are found soon after bees start gathering nectar or pollen from the blossoms and the death rate continues until the blooming period is over.
14. Chalkbrood disease is caused by the fungus, *Ascosphaera apis*. Characteristic spore cysts are formed when mycelial strands of the opposite sex (designated + & -) come together. After the interaction of the two mating types, spore cysts are formed.
15. *E) Nosema*
16. *A) American Foulbrood*
17. *B) Sacbrood*
18. *D) Chalkbrood*
19. *C) European Foulbrood*
20. *Since European foulbrood and sacbrood are both stress diseases, requeening accomplishes two things: it gives the colony a more prolific queen which may be genetically less susceptible to the diseases and permits a time lag between brood cycles that allows the house bees to remove diseased larvae from their cells.*
21. *Tracheal Mites, Nosema Disease*

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

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

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

Making Dinner Candles

Nancy and Buzz Riopelle sell a lot of candles at the fairs and shows they attend. Christmas ornaments are made from candy molds and many of the rest come from the newer polyurathane molds.

But the traditional pure beeswax dinner candle is always a good seller, and when it comes in an attractive box is a high margin item.

Making dinner candles with the older style metal molds can be a challenge, and more than one set of these has been known to bounce off a wall or a floor in frustration when the candles inside don't let go.

Nancy has solved this problem, and others, and makes as many of these as she can with the wax and time available. Here's how

Start right, using a good solvent to clean out the mold before using EVERY TIME. Dip a small rag in lacquer thinner, use a soft brush to hold it and scrape the interior walls to remove any clinging wax, rust or other residue. Let dry for a few minutes then apply mold release.

Use waxed wicks. Make them by dipping wick in hot wax, then hanging them to solidify. Make sure you have enough wax on and in them to make them stiff.

Cut waxed wicks to extend above the 'top' of the mold 4" - 6".

Push each wick through the small hole on the 'bottom' of the mold and bend over to hold in place.

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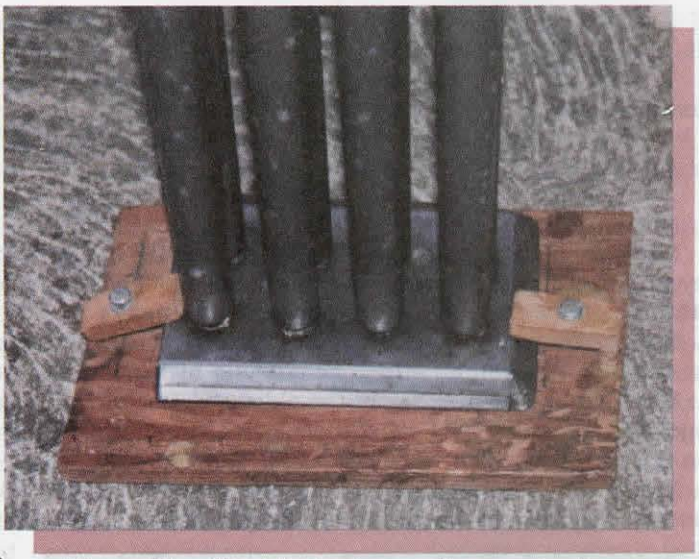
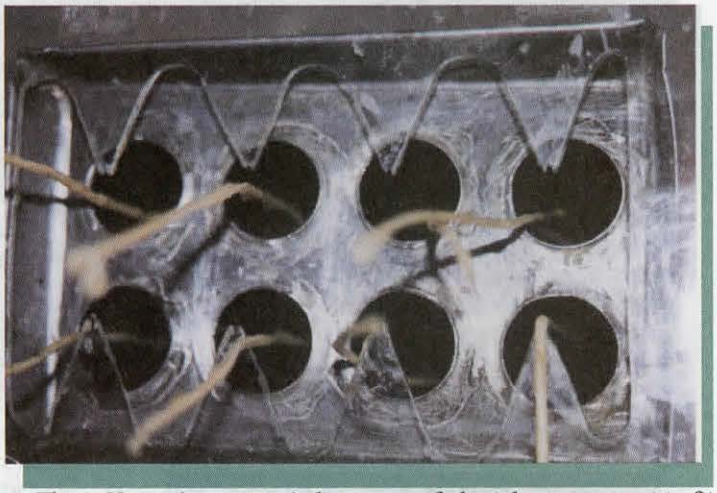
Nancy uses a wet sponge, cut to size, to cover the wide-end openings.



The mold, with wicks in place and sponge in place

is then placed on a mold holder board with turnable clamps to hold it in place.



Then, Nancy's secret. A thin piece of plexiglass was cut to fit the inside of the molds 'top. When in place, the 'points' with notches will be exactly centered over the cavity to be filled with wax.

When exactly in place, the waxed wick is pulled snug and bent over each notch. This centers the wick the entire length of the candle, critical for even, and safe, burning.

When the wicks are in place, each cavity is filled with wax, let cool, and topped off to fill the shrink. When cool, the mold is released, and each candle removed. The bottom is evened off by rubbing on a small, heated pan, and the candle is ready to sell.

James E. Tew

Bee Culture's Beeyard

Rain and Honey A Common Mix

Rain – the universal complaint

I know you must get tired of my monthly rain excuse. In fact, I was thinking last evening of how rare rain was seen in a good light. Either there is not enough or there is entirely too much, but only infrequently is there just enough. I had planned all of last week to take off the remainder of my honey today. It rained all of last night and rain is predicted off and on today. There are many beekeeping jobs that can be preformed inside, but at some point, the outside jobs can no longer be ignored. I am very near that point.

Here's the plan

Later today – or even tomorrow – I will still remove the crop and winterize my colonies. When the supers are removed, it's a good time to have a look in the brood nest, close down the entrance and flip the entrance reducer.

How do you remove your crop?

I have never found the perfect way for a small-scale beekeeper to remove the honey crop. Generally, the bees take a dim view of the process, but there are a few things that can make the job go easier.

Expect some collateral bee kills

As is proper, most of you have a sincere respect for your bees and their stores. However, the colonies are near full strength and the honey supers are heavy. With so many bees all about, some will be in the wrong place at the wrong time. They will be crushed as you move supers and frames around. They will become disoriented within the supers and will fly about your extracting room. After all these years, I still have a pang of guilt as I see bees that have drawn the bad-luck-straw and have become separated from the hive – in many cases never to return. However, if you try to protect every last bee, you will never get the job done.

Honey removal equipment and procedures

A common bee brush is invaluable. Those of us who live in cold climates always have a snowbrush around. They are useful in knocking bees hither and yon, but they are painfully slow.

Various bee escapes are available. All are essentially boards that are placed between the supers to be removed and the brood chamber. All of these devices work best if the nights are cool forcing the bees to pull back toward the brood nest. Also, all are prone to clog or jam if bees die in the one-way entrance to the escapes. Finally, since bees are forced to leave supers and have no obvious way to return, robbing is a

A repaired frame lug.

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BEEYARD ... Cont. From Pg. 41

problem if robber bees can find other upper entrances. So, bee escapes are cheap, simple, lightweight and functional, but they are not perfect. The Porter Bee Escape fits into the handhold in the inner cover effectively converting the inner cover into an escape board. Other boards are nothing more than screen triangles with the corners open and a hole in the center. Bees come through the center hole, and are herded toward the corner openings. Once exiting, should they want to re-enter the super through the escape, they have problems finding the corner openings.

A couple of smelly chemicals (and one new one that's not so smelly) are useful to beekeepers in repelling bees from the supers. These are commonly used by commercial beekeepers and are available from bee supply sources. These repellents work best on warm days and require a bit of daily calibration to work as effectively as possible. Called *Fume boards*, they are inner cover-looking devices with an absorbent pad on which the repellent is blotted. The contrivance is then placed on top of the supers. On good days, the chemicals work reasonably well. On cool days, less so.

Bee Blowers are specialized pieces of equipment that blow bees from the supers. You will need a high volume of air at low pressure – like the exhaust of a vacuum cleaner. What you do not need is the high-pressure air from an air compressor. The air release from an air compressor is so great that it can literally blow the bees apart.

When removing supers, cold weather can be your friend if you wait long enough. The bees will compact into a cluster – hopefully below the supers. In early winter, you can give a few smoke puffs and quickly remove the supers, but don't even think about a colony examination. The bees will be unable to reform a cluster and the colony could be seriously damaged or even killed. Another problem is that the cold honey will be so thick as to nearly be impossible to extract. Obviously warming the honey – probably in a heated room – will bring the honey back to a proper temperature.

There's not much more that you can use to separate bees from their crop. I will be using fume boards and bee brushes on my colonies. It ain't perfect, but I will get the job done.

Honey is heavy

That's not late-breaking news. If absolutely necessary, honey can be removed one frame at the time, but most of us will struggle with heavy boxes and foul language. There is simply no way to avoid handling supers. There are no practical specialized hand trucks that will keep you from having to move supers about the yard. When removing a small number of supers, probably lifting the super at waist-height and then walking straight to the tailgate of a pickup truck is easiest. Trailers or SUVs are also practical. But if enough honey is removed, you will still need to stack the supers on each other so lifting will be required. As you become tired, you will have a tendency to "bump" the bees from the supers as you remove them. Slamming full supers on the ground will seriously risk breaking off the frame "lugs" or the ears that support the frame when hanging in the super. This happens so frequently that bee supply companies sell metal pieces to repair such broken frames.

Speaking from experience, repairing an occasional frame may become a viable alternative to loading the few straggling bees in your car for a ride back to the honey house. Full honey frames break the easiest.

Drip Boards (or Some Such)

Drip boards, inner covers, inverted outer covers or some other flat board are immensely helpful when put under supers headed back to the extracting room. Invariably, honey contained in broken burr combs leaks all over everything – but especially the bed of your truck or the back of your car. Then you walk in it as you load the honey – tracking it everywhere and a messy situation becomes even messier.

The Trip Home

Put outer covers on the removed supers and strap them on. (I have had outer covers blow off as I transported supers back to the honey house. Covers blowing off tend to upset other drivers.) Importantly, the covers keep the remaining bees in the equipment and keeps out dust and road grime.

I suspect you will anyway, but go straight home. Don't stop for a few groceries or to buy gas. As you will soon learn if you have not already, most folks are not crazy about honey in the wild. The bees buzzing around the stopped truck will excite people nearly as much as tops blowing off supers.

The rain has stopped

Well, the rain has stopped and the day is just a typical, dreary day. But even so, I am going out. (This is one of those days when beekeeping could be much more enjoy-

A hive with an entrance reducer. The white circles show 3/8" openings on either end.

The hive that was infested with wax moths a few weeks ago. It looks good now.

able.).....

A couple of hours have passed and I spent some wet time in the bee yard. Honestly, I dreaded the walk, but as so frequently happens, it was nice, relaxing experience. I have said in the past, I will say here and I will say again in the future, you lose a lot when you only read this and are not actually there. It was cool and quiet in the yard. There was a distant Blue Jay making Blue Jay noises. There were residual raindrops falling and the yard had the fall honey smell – a smell you must experience to appreciate. Near the yard, this year's wormy apple crop was on the ground and on the trees – smelling of rotting fruit. Yet, even so, a few bees were flying. Boredom I guess for there is certainly nothing to collect. Rainy days are not all bad.

Two of the colonies had migratory covers (flat board covers) that are metal-covered. First I installed entrance reducers. All my colonies have reversible bottom boards (3/4" on the deep side and 3/8" on the bottom side). If these bottom boards are simply flipped, the 3/8" entrance serves as an entrance reducer. However, I am rarely in the mood to move two full deeps and accompanying bees in order to reverse the bottom board so I use entrance reducers.

I should tell you that I am using some uncommon entrance reducers on these hives. Actually, they were originally intended to serve as entrance closing devices, but I am tinkering with them to see how they work as reducers. These reducers are perforated right-angle aluminum strips with an adjusting sleeve on one end. I used one screw to attach the reducer and I left a 3/8" opening on either end of the reducer. Most of you will be using the common wood strips that came with the hive when you purchased it. There's nothing wrong with this device.

The Wax Moth Hive

Do you remember the wax moth hive I described last month? Good news for me. It is alive, prospering, and seemingly ready for winter. I opened it up, but due to the weather, I did not tear into it. The population is good, but the weight is just a bit light. I will feed it throughout the winter. The weather has changed; the bee population is up, so the wax moth population is essentially gone. I hope this particular hive story has a happy ending.

I must still work the hives in the other yard performing the same functions of ventilation and entrance reducer installation. Most of the honey has been taken off. Meanwhile, I am foraging for firewood and dusting off storm windows. I suppose cold weather is really coming. BC

Dr. James E. Tew, State Specialist, Beekeeping, The Ohio State University, Wooster, OH 44691, 330.263.3684, Tew.1@osu.edu

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SUGAR POLICY NOT SWEET . . .

Gary DiGiuseppe

There is nothing sweet about sugar. America is being besieged on two borders by it, and there's so much in between that we're going to be plowing it under for the second year in a row. USDA has announced that it will pay sugarbeet growers up to $20,000 each to destroy this year's crops. They also paid sugarbeet growers up to $20,000 apiece to destroy last year's crops. If they'd have known about this last Spring, you would have thought maybe they could have just told the farmers, "Don't plant the sugarbeets to begin with, we'll just give you $20,000." Perhaps they thought that this year's sugarbeets were going to magically mutate into something we have a shortage of, like successful dotcoms or good left-handed pitching. But, depressingly enough, they turned into sugarbeets, and had to be plowed under.

The Plowing of the Beets has become an annual Fall ritual because it's not worth it for farmers to redeem their crops out of the loan. Last year, facing forfeitures of up to a half million tons of collateral sugar to the CCC, then-Agriculture Secretary Dan Glickman decided to give farmers the option of leaving their crops in the dirt and taking instead some of the collateral sugar that had already been given up to the government. That way, the farmer planted sugar, and the farmer ended up with sugar; the only difference is he didn't harvest any sugar. About 7% of last year's crop, 102,000 acres, went the way of the moldboard, so new Ag Secretary Veneman is going to do it again.

Farmers ended up forfeiting a little more than a million tons of sugar last year, and got 310,000 tons of it back for deep-sixing their 2000 crops. USDA sold another 100,000 tons of it, cheap, to the ethanol industry. It had to be cheap, or the refiners wouldn't have bought it; it cost the government 20 cents a pound, but wouldn't pencil out as a fuel feedstock unless it was one-third that price. That's O.K. by Unk's standards; it's costing the government $1.35 million a month just to store the stuff. Todd Sneller of the Nebraska Ethanol Commission told me refiners could use that much sugar to increase their output without displacing any of the corn normally used to make ethanol; the idea was to prove to California, which has to switch to ethanol blended fuel under the Clean Air Act, that there would be enough for their needs. Except Brazil, which already makes a lot of ethanol out of sugar, is talking about nearly tripling its ethanol exports next year, and guess to whom?

Brazil has too much sugar, too. Actually, I guess everybody does, which pretty much sums up the problem. The U.S. limits its sugar imports to protect U.S. cane and beet farmers (obviously, not enough). This has caused friction with Mexico, which maintains the U.S. agreed under the North American Free Trade Agreement to take all of Mexico's excess stocks, some 600,000 tons a year. The U.S. says, sorry, that must have been in the NAFTA sections that were written in invisible ink.

Meanwhile, American high fructose corn sweetener was flowing south and sweetening much of Mexico's soda pop. HFCS is a big user of U.S. corn, 550 million bushels a year. Under pressure from its domestic sugar industry, Mexico imposed massive tariffs on high fructose in 1997. This Summer, the World Trade Organization ruled the tariffs were illegal. The tariffs remain in place, and they have slowed high fructose imports but haven't stopped them; it's still a $35 million a year market for the U.S.

So the Mexican sugar cane growers are in deep sucrose. In July, 5,000 of them marched on Mexico City, where they blocked government offices and demanded new president Vicente Fox compensate them for lost sales to soda bottlers. Fox – who is, incidentally, a former Coca-Cola executive – decided the sugar mills were to blame; Mexico had privatized the industry in the early 90s, but in August the government renationalized nearly half of the nation's 59 mills, contending the owners had been stuffing their pockets with government subsidies instead of making the industry viable. I've heard a few guys say that about American ethanol processors, so maybe Washington ought to send the troops to Decatur, IL, and seize ADM. Except the politicians who get big chunks of PAC change every two years from the supermarket to the world might not approve. The U.S. seems to be winning its share of sweetener trade cases lately. A federal appeals court has told Canada to stuff its molasses somewhere else. The DC Appeals Court reversed an earlier trade court ruling that "stuffed molasses" from Canada isn't subject to sugar import quotas. As best I can tell, stuffed molasses is molasses with a whole bunch of sugar added to it that can just as easily be extracted out of it, and that's exactly what Heartland By-Products of Taylor, MI was doing. HBP, a subsidiary of British MegaGodzilla sweetener conglomerate Tate & Lyle, was more or less set up to catch and split stuffed molasses. Imports in 1996 were 15,000 tons; in 1999, they were 257,000 tons.

So we send it to Mexico, and Brazil sends it to us, and Canada sent it to us up until now, and everybody in the industry spends half their day figuring out how to sneak it into the other guy's country and the other half figuring out how to prevent the other guy from sneaking it in there. At least we don't have to worry about harvesting it. Send in the plows.

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. . . AND NAM WANTS CHANGE

Meanwhile, the powerful National Association of Manufacturers (NAM) wants to examine whether they should take a position on the U.S. sugar subsidy program. After much research into this issue they proposed that the NAM take a position opposing a continuation of this program. Details of the sugar subsidy program are included below. This program has been anachronistic for many years and results in higher costs to American consumers and to American producers of food products using sugar. Eliminating this program would help lower prices and costs for both American food processors and U.S. consumers. In addition, U.S. adherence to this program – in particular as it relates to U.S. willingness to fulfill its NAFTA commitments – could be a hindrance to continued free trade discussions in both the World Trade Organization and other agreements such as the Free Trade Area of the Americas.

The NAM would oppose this program related to the Farm Bills and other legislation in conjunction with other concerned groups and would call for its eventual elimination.

U.S. Sugar Policy

Sugar has historically been one of the most protected sectors of the U.S. economy. The program has relied on a combination of import quotas and price supports to keep the U.S. price for sugar artificially high – up to two to three times the world price.

United States vs. World Sugar Price

		1999	2000	2001
Raw Sugar/lb.	United States	22.1¢	22.2¢	22.2¢
	World	6.5¢	8.5¢	9.9¢
Refined Sugar/lb.	United States	26.7¢	20.8¢	22.0¢
	World	9.1¢	10.2¢	11.1¢

Sugar was one of the only crops to avoid any market-oriented changes in the 1996 Farm Bill. In fact, because the supports for sugar remained so high, many other farmers switched to sugar production from other traditional crops to reap the guaranteed government subsidies after the Farm Bill was enacted. As a result, over the last five years, domestic production has risen 21%, while imports have fallen over 41% during the same time period. However, 40 percent of the program's benefits go to only 1 percent of growers.

The increased domestic production, coupled with commitments under the NAFTA has put enormous pressure on the sugar program and its price supports. Last year, sugar growers forfeited over a million tons of sugar to the federal government. This occurs because the government provides loans to farmers who pledge their sugar crops as collateral, in effect. If the price of sugar is not high enough to make the sale commercially viable (i.e., if the price fixed does not meet the "target price" for the loan), the farmer "forfeits" the crop to the government rather than repay the loan. Therefore, the USG does not get the loan repaid and ends up with large sugar stocks. Instead of market-oriented reforms or programs designed to make the sugar programs similar to other crop subsidies, the sugar growers have decided their best course of action is to try to "manage" the market of sugar to keep the supply of sugar low, the price high, and their supports intact. As such, they have argued for, and have had included in the House-passed Farm Bill, a marketing allotment scheme that will operate like a sugar cartel and will only allow on the market as much sugar as necessary to keep the prices above the support level.

Potential Trade Policy Implications

There are enormous international trade implications for this type of program. First, the marketing allotment program only works if the producers are effectively able to shut the U.S. borders to any additional sugar imports – including imports allowed under WTO and NAFTA commitments. Under the NAFTA, Mexican sugar growers will be allowed to ship up to 600,000 tons of duty free sugar this year. Additionally, the Mexicans will have an incentive to ship "over quota" sugar to the U.S. in January of this year, since the out of duty rate will have declined to 9 cents the point at which the Mexican price plus the duty will be lower than the U.S. support prices. The sugar growers response is to push for a "renegotiation" of the NAFTA, but what they mean is U.S. derogation of Congressionally-approved trade commitments for their own benefit. This dispute has grown further to include Mexican charges of dumping by the United States of high fructose corn syrup for the past several years and a subsequent WTO ruling against the Mexican duties.

As the United States enters into negotiations on the FTAA and the WTO, they will find themselves severely hindered by the protectionist sugar program under marketing allotments. Many developing and developed countries, most notably Brazil and Australia, have sugar access as one of their top priorities for these negotiations. Without access on sugar, it is difficult to see how these countries will be willing to make any commitments on other key U.S. exports such as autos and services. Essentially, by continuing to protect the sugar sector, the United States will be hampered in achieving market access for a broad range of strategic industries. BC

CALENDAR

♦INTERNATIONAL♦

Beekeeping and Agricultural Tour to Costa Rica and Panama February 8-18, 2002. This tour will be very reasonably priced. For information contact Dr. V. Sivaram, President, 91-80-3102695, FAX 91-80-3348346, sivaram900@yahoo.co.uk

6th AAA International Conference is scheduled for February 24 to March 1, 2001 in Bangalore, India. The conference is held every two years in a different country.

The conference will be held in the Five Star Hotel in the heart of Bangalore city. For first circular and other details please visit the website: www.beekeeping.com/aaa/

Seale-Hayne Residential Weekend Beekeeping Conference July 12-14, 2002.

Lectures on Scientific and Practical Beekeeping given by scientists and beekeepers of national and international standing. Visit the beekeeping department of Buckfast Abbey.

For more information contact Mrs. jane Ducker, Oak Cottage, Chapel lane, Manaton, Devon, TQ13 9UA, Phone 01144 1647 221255, email: jane.ducker@hemscott.net

♦ARIZONA♦

The American Honey Producers Association will hold their annual convention in Phoenix, January 7-13, 2002, at the Embassy Suites/Phoenix North.

To reserve a room call 602.375.1777 by December 8 to receive a special rate. For information regarding the convention contact AHPA, 536 Ashmont Road, Madison, SD 57042.

♦CALIFORNIA♦

The 2002 Association of Applied Insect Ecologists (AAIE) Annual Conference will be February 3-5 at the Berkeley Marina Radisson Hotel.

For information contact Jill Klein, 530.758.8909, www.aaie.net.

♦GEORGIA♦

The American Beekeeping Federation will meet in Savannah for their annual convention January 16-19, at the Savannah Marriott Riverfront.

The convention will feature a pre-convention trip to Wilbanks Apiaries in nearby Claxton and a three-day post-convention bus tour through North Florida and South Georgia.

For information on attending or exhibiting in the ABF Trade Show contact the ABF Office, P.O. Box 1038, Jesup, GA 31598, 912.427.4233, fax 912.427.8447, info@ABFnet.org; www.ABFnet.org.

♦ILLINOIS♦

The St. Clair Beekeepers' Association will hold their one-day beginning beekeeping workshop, February 2, 2002, 9:00 a.m. to 4:30 p.m. in either St. Clair or Madison County, IL. Location will be announced later.

For more information contact Tony Erwin, 757 Schlueter-Germain Rd., Belleville, IL 62220-5237, 618.277.9442.

♦NEW YORK♦

The Southern Adirondack Beekeepers' Association will hold a Spring Seminar March 30, 2002 on the SUNY campus in Albany.

Speakers include Nick Calderone, Tom Seeley, John Skinner, Jim Tew and Kirk Webster.

For more information contact Aaron Morris, Amorris@uamail.albany.edu, 518.899.6113.

♦OHIO♦

The Tri-County Beekeepers Association, Wooster, will hold their annual spring meeting March 2, 2002 on the OARDC campus in Fisher Auditorium. This is the largest one-day meeting in the U.S. Plan now to attend.

For information contact Sherry Ferrell at 330.263.3684.

The Southwestern Ohio Beekeepers School will be held at Princeton High School, near Cincinnati, Saturday, March 9, 2002. Registration begins at 8:00 a.m. with the meeting beginning at 9:00 a.m.

Keynote address is on SMR Hygienic Behavior Breeding. Other topics include Pre-Beekeeping, Getting Started with Bees, Installing Bees, pests and Diseases of the Hive and more.

Pre-registration is requested. For information contact The Ohio State University Extension office in Butler County, 513.887.3722, www.ag.ohio-state.edu/~warr/ag/Bschool.

♦PENNSYLVANIA♦

The Delaware Valley College Apiary Society in conjunction with the college will be sponsoring a beeswax candle making workshop, December 8 at 7:00 p.m. in the Coffee House of the Student Center. The college is located on Route 202 one mile south of Doylestown.

The workshop will be under the direction of Dr. Berthold, the College's beekeeping expert and an authority of beeswax and candle making. Assisting him will be member of the Beekeeping club.

For outsiders, there will be a nominal charge for the materials used. Participants will be able to take their finished candles home with them that evening.

For more information call Bob Berthold 215.489.2285.

BOTTOMBOARD ... Cont. From Pg. 56

tarp, chain and exhaust pipe, then released her. She'd have to remain tied until we caught and dispatched Old Green.

Two nights later I heard the clank of the big trap door from the house. Spamela began to bark from beneath the front porch. I climbed out of bed, grabbed a flashlight and stumbled up the hill. Small snuffling noises came from the trap. The flashlight reflected two little beady eyes and a big white strip. I slowly back off. It was a lot of work to gas a skunk in the middle of the night but I remembered the can of starter fluid I used for ether rolling bees. That would be a painless way to go for a skunk. I ran down and got the spray can, fitted it with the little red straw from the WD40 can for distance shooting, then slowly advanced on the trap, talking to it soft and friendly – like to a kitten.

"Hey little fella, all filled up now aren'tcha. Feel a little sleepy, like a nice resty resty. There now, couldn't you come over a little closer? I got something nice for you. Make you go sleepybye "

The two beady eyes watched me suspiciously and blinked once or twice. It hissed. I slowly raised the spray can. The eyes disappeared. I pushed the button, heard the spraying sound. My eyes started to burn.

You can buy a skunk odor neutralizer at Walmart. Its enzymatic action is very effective, much better than tomato juice. It is not so easy to regain the respect of a disrespectful wife. I seriously considered professional counseling for Nancy. For days afterward, she would suddenly and unaccountably burst into fits of maniacal laughter.

The solution was to actually catch Old Green. After dispatching him I would place a foot on the carcass, beat my chest with the unworldly victory cry o the wild bull ape, declare to my mate my utterly superior strength and cunning. Then she would once again melt in my arms and maybe make something special for dinner.

Two days later, just before dawn, Old Green came back. Huge jowls dripping saliva, he sniffed toward the hives. Winter was only a few months away and he was hungry. Then he smelled the bait and immediately recognized the familiar shape of a bear trap. Why bother with a bunch of stingers on the nose when that delicious aroma beckoned. A good meal, a short ride, and a new beeyard in a new county. A moment of hesitation

As the clank of the trap door rang through the frosty morning air, Spamela started to howl, stretching the leash as far under the porch as she could reach. I was barely sitting up rubbing my eyes when the pajama clad children ran up to the trap. By the time I arrived, Ariele had run back to the refrigerator and Gary was pushing slices of bologna through the door.

"Oh Daddy, he's so cute! We've named him Bumper." Evan said breathlessly.

"Get back, all of you! That's a wild bear! He'll tear your arm off!" I shouted. The children stepped back and I looked into the cage. He was a small bear, one or two years old, practically a cub. He was licking the door furiously. I pushed another slice of bologna toward him with a stick. "You'll like Allegany County, little fella." I sighed.

The game warden was not very happy with me that afternoon. I would have liked to remind him that my taxes paid his salary but decided to keep quiet. They backed their trap up to mine and with a little shifting and bad language persuaded Young Green to change compartments. I didn't feel like asking where they were setting him free, but the warden opened the window before turning out onto the road. "You want me to tell Burt the Mole or shall I keep this one to myself?"

"Don't bother telling Burt about this little fella. I'll catch him at the bee meeting, maybe." So as far as the Steuben County Beekeeper's Association knows, Old Green's pins stop at my apiary. While the may raise their eyebrows and gossip among themselves after the business meeting as to the fate of Old Green, I smile enigmatically, shrug and hint, "I like bear. It tastes like a cross between pork and beef." BC

GLEANINGS

DECEMBER, 2001 • ALL THE NEWS THAT FITS

Advisory Committee Meets

PACKER/IMPORTER HONEY BOARD?

According to Dwight Stoller The National Honey Packers & Dealers Assn. (NHPDA) continues to support the National Honey Board, believing that such a program is vital to the industry. But, the NHPDA committed to leading the development of a contingency program, a handler/importer NHB. At the June industry roundtable meeting, those present agreed that it made sense to create this contingency plan.

The first step in planning a Packer/Importer National Honey Board was to organize an "Advisory Committee" made up of packer and importer members who would be assessed in such a new program. The three major associations representing these members are the National Honey Packers & Dealers Assn. (NHPDA), Western States Honey Packers & Dealers Assn. (WSHPDA) and Sioux Honey Assn. (SHA).

This Advisory Committee will provide leadership in providing input in developing the Order, and communicating back to the industry the issues and resolutions to issues that have been achieved. At some point they will make effort to have as many packers and importers as possible at an open meeting, including those who are not a part of NHPDA, WSHPDA and SHA. They also intend to keep producer groups fully appraised of developments in order for them to share their perspectives, as well.

An Advisory Committee structure was approved by the NHPDA, WSHPDA, and SHA and each organization selected their own representatives. Do *not* confuse this with a proposed *board* structure, which has not even been discussed yet. Dwight Stoller has agreed to lead this group until the first meeting where a chairperson will be chosen.

Wayne Watkinson, of law firm McLeod, Watkinson & Miller, will assist in this planning effort. He will provide the Advisory Committee with an outline draft Order to help start the discussion process.

The first Handler/Importer Advisory Committee meeting was held October 11 with all committee members present.

The purpose of this first meeting was as much to identify questions as to find solutions, and any outcomes were considered to be very preliminary. Most areas need far more research and input before any final decisions are made.

The committee elected Dwight Stoller and Buddy Ashurst as chair and vice chair. The group defined the project goal to be "Develop an Order for an alternative national Honey Board program, ready to go to a successful industry referendum as soon as practical, in the even that the current NHB program is discontinued."

The committee then listed and discussed the major items that first

STRUCTURE OF ADVISORY COMMITTEE

	Packers	Importers	Representatives
NHPDA	3	2	Buddy Ashurst, Bill Gamber, Charlie Kocott, Nick Sargeantson, Dwight Stoller
WSHPDA	2	1	Hans Boedeker, Mike Ingalls, Skip Jones
SHA	1		John Milam, Jerry Probst (SHA director/staff)
	6	3	

Continued on Page 49

EAS FOUNDATION

The EAS Foundation for Honey Bee Research is a competitive grant program developed from donations received from beekeepers and others interested in funding research on topical issues in honey bees. Proposals are solicited annually with award amounts determined by the Board of Directors of EAS. Requests for support for student projects (undergraduate summer employees/graduate student) or for equipment/supplies for research projects with other support are given highest priority. Requests for "seed money" to provide investigators the opportunity to collect preliminary data or as "add on" funds to combine with other funding sources to continue present research will also be considered. We welcome separate discreet project proposals and requests that identify pieces of ongoing research programs where additional funds can accomplish an objective of a larger program. Grant funds may be used for supplies, equipment, salaries, travel or other appropriate uses by the recipient.

This year the Foundation awarded a $5000 research grant to Keith Delaplane, Dept. of Ent., Univ. of GA. His grant proposal project "Putting it all together: Using published IPM strategies to keep *Varroa* mites below economic threshold" is currently underway. The grant helped Keith begin work on his project this season while awaiting USDA funds (in cooperation with Clemson and Univ of TN) for the project that will be extended for a 2-year period.

Keith's research project has installed 20 package bee colonies at isolated sites and another 20 package colonies in existing apiaries with known *Varroa* infestations. He is using the IPM tactics of genetically resistant queens and screen bottom boards. Colonies will be monitored regularly to compare the speed of onset of economic thresholds. Hopefully he will be able to demonstrate that IPM practices extend the time interval between necessary chemical treatments.

This past EAS in Cape Cod, Medhat Nasr gave a report of the project for which he was funded by EAS this past year. He used the EAS grant to match Ontario and NY Beekeeper Assns. and Canadian bee research funds to investigate Russian queen adaptability to northern climates and for their mite resistance. The good news is that mite resistance queens are an integral part of an IPM approach to bee mite control and can indeed help reduce overall mite pressure in a bee colony.

The EAS Foundation has made significant strides toward our goal of having a fund of $50,000 at our 50th year anniversary with the fund now at $37,000. We hope you will consider a donation - it is tax deductable. And a special THANK YOU to all who have recently donated to the Foundation - it is much appreciated.

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2002 NATIONAL MEETINGS

AMERICAN HONEY PRODUCERS
January 8-13, 2002
Embassy Suites Hotel Phoenix, AZ

The 33rd Annual Convention will begin on Tuesday with Executive and Board of Directors meeting and a Get Acquainted Social that evening.

The convention kicks off Wednesday with topics and speakers including – *History of Arizona Beekeeping*, Brad Autin; *AHPA and Sioux Honey Stung Dumped Honey Imports,* Mike Coursey; *Honey Loan Program,* Dan Colacicco; *Federal Crop Insurance,* Roger Starks; *Surviving in the 21st Century,* Dennis Arp; *The New Honey Board,* Dwight Stoller, Buddy Asherst; *Safety . Antibiotics for AFB,* Mark Feldlaufer; *Biology and Control of SHB,* Jeff Pettis; *Tracking Pests and Pathogens Using Genetics,* Jay Evans; *New Mite Control Developments,* Oscar Coindreau. Enjoy *An Evening of Chasing Bees & Beekeepers Across Argentina and Brazil* with Frank Eischen.

Friday there will be a panel session on *The Red Imported Fire Ant* led by John Thomas. There will also be sessions on different research efforts, pollinating in California, producing more honey, honey bee nutrition. Lyle Johnston, Cort Blackburn (almond grower, CA), Mark Brady (Pollinator, TX), Ed Bianco (UT Dept. of Ag), José Villa, Walker Jones and Justin Schmidt are among the speakers.

Saturday – updates on Russian Bees, SMR queens, controlling parasites and pathogens, pesticides. Speakers include Bob Danka, John Harbo, Patti Elzen, Gloria DeGrandi-Hoffman, Tom Rinderer and many more.

For hotel reservations contact Embassy Suites /Phoenix North, 2577 West Greenway Rd., Phoenix, 602.375.1777. For more information on the convention contact AHPA, 536 Ashmont Rd., Madison, SD 57042.

AMERICAN BEEKEEPING FEDERATION
January 14-19, 2002
Savannah Marriott Riverfront, Georgia

A program of the top speakers is being lined up for the ABF's Savannah convention. They will address all issues of importance to beekeeping.

Savannah's own Congressman, Rep. Jack Kingston, is scheduled to present the keynote address.

Another special presentation will come from Gary Shilling, a New jersey sideline beekeeper who has a reputation as a top economist. He is a regular contributor to *Forbes* magazine, *the Wall Street Journal* and *S&P CreditWeek.* Mr. Shilling is appearing in the inaugural A.I. Root Memorial Lecture sponsored by *Bee Culture* Magazine.

The Convention begins on Monday with ABF Committees meeting in the evening. Tuesday is the field day at Wilbanks Apiaries.

The main part of the convention kicks off Wednesday with the keynote address and special interest groups including Commercial Beekeepers, Package Bee & Queen Breeders, Honey packing and Basic Beekeeping Refresher Course.

Thursday consists of updates from the labs – Tucson, Beltsville, Weslaco. Speakers include Mark Feldlaufer, Jeff Pettis, Patti Elzen, Kim Lehman, Marion Ellis.

Friday morning there will be Breakfast Table Discussions before the general session. After breakfast topics include *Queen Rearing in Hawaii,* Gus Rouse; *Beekeeping in the Southeast,* Keith Delaplane; *Genetics,* Bob Danka; *The A.I. Root Lecture Series,* Gary Shilling; *Honey Board Presentations* and more.

Saturday consists of workshops with topics such as *Better Employees,* Reg Wilbanks; *What, When and How To Treat Your Bees,* Mark Feldlaufer and Jeff Pettis; *Collecting,* Darl Stoller and Virginia Webb; *Artwork,* Liz Vaenowski; *Internet,* Honey Board Staff; and *Back Care Tips,* Tim Wilbanks.

For information and an exact schedule of events contact Troy Fore, ABF Office, P.O. Box 1038, Jesup, GA 31598, 912.427.4233, FAX 912.427.8447 or email info@ABFnet.org

CARON WINS AWARD

Dewey Caron was the recipient of the Roger A. Morse Teaching/Extension/Regulatory Award presented at the annual Eastern Apicultural Society (EAS) meeting banquet Friday August 10. Dewey teaches Beekeeping and Introductory courses in Entomology and Wildlife Conservation at the University of Delaware. He learned apiculture as a PhD student under Roger Morse at Cornell where he studied queen initiation behaviors of swarming. He currently studies insect pollination and pest/predators of honey bee issues and conservation of bees/natural resources.

The EAS award, initiated last year, was named in honor of Roger Morse this year. Dewey has also received Excellence awards for both his teaching (Entomological Society and University of Delaware Faculty Awards) and his Outreach (EAS Charles & Evelyn Divelbiss Beekeeping Educator of the Year Award).

CANADIAN HONEY PRICES UP

Canadian beekeepers are seeing better prices for their honey as a result of the U.S. anti-dumping action against China and Argentina.

Canadian prices have climbed above C$1 a pound after U.S. prices rose when the U.S. import duty was placed on Chinese and Argentine honey.

Canadian producers are waiting as anxiously as the U.S. for the final decision from the International Trade Commission in November on whether the dumping is damaging U.S. beekeepers.

In the meantime, Canadian beekeepers are monitoring the rising level of Chinese honey flowing into Canada.

"We are concerned, but it's not at the point where we're going to scream for action yet," a Canadian Honey Council spokesman has been quoted as saying. "We are still able to sell at a good price and the traditional markets are there."

The Canadian Food Inspection Agency is also monitoring the situation to make sure Chinese honey is not shipped to Canada and then relabeled as Canadian product to be exported to the U.S.

Alan Harman

ANIMAL SHIPMENTS CHANGE

The U.S. Postal Service has adjusted the service it provides for the transportation of live animals in response to new FAA restrictions resulting from the September 11 terrorist attacks.

Service for live animals for which postage exceeds $3.50 and those that require air transportation can be accepted only through postal facilities at airports transportation will be on commercial cargo air carriers. Animals in these categories include day-old poultry, adult poultry and queen honey bees.

This service will be available to and from airports in Atlanta; Baltimore; Boston; Charlotte, NC; Dallas; Denver; El Paso; Houston; Huntsville, AL; Kansas City, MO; Los Angeles; Miami; Minneapolis; Nashville; Orlando; Philadelphia; Phoenix; Portland, OR; and Seattle.

The USPS continues to accept live animals that do not require delivery within 72 hours and that can move via ground transportation. It still accepts live animals for which postage is $3.50 or less for shipments using commercial passenger airlines.

Meanwhile, a House-Senate conference is examining a bill that would require any USPS carrier to accept and transmit shipments of day-old poultry and other live animals as mail matter. The amendment was submitted by Senator Byron Dorgan, D-ND, and originally sponsored by Senators Chuck Grassley, R-IA, and Russell Feingold, D-WI, all of whom represent farming states.

Last month, mail-order hatcheries became concerned when they learned the USPS' new shared transportation network partner, FedEx Corp., and a major airline that hauls mail refused to handle small animals.

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BOARD ... Cont. From Pg. 47

came to mind. They were:

Program Focus

- Driving demand to create market growth.

Type of Programs

The following types of possible programs were identified. They were not prioritized and the group understands that more detailed consideration and definition is needed for all of them.

- Product research
- Consumer education/information/PR
- Crisis management
- Export marketing
- Quality
- Consumer advertising
- Industry information and relations

Assessment Rate

- The committee felt that assessments should begin at one cent per pound with the potential to raise that level if and when useful. Packers would pay assessments on domestic honey that they handle

Exemption Rate

- The committee felt that a higher exemption level was advantageous to simplify the program. It would still capture a high percentage of the current board revenues. More study is needed but the group preferred a 250,000# exemption level. (It's 6000# with the current Board.)

Board Makeup

- The committee discussed several board options but preferred a board of seven members made up of one cooperative member, two importers and four packers. Most likely, at least one of the packers would have to be a fairly large importer, as well, to satisfy USDA.
- For alternates, the group envisioned just four alternates; one for the co-op position, one for both importers positions and two for the four packer positions.

Board member selection

- The preferred option is to have the co-op select their representative, and a nominating committee made up of representatives of the National Honey Packers & Dealers Assn. and the Western States Honey Packers and Dealers would manage the selection of packer and importer board members. This nominating committee would also look for qualified packers and importers that are not members of either of those two associations.

The committee reached consensus on a plan to fund start up costs expected to be around $60,000. Sioux Honey, NHPDA and WSHPDA representatives need to get approval from their organizations first, but the plan is to split the costs with an assessment based on share of total pounds handled for a 12-month period.

The group projected a second meeting would fall between mid-November and early December. Packers and importers would be encouraged to attend this meeting and producers would be welcome, as well.

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Old Green

Peter Sieling

After the Steuben County honey Bee Association's business meeting, members linger for awhile to talk bees. I sat quietly listening to the guy on my left, Doug, a long time beekeeper, talking half to himself and half to anyone within earshot.

"Got seven skunks so far this year, two 'coons, three 'possums, and a woodchuck. Big skunk year."

The local skunks had been stinking up our neighborhood recently and the grass was trampled in front of one of my colonies. I suspected a skunk problem and was curious how others handled them.

"So what'd you do, shoot them?" I asked cautiously. There was no way to know how long the explanation could take.

"Shoot 'em! No! They'd stink up the whole apiary. Here's what I do." He turned toward me, ignoring the attentive yawns on the other side of him. "I use a trap – the kind that catches them live and unhurt. Bait it with old brood comb. I keep a can handy while I'm working and stuff old brood comb in it. After a couple weeks it smells real nice to the skunks. So when I catch a skunk, I move real slow and gentle, talking to it like a kitten and I slide a tarp over the cage. Then I take an old log chain and lay it around the bottom of the cage to hold the tarp tight to the ground – eliminate air holes. I back up my old pickup to the tarp and stick a shop vac hose over the end of the exhaust pipe. Other end goes under the tarp. I go dig a hole. Ten minutes later I remove the tarp. The skunk is laying there dead, big smile on his face. Drop him in the hole and fill 'er up. Works every time!"

"Well," I thought, "When I get really desperate, maybe I'll consider it. But for now, I'll stick with less drastic solutions."

I drove home to find my wife, Nancy, standing at the door. The three children stood beside her holding tightly to her skirt, thumbs nervously in their mouths. "I think we had a bear," Nancy exclaimed. "Spamela was barking furiously toward the beeyard and we heard sounds like a large animal knocking something over."

I ran up the hill into the apiary with a flashlight. Remarkably, only one hive was tipped over but not badly damaged. I slipped into my suit and righted the hive.

Back home we held a grim council. "That bear will be back. You'll have to call the game warden." Nancy advised.

"Oh no I can't. They trap bears and move them over one county into another beekeeper's territory. Clevis O'Hooligan was just saying tonight that they trapped a bear over at Buzzy's Honey heaven in Tompkins County and let it out 10 miles south of Bath near Sweetie Pete's Beeorama, probably the same bear that was here tonight."

The Steuben County Beekeeper's Association has a mole at the Department of Environmental Conservation office. With the information obtained, we keep track of bears' movements through the county and around the state. We stick color coded pins on a large state map showing where bears have been caught and dropped off by the DEC. We keep pretty good track of which bear is which by the color of the pin heads. I bet the green headed pin was our bear, Old Green, who'd been moved around about five times already. From other beekeeper's descriptions, he seemed to grow in size and orneriness with each beeyard he raided. If only the DEC could trap and move Old Green from Steuben to Allegany County and on across New York through Cattaragus and Chatauqua and then on into Ohio. But no, then Ohio would smuggle bears back over the border. So the DEC just moves all the captured bears around the state in a big circle.

"No, Nancy, this calls for the FINAL SOLUTION. The DEC's not going to handle this one. I'm taking the law into my own hands!" That's when I remembered how Doug took care of the skunks.

The next morning I rolled a length of old four-foot diameter culvert into the shop. I gathered up some scrap angle iron and heavy wire mesh, turned on the welder and built a giant trap, finishing by lunch time with an exceptionally sensitive hairpin trigger mechanism. Nancy came looking for me at 20 minutes after noon.

"Why are you so grumpy?" she smirked, trying to hide the idiotic expression of amusement on her face with her hand.

"Just unlatch that hook at the bottom so I can lift this stupid idiotic door, Dearest, and keep your trap ... err ... yap shut!"

After lunch I skidded the trap up to the beeyard with the tractor. In the storage shed I found the five gallon bucket of honey, wax and brood I'd removed from a fallen tree the year before. I'd never gotten around to rendering it until it was too late. The plastic bucket bulged dangerously. I gingerly carried it up to the beeyard. In the trap I carefully popped the lid. It blew like a bottle of warm soda pop into my face. The lid bounced off the hairpin trigger.

Almost an hour later, my irritating and coarse humored fishwife let me out. I learned after that to keep a block of wood under the door when working in the trap.

For the next three days there was no unauthorized activity in the beeyard. On the fourth morning I could see from the house that the door was down. Before I could stop them, the children ran up to the beeyard and looked in. I couldn't believe it when I saw them sticking their hands into the mesh door of the trap.

"Hey, get your hands out of there! That bear will rip them right off!" I ran wildly up the hill. Spamela looked out of the trap, standing with her forepaws on the doors, tongue hanging to her knees and a big satisfied smile on her face. The hairpin trigger was licked clean. I thought briefly about the

Continued on Page 46

BOTTOM BOARD