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Bee Culture

THE MAGAZINE OF AMERICAN BEEKEEPING
SEPTEMBER 2007 VOLUME 135 NUMBER 9

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Jim Fischer



Have you ever tried a honey exchange at your meetings? Here's how the Exchange at the EAS conference works. At the beginning of the conference attendees bring one, two or three jars of their very own honey. They get a 'redemption' ticket for each jar. On Friday at the end of the conference everybody who has a ticket comes together, and, from all the jars present, picks as many jars to take home as they have tickets for. It's based on Cookie Exchanges held by PTA groups, I'm told. If you haven't yet, try a Honey Exchange at your next meeting. It's a great way to try different honeys, and meet beekeepers from all over.

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Bee Culture - The Magazine of American Beekeeping

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Summer Reading From Bee Culture's Book Shelf

1926 Honey Plants of North America

John Lovel. A reprint of the original Honey Plants book, published by A.I. Root. Nearly 1,000 plants, 408 pages, paperback. Measure 6" x 9". Black and white. X74P \$19.95

Honey Bee Pests, Predators & Diseases

Everything that bothers bees is covered in this scientific text. 22 chapters, 11 appendices, and 32 authors. Gold medal winner in 1999. Editors: Roger Morse and Kim Flottum. 718 pages, hard cover, black and white. 6" x 9" X59 \$43.00

Observation Hives

The only book of its kind. How-to set up, manage and use an observation hive. Many useful experiments and tips. Webster/Caron. 112 pages, spiral bound for easy use. Soft cover, black and white, 8½" x 11". X87 \$24.00

What Do You Know? - SPECIAL

Written by Bee Culture regular Clarence Collison. Over 1,500 questions and answers from his Bee Culture column. 430 pages, black and white line art, full 8½" x 11" big. X2 \$20.00

Backyard Beekeeper

This introductory book is aimed at people who are interested in making creams and lotions and cooking with honey, and are curious about having bees in the garden. Kim Flottum, 169 pages, color, soft cover. X141 \$25.00

41st Edition of ABC & XYZ - NEW

The Brand New 41st Edition, over 1,000 pages, over 1,000 photos – most in color. Updated and all new – edited by Dr. H. Shimanuki, USDA Bee Lab Research Leader, retired and Kim Flottum, Editor of *Bee Culture Magazine*. X5B \$59.95

From Our Authors –

Backyard Beekeeping - SPECIAL

Written by James E. Tew this 8" x 8", soft cover book is filled with beautiful color photos. It is for beginners with an emphasis on weather and management in the SE part of the U.S. X129 \$10.00

Increase Essentials - NEW

Bee Culture's Larry Connor explores the fundamentals of starting new, healthy and productive hives. Techniques, biology, regional differences, swarms and packages are covered. Glossary. 128 pages, soft cover, black & white. X163 \$15.00

From Where I Sit - SPECIAL

Written by Mark Winston, this unique collection of articles is gleaned from his column in *Bee Culture* magazine. All have been edited slightly, and pulled from several years to make a smooth flowing and enjoyable read. 171 pages. Soft cover, black and white. 5½" x 8½". X61 \$15.00

Honey Bee Biology

The best book on honey bee biology and how-to beekeeping for the beginner or intermediate level there is. Easy to use, perfect for classes and short courses. Dewey Caron, 355 pages. Hard cover, black and white, 9" x 12". X70 \$40.50

The price includes shipping in the U.S. For foreign postage please contact *Bee Culture Magazine*.

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Aphids & Phloem Sap

I'm a subscriber to Bee Culture Magazine. In your July 2007 issue, pages seven and eight, you talk about how well it is established that insect stress hormones (neurohormones – biogenic amines, ecdysteroids, adipokinetics) have powerful influence on developmental hormone titres (junior hormone) and disrupt normal lifecycles. An excellent model for this is aphids, which are not able to tolerate either low or high concentration of phloem sugars, larvae do not develop and the numbers collapse. Phloem sap will contain a bolus of glucose disposing principles as does nectar and honey. But even this is not sufficient protection against sugar toxicity when sugar concentrations are high.

What I want to know is where do I buy any product which will disrupt and greatly shorten the life cycle of aphids, and what is the name of the product?

Khat Studnicka Sobol
Lewisburg, PA

Coconut Oil In Hives

I am a small beekeeper and I had 15 hives wiped out without knowing it was foulbrood disease. Before I knew what was wrong, all hives had died out. Then later the mites came and wiped out all bees in the area. Then I was buying package bees every year and because I would not use chemical controls I would lose about 75% of the hives every Winter. Even the Russian strain would die out with only natural mite control – Crisco and powdered sugar with garlic.

Hives treated with garlic powder – I would lose about 1/2 of the hives. Then I found non-hydrogenated coconut oil will kill viruses and bacteria which causes dental cavities and food poisoning and it

will kill fungi and yeast and it kills lice and giardia and other parasites.

I thought maybe it will kill mites and foulbrood disease (no other oil will do that). I started using coconut oil in the hives instead of other oils. Since doing that I haven't lost one single hive. I wish other small beekeepers to test it out and report what they find.

J. Wickey
5496 Prairie Branch Road
Mansfield, MO 65704

Drumming

I think it is fair to say that I am the type of person that will try anything once. When Marvin Zook called me early the other weekend to ask if I could get some bees out of a black walnut tree that had blown over onto a hay field I bolted down a cup of coffee and tossed some rope, window screen, staple gun, and bee suit into the truck and headed out to his farm.

In my state of half sleep I envisioned an angry group of bees stinging every living thing in the area, but the day was warm and soft and the old walnut tree had numerous branches that helped cushion the fall. The bees were carrying on business as usual even though what once was up was now sideways. They even moved aside ungrudgingly to accommodate the oncoming chain saw blade as it cut above and below their once cozy nest.

The first task was to cut the top of the tree off to place the weight of the trunk on the ground to prevent it from rolling when the final cuts above and below the bees were made. Then the section with the bees was cut free and leveraged up onto a screened stand with a sticky board underneath to obtain a mite count. A deep hive body with

Bee Culture Information



Suggestions

Comments

empty brood comb in the middle and a frame of pollen and one of honey was set on top of the log.

Just for good measure a pheromone lure was embedded in the center comb. With that done, window screen was stapled over the obvious cracks between the top of the log and the hive body.

Then the music began. The bees made a melodic buzzing while I drummed. I wasn't quite sure what to use for a rhythm. The drum solo from "Wipeout" was suggested but that seemed insensitive for honey bees after the disastrous colony collapse of this past year, so I settled for something between Irish jig and reggae. That did the trick the bees waltzed upstairs and one week later the queen was laying in the hive body!

Andrew Jones
Huntingdon, PA

Wind Turbines & Bees

Let me start by saying I am in favor of Responsible Renewable Energy. I like the idea of wind and solar energy. Although, my concerns are as follows:

1) We live in a densely populated farming community.

- Most wind farms are located in a sparsely populated area, unlike our geographic area

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2) We live in a State (Wisconsin) that ranks #3 in Honey Production (According to the last information I found).

3) One of my biggest concerns is the shadowing, flashing, strobbing effect from the blades. This could be another stress that will add to CCD.

NOTE: The Shadowing, Flashing, strobbing effect from the blades lasts two to three hours a day for two to three weeks in Spring and Fall when the sun comes up. Spring and Fall are very important times for the development and foraging of the bees.

It is a huge irritation to humans much less the Honey bee that can see movement 10 times greater than a human can. From what I have read a human can see 1/50th

of a movement while Honey Bees can see 1/500th of a movement.

To add to the issue Honey Bees find their hive locations and communicate by triangulating off the sun's location. What will happen to our bee's if these Huge Wind Turbines come in to Central Wisconsin?

Please help the Beekeepers of Wisconsin out by contacting me with any information you may have. If only 50% of what we have been told by other Wind Farm neighbors is true, we, the beekeepers of Wisconsin may be in Big Trouble.

Please note other issues that have been brought to our attention about the Wind Turbines that are 400' tall with 80' blades.

1) Very loud and constant Thumping noise with in 2,500' from the Turbine. Possible issue to Honey Bees.

2) Stray Voltage
Possible effect to Honey Bees

3) Ground Water issues

4) Vibration's from the Huge Turbines

Recently I questioned a member of the Wind Turbine Team if any

Environmental Impact Research or Studies were done in regards to Insects and in particular the Honey Bee.

The answer was we are not aware of any effects on the Honey Bee. When I asked the question for the second time again they could not and would not answer.

From what we can tell, NO research has been done in regards to effects or impact that these Huge Wind Turbines may have on the Honey Bee.

At this point (7-17-07) The Wind Turbine Company is lining up to put 147 Wind Turbines (Phase 1) in one small County in Wisconsin. By phase three they plan to have (give or take) 300 wind turbines in a small heavily populated Family Farm Community.

I will be at a County Board meeting tonight to explain concern's of the Beekeepers here in Central Wisconsin.

I look forward to your response and Thank You in advance for all of your help.

Douglas J. Schulz
Chilton, WI

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NEW FOR YOU!



Traditional American Farming Techniques, 2nd Edition. Frank Gardner. ISBN 9781599210797. Published by The Lyons Press. www.globepequot.com.

About 30 or so years ago I got it in my head that, Come The Revolution, there's going to be a terrible shortage of fundamental knowledge about producing food. I don't recall where that notion came from but if you're old enough you probably remember events that lead you to believe there actually was going to be a revolution someday...and we better be prepared.

So I began collecting what I called Old Wisdom books...you know, those really old books (pre 1920 or so) that told how to grow apples, store potatoes in a root cellar, and how to build

that cellar, about fixing harnesses, building barns from trees, making fences from split logs. I've got old books on growing peaches, apples, celery, cows, beef, chickens, making fertilizers, all about soil science and a hundred other topics without using modern fertilizers, pest controls or tools. Come The Revolution, I'm prepared.

Well, if I'd found this book first I could have saved myself a lot of money, time and energy...something this book's original authors would approve of, I'm sure.

It is 6" x 9", has 1088 pages, black and white photos and costs \$29.95 in its paperback edition. It was first published in 1916. If you want to know basic farm stuff...including beekeeping...get one of these. It'll save your behind come the revolution.

Kim Flottum

Rauchboy Smoker 2

Made in Germany, this smoker has several advantages over some models available in the States. There are two Rauchboy models, and we tested the larger of the two. It measures four inches wide and seven inches tall, not including the top and weighs right about 2.5 pounds when fueled. The most noticeable difference between this and other smokers is the stainless steel container inside the body. It has ventilation holes on both the sides and bottom, and sits on a ridge about an inch off the bottom that further enhances ventilation and thus burning. It won't go out during use or afterwards when not in use. It will, eventually go out when laid on its side, like all smokers, but that improved draft system really works well. The body is made of stainless, and it comes with a heat shield to protect you, and a hook to protect your hive when you hang it on the edge. The lid hinge appears sturdy, but I haven't used it for five years yet. Leather bellows material nailed, not stapled, to the wooden bellow boards finish the workmanship. Replacement parts are available. The price is hinged on the Euro since it is made in Germany, but the larger model is about \$68 now, the smaller \$60. Find out more at www.thebeespace.com.



They're serious about American Foulbrood in New Zealand. Very serious. They wrote a book about it in 1999 entitled *Elimination Of American Foulbrood Disease without the use of Drugs*. This is an update.

So, they show how to go about that process. Chapters cover the life history of AFB; symptoms...with excellent photos which are absolutely necessary; the natural progression of the disease through a colony; comparison of AFB to other, similar brood diseases including its relationship to *Varroa*; again with excellent photos; how AFB is spread; how to diagnose the disease; recordkeeping; management to avoid it; and finally, treating for it...and they don't use drugs.

There's lots and lots of helpful hints, diagrams, photos, charts and

Bee Brief™ NOD Nuc Design

The Bee Brief™ NOD Nuc (BB) is a four frame nuc box designed for rapid handling and shipping. Constructed of tough plastic, the same material playground equipment is made from, it can take the rigors of commercial beekeeping. It holds standard size Langstroth frames, preferably with Hoffman style end bars. It has a drop-on screened lid with slide down ends, which, when settled into place, closes off the only entrance, eight inches off the bottom of the base.

Once assembled, the sides, ends, and bottom are all one piece. The sides extend up past the ends and are slotted for handholds, allowing two BBs to be carried like a brief case.

The drop-on weather shield lid protects the bees from precipitation and gives a shaded but ventilated space above the bees. This second lid can replace the screened lid, when closing off the entrance may not be required. Usually the screen lid is just lifted up on the entrance end, and slid back a bit, to rest in a propped up position. The weather shield lid is then set on top, sloped towards the back, directing precipitation behind the Bee Brief.

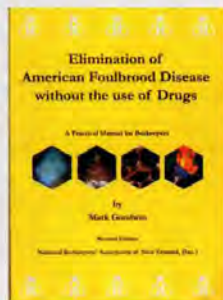
graphs. It is the most useful book of its kind, no doubt about it.

If you're serious about getting rid of, and staying rid of AFB, and don't want drugs in your operation, you should have this book.

It's published by the National Beekeepers' Association of New Zealand, and you can obtain it from Jim Edwards, 10 Nikau Lane, R D 1, OTAKI, New Zealand. Cost is NZ\$25, plus NZ \$ 1 1 . 2 5 post.

It is color throughout, 116 pages, soft cover, with a good list of references and a good glossary.

www.miteaway.com





INNER COVER

From the Just-So-You-Know Department.

In the central part of the U.S. lives a Scarab beetle, commonly called the Green June Beetle that has a taste for honey. Adults are a vibrant metallic green and somewhat tan color, rather clumsy, and about four times the size of a honey bee. The adults emerge in the Spring, mate in July and August and are mostly gone by September. After mating the female burrows into the soil and lays her eggs. These hatch, the larvae feed for a bit

underground before Winter and then go dormant. In early Spring they feed some more, pupate, then emerge as adults in June or so. That's when they get active.

During their adult lives these beetles feed on a number of things – mostly crops such as ripening apricots, peaches, plums, apples, berries and such. But they really like honey. Really.

So. When they find a honey bee colony they start looking for lunch. Being beetles, they have this hard shell . . . called an elytra, which is really one of their sets of wings that has adapted to form a shell. This shell prevents the guard bees from stinging them when they enter a colony, which, when that's the only weapon you have, makes life as a guard kind of difficult. And your honey rather susceptible to being robbed by Green June Beetles.

So our adaptable honey bees came up with a different strategy. What they do is, they gang up on one of these invading beetles by the hundreds and force it back outside the colony. Then they flip it over so it's on its back and they hold it there . . . bees hanging on the antennae, the legs, the edge of the shell . . . climbing on top of the now up-side-down beetle holding it down. And they just hold it there until it dies. Honey bees defend their nests against the attacks of the giant wasps from Asia that are now invading Europe and the UK in a similar fashion I understand. But with these they hold the wasp down and pile on so many bees that they raise the body temperature of the wasp until it becomes lethal. Maybe that's what's happening here.

At any rate, if you live where these beetles are, and I'm told they are common in most of the mid-west except the extreme north and south mid-west – you've probably seen this happen, or maybe found dead beetles near the front of some hives. Interestingly, these beetles will pick on some hives in an apiary and not others . . . nobody knows why.

Nevertheless, Michael Meyer, who lives in Missouri, noted this activity this year, and though he's seen it before, this year was apparently a banner year and there were beetles everywhere during late June and July. And here's what he found. This summer one of his hives was attacked by hundreds, maybe thousands of beetles, but it managed to escape relatively unharmed. But out front of this hive the beetle carnage was astronomical. He tells me there were, are you ready for this – 263 dead beetles by the end of beetle season. One colony killed 263 of these creatures. That's one tough colony, or lots of dumb beetles.

Anyway, on page 13 is a cartoon that Lela Dowling has done showing her interpretation of this event (flip ahead a few pages and take a look . . . makes sense now, doesn't it?). We make light of this at the beetle's expense but next year, if you live where these beetles live, watch the show yourself. Maybe make a video...or at least a photo. I can see this on the web...YouTube or some such instant news outlet. Or send it here and we'll put it on our web page. We need to know...is there a colony out there that is tougher than (or maybe it's smarter than) 263 dead June Beetles?

Between mid-July and mid-August I was fortunate enough to attend three beekeeper's meetings. One was in Minnesota, one in Kentucky and one in Delaware. As a result I got to hear a lot of speakers, and talk to a lot more beekeepers – over a thousand beekeepers when you add it up. There's an article on page 39 or so this month on what I heard at all of these. Some of that is a distillation of hearing two or three or five speakers all give their take on the same subject...CCD, say, or maybe the weather where they live. You can watch the weather channel all you want, and listen to government reports till the cows come home but nobody knows how the bees are in any location like a beekeeper who lives there. That information is worth its weight in gold if you're trying to find out what the news really is.

In fact, pretty much any piece of information is better when it's from the folks who are actually doing whatever it is you're trying to find out. How does this or that work in a hive, on a pallet, in a 100 colony apiary.

As good as this magazine is, as good as the other magazine is, as good as all the books you've ever read are, as good as the Extension bulletins are, the web pages you've found, the emails you've been sent . . . there's still nothing better than first hand information . . . especially when it's from someone whose bees put food on the table at home.

When it's hives that make the installment payment you better have

Continued on Page 58

June Beetles; Meeting Smarts; and More.

SEPTEMBER - REGIONAL HONEY PRICE REPORT



We asked our reporters to rank several items in terms of importance to them when selling honey. If they didn't have an opinion they didn't rank the item. The chart shows the percent that had an opinion about each item, and of those, the percent that felt that particular item was important, moderately important, or not important. This is the second year we've asked these questions so there's data from 2006 and '07.

Labels are still the primary marketing tool these honey sellers use. Note that the use of local honey is becoming even more important. As we said last year, your label is you when you aren't dealing directly with your customers. A good label has a ton of information on it but absolutely includes your name and a way to reach you...depending on local regulations you may only need email or a web page but phone and address are always recommended.

Specifying the variety of honey

is always recommended...Wildflower...the most commonly used, is just that...common. Try several harvests and use Spring Bouquet, or maybe Summer's Blossom, or Autumn's Gold...something to identify it so the customer will ask for it specifically, again.

Plastic is gaining on glass but one astute reporter asked ... are these marketing tools used because they are what customers want, or what honey sellers want to sell? That goes for container size, the products we sell, and where and when we sell them. So ask yourself...do I sell my honey in glass because I like it, or my customers like it? Be honest.

Price, you'll note is becoming less important...we hope that's a trend and not a fluke this year.

	% That Had Opinion		% Important		% Moderately Important		% Not Important	
	2006	2007	2006	2007	2006	2007	2006	2007
My Label	100	96	78	87	14	13	8	0
Glass Container	97	90	39	49	31	40	30	27
Plastic Container	87	91	20	24	40	49	40	27
12 oz. Size	76	83	42	34	37	39	21	29
1 lb. Size	86	74	64	62	19	21	16	17
2 lb. Size	77	76	45	44	25	20	33	36
5 lb. Size	73	78	31	44	28	16	41	24
Quart Jar	88	87	56	54	9	12	36	34
Pint Jar	77	85	43	42	16	20	41	23
Price	90	91	68	56	27	34	5	10
Local Honey	94	100	97	99	3	0	0	1
My Name On Label	92	97	71	80	18	16	11	4
Time of Year	91	96	42	37	29	36	29	27
Store I Sell In	75	82	64	55	10	22	25	23

REPORTING REGIONS

SUMMARY

History

	1 2 3 4 5 6 7 8 9 10 11 12												Range		Avg.	Last Month	Last Year
	EXTRACTED HONEY PRICES SOLD BULK TO PACKERS OR PROCESSORS																
55 Gal. Drum, Light	1.10	1.33	1.25	1.13	0.82	1.10	1.09	1.07	0.87	0.97	1.03	1.13	0.82-1.33	1.07	1.04	1.00	
55 Gal. Drum, Ambr	0.97	1.00	0.97	1.05	0.75	0.97	0.97	0.97	0.72	0.87	0.95	0.98	0.72-1.05	0.93	1.00	1.00	
60# Light (retail)	117.49	115.50	105.00	97.00	110.00	113.75	104.50	129.50	117.49	117.49	127.00	122.50	97.00-129.50	114.77	117.86	119.22	
60# Amber (retail)	112.64	105.00	120.00	95.15	110.00	103.33	98.50	112.50	100.00	112.64	122.40	125.00	95.15-125.00	109.76	113.58	103.28	
WHOLESALE PRICES SOLD TO STORES OR DISTRIBUTORS IN CASE LOTS																	
1/2# 24/case	51.60	48.98	40.80	41.40	59.42	43.25	39.37	59.42	35.76	46.50	89.00	35.76-89.00	51.24	51.91	44.52		
1# 24/case	68.40	74.78	67.20	67.46	60.00	69.70	71.48	61.80	58.50	78.76	75.40	58.50-88.00	70.12	68.39	66.17		
2# 12/case	54.00	61.08	61.80	56.08	54.00	56.93	62.26	78.00	53.75	57.84	52.80	52.80-78.00	60.30	32.08	57.84		
12 oz. Plas. 24/cs	56.40	61.68	49.80	60.32	48.00	62.00	59.26	54.00	47.69	47.64	57.24	47.64-62.00	55.33	54.89	56.39		
5# 6/case	66.00	65.98	71.25	58.41	83.75	62.50	86.57	70.00	64.00	56.43	59.00	56.43-86.57	68.74	66.77	59.74		
Quarts 12/case	109.99	122.18	112.20	86.30	78.00	84.50	87.09	81.00	96.00	110.88	79.52	78.00-122.18	97.47	86.51	95.41		
Pints 12/case	62.42	60.98	66.00	57.15	56.00	49.20	62.21	48.00	60.00	49.50	49.35	48.00-66.00	57.15	63.01	51.11		
RETAIL SHELF PRICES																	
1/2#	3.00	2.68	2.22	3.02	3.43	2.46	2.67	1.99	2.54	2.93	2.65	3.75	1.99-3.75	2.78	3.15	2.47	
12 oz. Plastic	3.50	3.57	3.50	3.45	3.50	3.50	3.27	3.75	3.17	2.96	3.46	4.13	2.96-4.13	3.48	3.32	3.38	
1# Glass/Plastic	4.25	4.19	4.41	4.33	4.00	3.88	3.90	4.45	3.79	4.14	4.45	5.98	3.79-5.98	4.31	4.24	3.96	
2# Glass/Plastic	7.63	7.79	8.15	6.07	6.50	6.54	6.48	8.25	6.19	6.31	6.84	9.58	6.07-9.58	7.19	7.10	6.64	
Pint	5.79	7.92	6.50	5.81	5.75	5.63	6.28	5.77	5.33	5.18	4.64	8.50	4.64-8.50	6.09	6.75	5.84	
Quart	10.92	11.98	11.00	9.14	7.95	8.44	9.77	11.00	9.33	10.19	9.04	14.33	7.95-14.33	10.26	10.38	9.49	
5# Glass/Plastic	17.00	13.95	18.76	12.79	18.34	14.00	17.82	17.00	13.82	13.80	14.90	21.99	12.79-21.99	16.18	14.75	14.10	
1# Cream	4.75	5.58	4.89	4.50	5.97	3.80	6.01	3.79	5.97	5.25	5.10	6.00	3.79-6.01	5.13	5.30	5.07	
1# Cut Comb	7.04	4.85	5.19	4.58	7.04	4.36	6.30	4.99	7.04	5.50	8.00	8.50	4.36-8.50	6.12	7.26	6.08	
Ross Round	4.97	3.99	4.97	4.50	4.97	3.25	5.44	4.75	4.97	4.97	6.00	6.13	3.25-6.13	4.91	6.02	5.52	
Wholesale Wax (Lt)	3.00	2.45	1.80	2.27	1.90	3.33	3.24	2.75	2.00	3.66	2.69	2.80	1.80-3.66	2.66	2.36	2.22	
Wholesale Wax (Dk)	2.39	1.85	1.70	2.08	1.70	2.00	2.45	2.00	2.39	2.39	2.02	1.85	1.70-2.45	2.07	2.15	2.07	
Pollination Fee/Col.	65.00	80.67	54.00	44.33	42.00	45.50	47.00	60.00	81.51	81.51	119.33	95.00	42.00-119.33	67.99	61.95	56.16	

RESEARCH REVIEWED

The Latest In Honey Bee Research

Steve Sheppard

"Where does the honey go?"

The typical arrangement of honey within a honey bee nest is an image familiar to almost all beekeepers. Honey in beehives and in nests in the wild is primarily stored above and to some extent beside the area where brood is reared. Even the name of the box beekeepers add to their hives in hopes of

garnering surplus honey for later extraction, "super," suggests the correct placement location is on top of the hive above the brood nest. This situation allows temperate-adapted honey bees (such as those that originated from Europe) to localize a substantial surplus of food that can be efficiently utilized during cold weather when the Winter cluster moves slowly upward, into and through the stored

honey. Initially, it was widely held that honey bees preferentially deposit their nectar loads in areas above and beside the brood nest (the "honey-zone"). Later experiments suggested that honey bees place their nectar loads randomly within the brood nest and subsequently remove it from brood-zone areas (Camazine, 1991).

Recently, researchers from England revisited the issue of whether bees have a preference for where they deposit nectar loads (Johnson and Baker, 2007). They contend that the research published to date on this topic was unclear for a couple of reasons. Earlier studies had reported a clear preference for deposition of nectar into older combs (which in a wild nest would typically be in the upper portion of combs). In addition, they point out that the 1991 Cama-

zine study showed random placement of nectar within the honey- and brood-zones inside the brood nest area, but did not discount a possible preference for deposition into the upper nectar-zone. Johnson and Baker set up experiments to re-examine the question of nectar deposition

and test hypotheses related to honey bee preference for old vs. new comb, preference for deposition in the honey-zone at the top of the nest compared to the brood-zone and preference for deposition in interior-facing combs compared to exterior-facing combs.

The researchers used full-sized colonies of European descent housed in hives there were at least two deeps in size. The colonies had been undisturbed for some time and therefore exhibited "the classic pattern of brood and honey." In all colonies the bottom box contained a large brood-zone of five to six frames with empty or mixed outer frames and the upper deep box contained a smaller brood-zone (two to four frames), with outer frames of honey and pollen. To examine preferences for nectar deposition, the researchers placed frames with empty comb sections of 100 cells into either the brood nest or upper honey area. They also tested both new and old comb test sections in both locations. The comb sections placed into the upper honey-zone area were placed along the outside edge of the colony. The combs were examined and cells containing nectar were counted each day for six days following the start of the experiment (or until they were full). Five trials of

the experiment were run, each using a new colony of bees.

The results showed that honey bees deposited more nectar into the honey-zone than into the brood-zone, that they preferred to place nectar into old, rather than new combs and that they preferred to place nectar into the interior-facing side of the comb rather than the outside-facing side. The authors state that "a simple explanation for the bias towards depositing nectar into the honey-zone" could be related to the fact that nectar receiver bees typically "walk up as they are searching for a place to unload their nectar" and that "bees inspect infrequently as they move up." Many cells in the brood zone area may already contain brood and, thus, workers looking to deposit nectar are likely to find open cells only when they move into the top of the nest in the honey-zone and begin an actual search effort. In contrast to the Camazine 1991 study, the authors observed "little emptying of nectar cells within the brood-zone." One possible explanation for the differences presented by the authors is that, in Camazine's study, nurse bees feeding themselves were the major contributor to nectar removal, while in the current experiment there was little brood on the test frames themselves (although they were located in the brood nest area).

The authors gave two possible adaptive interpretations for the preference for old vs. new comb for nectar deposition. The first was that by using older combs, the nectar would tend to be placed above the brood nest (older comb is built first and is generally above newer comb). The second was that, as older combs accumulate the cocoons of generations of brood, the size of workers reared in those cells diminishes. If there is natural selection for worker size, then "workers should prefer to use the newest combs for brood rearing and



the oldest combs for food storage.” Finally, the authors suggest that preference for placing nectar in interior-facing combs can be explained by the advantage of placing it closer to bees and brood, especially when considering thermoregulation and winter clustering.

The researchers conclude that the use of comb by honey bees may be a complex topic. For example, it is known from other studies that honey bees tend to maintain up to 20% of their comb as drone comb. The production of drones is a fundamental trait of normal honey bee colonies and the regulation of that production is obviously related to comb building and usage. The overall findings of this research strongly suggest that sex allocation (number of drones vs. workers), the adaptive distribution of food stores and the production of “optimal size workers” can all follow from the answer that bees give to an apparently simple question. That question is the one posed at the top of this column – **Where does the honey go?** **BC**

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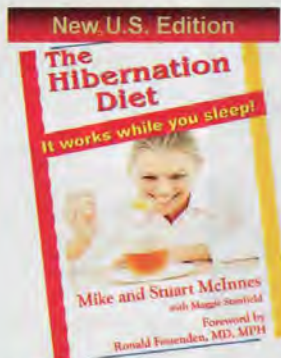
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Why not let The Hibernation Diet work for you!

In the March 2004 issue of *Bee Culture* (March 2004), Vol. 132 (3): 17-19, I published an article on databases and beekeeping. In that column, I noted that there has been a proliferation of these as the World Wide Web matures. Specifically I mentioned those on plant identification, pollinators, and bee management. Mostly, I referenced the tool authored by Mr. Glenn Engels mounted at mybeehives.com.¹ Just after my column was published, Mr. Engels' site passed the 1,000 colony mark and now accounts for 1896. There are 779 registered users who are enrolled at the site to manage their colonies. The site also has a link to my original article.

Since then another important database has been added. This is the one implemented to collect information on Colony Collapse Disorder (CCD), authored by Dr. Jerry Bromenshenk and colleagues at Bee Alert Technologies.² This "National Bee Loss Survey," asks that beekeepers answer questions with reference to what they observe in:

1) Collapsed colonies

A. The complete absence of adult bees in colonies, with no or little build up of dead bees in the colonies or in front of those colonies.

B. The presence of capped brood in colonies.

C. The presence of food stores, both honey and bee bread
 i. which is not immediately robbed by other bees
 ii. when attacked by hive pests such as wax moth and small hive beetle, the attack is noticeably delayed.

2) Cases where the colony appear to be actively collapsing

A. An insufficient workforce to maintain the brood that is present

B. The workforce seems to be made up of young adult bees

C. The queen is present

D. The cluster is reluctant to consume provided feed, such as sugar syrup and protein supplement

In addition, it asks beekeepers to fill out the survey whether or not they believe they have experienced CCD. Finally it is emphasized that all data collected is confidential and extremely helpful for determining the exact cause of CCD.

A recent post on the Bee-L discussion list attracted my attention;

Malcolm T. Sanford

More On Databases And Beekeeping – Measuring Climate Change



"Collections of these records provide a historical educational resource for the beekeeper."

written in the subject line was "climate shift or?": It stated "Normally I just lurk, but with the way things are going here-central lower Michigan-I was wondering if what I am seeing is just here or elsewhere as well. Today is July 20 and I am seeing Goldenrod starting to bloom and Knapweed is in full bloom. The Milkweed is done; the Asters are ready to pop and there is a local farmer that is getting ready to harvest corn! Everything is about four weeks early. I ran into this a couple years ago and somewhat last year as well. By August and September everything is dried up and the bees are using their winter stores to survive the Summer unless fed leaving starving colonies in the Winter."³

This brings me to another web site that has just been mounted at NASA'S Goddard Space Flight Center. It has to do with using beehives to monitor climate change and is administered by Dr. Wayne Esaias, an oceanographer and Master Beekeeper. Dr. Esaias told me in a telephone interview that about a year and a half ago, he worked up some scale-hive information that he had been keeping since 1992 in the central Maryland environs. It revealed that there has been a shift in plant blooming (black locust, holly and tulip poplar) cor-

related to about a 4°F. increase in temperature. This may have been due to a number of factors, including urbanization, resulting in so-called "heat islands," and, of course, generalized global warming.

Although NASA scientists can see the ground using satellite imagery with a great degree of accuracy and can measure many aspects of plant health and condition using remote sensing, including with global weather events such as "El Niño," this technology does not reveal anything about flowering in plants or pollination. However, time of flowering (phenology⁴) can be a key to helping NASA understand climate change and can be usefully measured using scale hives, something beekeepers have traditionally implemented in their own management practices.

This is the genesis of HoneyBee Net. The following information is found on the main page of this

World Wide Web site⁵:

"If you are interested in taking part in the scale hive study, we would appreciate it if you could fill out this one-page questionnaire and email it to Wayne Esaias.

"Central Maryland is the first test case of a network of scale hives to monitor honey bee nectar flow and nectar plant phenology. Track-



“Dr. Esaias encourages non-beekeepers to be part of the project.

It is surprising how many people are engaged in phenological activities from those looking at humming birds to a full-fledged global network, which might be useful for those looking to establish phenologies outside central Maryland or who can send plant blooming times for their particular area.”

ing nectar flow data can have many benefits.

“Quantitative information useful to beekeepers and scientists studying plant-pollinator interactions.

“A baseline from which to measure/predict climate change and land use/land cover change impacts.

“Demonstration of citizen-scientist role in climate impact studies - what’s happening in My Back Yard?

“Provides data for scientists to relate satellite observations to detailed phenological events.

“Data are needed to relate large scale climate and ecosystem models to local impacts.

“Will the Africanized Honey Bee establish resident populations in Maryland, and if so, when?”

Although much of the information to be collected is of extreme interest to NASA, Dr. Esaias says the project at present is really only in its beginning stages and has little funding. Nevertheless, he has been able to mount the web site and begin testing it using about 15 local Maryland beekeepers. In order to achieve more support, Dr. Esaias has written a larger proposal for administrators to consider. Thus, he is asking the beekeeping community to step up and become what he calls “citizen scientists” in this effort by contacting him personally and revealing their willingness to be cooperators. Clearly, the more support he can find for this project through beekeeper volunteers the more chance it has of being approved.

Scale hives have been extremely useful for beekeepers, but the technology may not be well known by some. Thus, Dr. Esaias provides useful advice about these on the site:

“The daily measurement of hive weight provides useful insight into the condition and activities of the honey bee colony, the timing of the honey bee nectar flow (HBNF), and the interaction of the bees with their environment. A scale hive record will give the beekeeper valuable information on the current status of the

colony, when the nectar flow is on, and when it is over. Collection of such records is a very useful educational exercise for the beekeeper and for local clubs and associations.

“The classic hive scale is the traditional manual platform “feed scale” with a deck about 17 x 24 inches, with a total capacity of 500 to 1000 lbs, and a minimum weight sensitivity of 0.25 lbs. The precision and relative accuracy of these beam scales is maintained by sliding a weight along the beam. The principle of the operation (lever arm or beam balance) is robust, relatively insensitive to temperature, operates well regardless of rust and exposure to the elements.”

“A program for measurements of hive weight provides useful insight into the condition and activities of the honey bee colony, the timing of the honey bee nectar flow, (HBNF) and success of the interaction of the bees with their environment, and will provide a means for collecting and preserving the weight records. A variety of papers describe a range of weighing techniques that yield useful information for colony management purposes, most recently reviewed by Szabo and Mueller (1996, *American Bee Journal* 136:417-419). The purpose here is to provide a simple protocol, or recipe, for making scale hive measurements that provide insight into how the timing of the HBNF varies across the county and state, and over the years.

“The objective of these measurements is to provide multi-year to decadal records of HBNF timing to document its variability, and to assess and predict the effects of climatic change and land cover/land use change. A scale hive record will give the beekeeper valuable information on the current status of the colony, when the nectar flows occur and their duration, when swarms issued, and status of stores for over-wintering. Collections of these records provide a historical educational resource for the beekeeper, both individually and

for local clubs and associations, and scientific investigators. Maintenance of such records (including publication) provides a record useful for future investigations and comparisons.

“The timing of the nectar flow depends strongly upon the local plant flora, and how those species respond to local weather and climate. Local/regional surveys of the nectar flow provide useful information on the abundance and distribution of the nectarous flora, and if taken over years, can detect land cover/land use changes as well as climate related changes.

Dr. Esaias describes a special procedure for participants in central Maryland: “This protocol gives recommendations on scales and their use, colony selection and management, and suggestions of what to do when the unexpected occurs. This protocol was written to provide guidance for volunteer beekeeper citizen/scientists, since only through their participation can large scale surveys of the nectar flows be conducted. It assumes some background in beekeeping, but it is hoped that it will also be useful for the non-beekeeper ecological/climate scientist who might consider rental of a colony to augment the current suite of environmental variables taken at test sites. The collection of such data would provide a greatly improved (if not essential) basis needed to relate climate change and ecological responses to potential impacts on the nectar flows and plant-pollinator interactions. Graphing, plotting and analysis of records will be treated separately.

“Measurements can begin at any time in the year. Plan to begin measurements by mid-March to capture the primary, or main nectar flow in the Tulip Poplar regions of Maryland (G. Abrams, 1957, *Gleanings in Bee Culture* 85:34-35), and continue them through the month of June and past July 4 if gains are still being recorded. The beginning should be before the first ‘build-up’ flows from mustards, cresses, and dandelion commence. The dates should suit your locality. The record may be monotonous for a while, with slow continual loss, until the Spring flows begin. Very few records exist to document minor flows occurring during the Summer dearth and the fall aster/goldenrod flows in central

Maryland, as these have been considered pretty boring and less important for bee management. Good records during those times will therefore be important for understanding the complete annual cycle, and may provide very important information with respect to whether the native flows could support resident populations of the Africanized Honey Bee."

Also provided at the site are details on selecting and managing the colony to be used, along with tips on topics like swarm management and how to log entries with specific examples. Other information might also be beneficial even for beekeepers who decide not to participate and include feeding syrup, requeening, and what to do about hive bearding, rainy days and harvesting honey.

Dr. Esaias encourages non-beekeepers to be part of the project as noted above. It is surprising how many people are engaged in phenological activities from those looking at humming birds to a full-fledged global network, which might be useful for those looking to establish phenologies outside central Maryland or who can send plant blooming times

for their particular area.⁶

To round out his site, Dr. Esaias related some personal stories about his relationship with a scale hive. As he relates: "The old cast iron scales are extremely rugged. Once, I think in 1993 or 94, in early March, a deer ran headlong into my scale hive, and knocked it on its side. Deer tracks in the snow, with dog tracks along side, told the story, and the hive was in three separate piles. I saw it when I went to go to work, and immediately went to investigate. I found out very quickly that bees, even with snow on the ground, were still quite effective defenders and that they detest black wool socks, and I started hopping around. After getting properly dressed, I got most of the bees back in. The scale was none the worse for the wear, and the queen survived." Send yours to wayne@neptune-web.gsfc.nasa.gov. **BC**

Dr. Sanford is a former Extension Specialist in apiculture at the University of Florida.

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SHIM

A chat with Dr. Hachiro Shimanuki, USDA Honey Bee Research Leader, retired.

Recently I had a chance to sit and chat with Dr. Hachiro Shimanuki, who retired in 2000 from the position of Research Leader, USDA Beltsville, Maryland Honey Bee Research Lab, and now the Chief Editor of the 41st Edition of the *ABC & XYZ Of Bee Culture*, published by the Root Company earlier this year. The occasion was his coming to Medina to autograph copies of ABC.

We talked about many topics as we unwrapped books, and put them back in boxes when done, and what follows is, in no particular order, a report on some of that conversation. Dr. Shimanuki, or Shim as he has always been called, now has a somewhat different perspective on the honey bee industry, and, after seven years of not being in charge but being somewhat close to the action, his comments and thoughts are revealing.

The night before we had our talk I gave him a copy of the USDA Action plan for CCD which had just been

released. We started there and moved on, discussing related, and not at all related topics as they came up.

"There's not enough emphasis on non-apis species" was the first thing he said regarding the Action Plan.

"We've put all our eggs (or resources) in a single basket", he said, "We've got only one species for commercial pollination, and the science of the situation says to look harder at these non-apis bees", he added.

"Pollination niches are something that will be more important, because both farmers and scientists want a pollinator that isn't a honey bee - honey bees don't have a corner on this market.

"There's a problem because there's only a finite amount of dollars available, and how to divide them is difficult. Dr. Marshall Levin took honey bee study out of the Logan Lab, and took non-apis bees out of the Tucson lab...and since then it's been one or the other. And the dollars mostly go to honey bees, not non-apis bees", Shim said.

"Another thing to consider is that most plants are not native, just like honey bees. But some of our crops are native and non-apis bees are much better at pollinating them. Blueberries and bumblebees, or squash bees and pumpkins, for instance", he said.

"Do we know what the alternate pollinators are for our crops, really? I'll bet it's a short list, but so far we haven't given those non-apis bees much of a chance", he added.

"But that kind of fundamental research costs a lot of money, and that's only the beginning. What about the affects of pesticides on non-apis bees, the kind of work Larry Atkins did on honey bees. EPA doesn't require that kind of data for pesticide registration because it's cost prohibitive. And what about non-apis bee diseases?" he asked.

"We don't know hardly anything about those. We know that alfalfa leafcutters get chalkbrood, but it's a different species than apis bees get. We just don't know much at all about these diseases".

But back to the Action Plan. First off, he said, those that are studying this need better dead bee traps. There needs to be a sheet, something that works to collect these bees that are leaving hives. We need better sampling techniques and systems. We aren't catching enough of these bees when they leave.

"When we were studying paralysis virus we found that bees will leave a colony, they simply walk away out the front door because they can't fly. Better traps", he said.

"Another thing is that you'll never find a disease-free colony. Look and you'll find...something.

"Rather", he said, "I think researchers should focus on a single beekeeping operation that suffered what they think was CCD, look at one beeyard. There's too many things to find if you look everywhere and finding a common cause may be impossible".



Dr. Shimanuki signing those copies of ABC & XYZ, with wife Susan helping out.

More on the Action Plan. There are remarks on Extension making the results of the research that's proposed available.

"What are they going to extend", Shim asked, "and who will be extending it?"

"The Extension service is mostly, but certainly not completely, gone. There's hardly any full time extension specialists left at the university level. And even if they all pitched in, they almost all have other duties to take care of at the same time. So, once the information is discovered, if it is discovered, who will tell the world?"

"The Action Plan tries to give something to everybody, to every interest group, but I think that's unrealistic. But I don't know the answer to getting information out anymore. It's a problem that needs solving, that's for sure."

We moved on to talking about the honey bee genome which has been released recently. I asked what his take on it was, and how he thought it would be of use to bee science, and beekeeping in general.

"Well, how can it be applied to beekeeping, and will that be practical? Will people accept, or be afraid of a genetically modified bee? Would beekeepers adopt a genetically modified bee? There's been a lot of 'genetically' modified bees introduced to the beekeeping community over the years", he said. "but they've been 'modified' the old fashioned way, by selective breeding. Their acceptance has been mixed, but that has to do with the bee, not the technique they were produced by". The Starline and Midnight lines were genetically modified bees, the Yugo bee was too, as is the Russian. They all are...so acceptance is based on is it a good bee, not is the science good.

"If someone can make a disease-resistant bee, one that pollinates, one that makes honey, has good temperament, builds up at the right time, that bee will certainly be accepted", he said.

Shim went on to discuss the gene pool of bees in general, which he thought needed some attention.

"We need to continue to broaden

"And as far as disease resistance is concerned, we need to be more aware of IPM techniques in the future."

the gene pool of available bees in the U.S.," he said. "But it needs to be broadened with care. Canada is importing bees from nearly everywhere, and maybe that's not the best plan. We bring bees in from Australia, packages that make a one way trip for pollination. This was proposed years ago. But some of these programs work, some don't. Some bees are adapted to where they are brought to, some aren't.

"And as far as disease resistance is concerned, we need to be more aware of IPM techniques in the future. We don't need 99% control when we treat, we just need enough control. Formic is a good example. It controls, but doesn't get everything,

but it gets enough that bees and beekeepers can exist. We need more like that, and less like the chemicals we've been using.

"And we need more inspection and it needs to be better. Whether beekeepers or the government runs the program, it doesn't matter. But the program, no matter who runs it, is only as good as the

inspectors. The way our programs are working now is that we won't ever eradicate a disease because we wait until a problem surfaces, then we react. Then we treat, or manage, or whatever it is we do. Commercial beekeepers should be learning to live with some level of pest or disease, using IPM techniques to stay ahead of problems, rather than try and catch up when they find them.

"Pests make better beekeepers. There's no doubt about that", he added. "But political solutions to science problems are only bandaids, they're OK, but they aren't nearly sophisticated enough to solve the problems beekeeping has. Beekeepers, in the

mean time, are becoming much better business people. You've got to exist. You've got to know the costs of pollination, of honey production, of raising your own queens or buying queens....you've got to know these things to stay in business".

Finally, I asked what was the best thing about being retired, and what was the worst thing.

For best, he said no deadlines anymore (there's something I can relate to). He said he and his wife Susan now have the freedom to do what they want, almost whenever they want to. They have traveled across the U.S. extensively in their small camper-van, visiting most of the national parks, relatives in several states and just bumming around. All this has given them time to be together and enjoy the sights and sounds of their family and their trips.

"Being retired lets me look at some things more objectively now. I can see we aren't going to solve all the problems we face, mostly because there just aren't enough dollars available. I've become a big fan of IPM in the past few years, too. I can see that is the way of the future of pest and disease control, and we should be chasing it even harder. It's the way to manage pests, not control them.

"The hardest thing, I think, of being retired is that you see things you'd love to be involved in. Like this CCD thing, and some of the political things that have gone on since I stepped down. Too often we reinvent the wheel when the information is available simply for the asking. Sometimes people don't know to ask, or don't want to ask, or won't ask. It's a shame, but we all do it, no matter who we are, or what we are doing."

With that, Shim signed the last of the ABCs he was working on, slowly closed it and smiled. Because he was done with the books, or done with the problems of the beekeeping world, we don't know.

Then he and Susan packed up the camper and actually did drive off, into the sunset, ready for another adventure together. **BC**



New beekeepers frequently bemoan their lack of experience. After having done this bee thing for most of my adult life, I honestly have only the faintest memories of my novice years, but one memory is vivid. Within my first two years of beekeeping enterprise, I remember finding a late-season swarm hanging near one of my hives. Having been told that a late swarm had a poor chance of winter survival and that my honey crop would be negatively affected, I logically selected the closest hive and shook the swarm directly into the unsuspecting colony. It would be a mild statement to tell you that everything that could go wrong immediately went wrong. Obviously, the two colonies were, in no way, related. The elements of my fiasco were: (1) A three-pound late-season swarm, (2) a strong, established colony, and (3) a declining nectar flow. Bees killed each other en masse. The swarm was essentially decimated while the established colony was damaged and traumatized. I was simply a dork – and an inexperienced one at that. Ahhh, the confidence and surety experience doth bring. I would never do that now. But there is a darker side to “experience” that is never discussed.

The experienced beekeeper develops feelings of confidence and familiarity but loses the sense of innocence and excitement that new beekeepers possess. The experienced beekeeper develops ways of doing things to the point of getting in a rut. Boredom sets in. So, the experienced beekeeper tries other beekeeping venues. Queen production is a common fresh direction. Pollen collection, propolis collection, comb honey production, collecting bee books, and pollination rentals, are other common exploration avenues. But after all that is done, what then? After years of beekeeping exploration, the experienced beekeeper finds him or herself back near the point where it all started – missing the early passion and curiosity that was once felt. Hence, I say that there is absolutely nothing wrong with beekeeping new-

The Passing Of The Hobby Beekeeper

—James E. Tew

Each and every beekeeper in Ohio is contributing \$26,000 to our state's fruit and vegetable production.

ness and innocence. It may very well be the best time of your beekeeping life; something akin to your teen age years. Don't rush your early beekeeping years. This philosophy has been mine for a long time. Yesterday, I was stunned to get an outside view of hobby beekeeping that has me made revisit the concept of “hobbyiness.”

Hobby beekeeping, becoming passé?

“Hobby beekeeping,” as an industry beekeeping designation, needs to go away. I feel that I need to say that a different way. The grant-writing advisors at the meeting I was attending said, “The designation, “hobby beekeeping” needs to be removed from industry lexicon and should not be used in general beekeeping context.” I had the familiar old feeling of being a dork again. The clear opinion of the outside advisors was that all beekeepers are

either part-time or full-time. Why bother with this category of beekeepers who are exceptionally part-time and label them hobby beekeepers? Golfing or stamp collecting is a hobby. Either you keep bees or you don't. Either you do it some of the time or all the time, so all beekeepers are either part-time or full-time.

Why confuse things with this third “hobby” category?

An aside

While sitting at the conference table, my thoughts raced. I'm a beekeeper with many years experience. I expect most things to change, but surely some things are bedrock in their dependability. People begin beekeeping as a hobby beekeeper; some of them grow to sideline beekeepers while even fewer become commercial beekeepers who work bees full-time. Can you understand my surprise that in one meeting and with one fell swoop, the consensus of outside reviewers is to completely drop a major designation and one that has been in beekeeping use for eons? I explored my feelings. *(At a church meeting once, when subjected to a radically new concept, a parishioner sitting across the table from me said, “I understand what is being said, but give me a few minutes to accept it.” That was exactly how I felt.)*

The reviewers had a sound argument. The country, yea even the world, has been hammered with Colony Collapse Disorder (CCD) media coverage. Time and again, it has been reported that our bees are disappearing so our food supply will increasingly be endangered. Something must be done. Should an industry, consisting primarily of “hobby” beekeepers, be given millions of dollars in funding support? That rings of giving funding to hobbies like fly fishing or electronic gaming. Is





Which photo caption would sound more competent? a. A hobby beekeeper's yard. b. A part-time beekeeper's yard. c. A beekeeper's yard.

this bee population decline a serious issue or not? If it is, it should not be in the hands of people who call their endeavor a hobby.

The second shock wave

For many years now, my job has been to work with people who keep bees and with the bees themselves, but I actually spend more time with bee people than with bees. Don't take this next statement as anything but positive, but I must admit that we are an eccentric lot. After all, we *keep bees* intentionally. Most people do all they can to get away from bees. In my experienced and confident state, I long ago embraced the fact that, as a group, we are different. So just as I was mentally recovering from the reevaluation of the hobby designation, I was shocked a second time when one of the reviewers bluntly said, "Yep, *beekeeping has an image problem.*"

The reviewer continued her thought by saying that her take on our industry was that beekeepers and their bees were contributing to a vital pollination need but we kept referring to the process being a hobby. The public then, too often, sees our hobby as being the harboring of dangerous stinging insects more than the culturing of valuable pollinating insects. While so much media energy has been given to the issue of disappearing bees, presently, two Ohio communities are considering

ordinances against beekeeping. Alternatively, Winnie the Pooh and the ambience that beekeeping provides is the opposing "warm, fuzzy" aspect of beekeeping. Bees adorn nearly everything from nursery room toys to crafts and pottery. Honey is used in innumerable food and cosmetic items. The question is begged, "Does the public generally see bees as ally or pest?"

Beekeepers are part of the problem. We consistently use the terms honey and pollination in the same breath as though somehow they are similar. Honey is only a small byproduct of pollination. If we strip away all the trappings, pollination is the fundamental relationship between bees and flowers – not honey production. The problem is that honey is so easy to quantify. We can price it per pound. We measure the success of a bee season by our honey crop. We invest in complicated honey processing machinery. We have a National Honey Board, but we don't have a National Pollination Board so honey must be more important. It is as though we admire a row boat (honey) while standing by an ocean-going cruise ship (pollination).

Pollination phenomena are simply not as visually fulfilling as full honey supers. No one ever says, "My bees pollinated over 300,000 blossoms today!" but some of us put our colonies on scales to monitor our incoming honey production. When

doing pollination work, we can't say that we charge by the apple or even the apple tree. We know pollination is important, but it is so vague – so innocuous – so difficult to measure.

The numbers I am about to present are truly general estimations, but the numbers do show the scope of the pollination value that bees provide. It has been estimated that the value of commercial crops requiring pollination in Ohio to be about \$86 million dollars. Ohio currently has about 3300 registered beekeepers; therefore, each Ohio beekeeper is unintentionally contributing about \$26,000 per beekeeper to commercial fruit and vegetable production¹. Each Ohio colony (50,000 – 70,000) is contributing about \$1200-\$2400 per colony toward the production of commercial fruit and vegetables. Ohio honey production is about 50# per colony or about \$150 per colony (@ \$3.00 per pound)². Importantly, these estimations don't reflect any backyard garden pollination value, ornamental flower pollination, or pollination value ascribed to non-commercial plants of ecological importance. It could be argued that the pollination value of a "hobby" beekeeper's single hive equals the honey value of 10-15 hives. While I have used Ohio numbers available to me, similar estimations would be expected from any other U.S. state.

I'm just a hobby beekeeper

Time and again, I have had people say to me, "I am just a hobby beekeeper. I only have three hives. I don't do it for the money." Stop feeling that way! Even if you don't sell the token honey crop, your colonies still pollinated millions of flowers.

During a break in the meeting I was attending, I tried to explain to the reviewers why beekeepers generally downplay their own importance. Our industry is accustomed to downsizing. Closing USDA bee labs and reducing university bee programs

¹ I know that some beekeepers manage more hives than others. In actuality, the contribution of some beekeepers is much greater or much less than other beekeepers, but for the sake of estimating, I have presented all Ohio beekeepers as being equal.

² These numbers are for rough comparison only. It is unfair for me to ignore all the pollination efforts of native bees and other pollinators in this comparison, but in my defense, the primary supplemental pollinator of commercial crops is the honey bee. I have no obvious way to quantify the varying contributions that native bees make.

are two examples. Important leaders in our industry have indicated that commercial beekeeping is the core of the U.S. industry and hobby beekeepers are along for the ride. Should we drop the hobby designation in favor of the volunteer designation? Should hobby beekeepers be put in a category with...say...volunteer fire fighters rather than a category like bird watching? Do volunteer fire fighters see their contribution as being a hobby? Do part-time farmers routinely refer to their activities as a hobby? Is membership in the Army Reserves a hobby-like diversion?

After I have had a day to think about it, I like the idea. There is no need for the hobby category. We are all either part-time or full-time beekeepers and our contribution is real and important to our society. We need to reevaluate our perception that we are a folksy, craft-oriented group and look at our documented contributions.

Honestly?

I don't honestly expect the concept of being a "hobby beekeeper" to vaporize anytime soon, but the CCD issue has focused a very bright light on our industry. We presently have the attention of people who are not beekeepers but who do eat three meals a day and they want to continue that fundamental luxury. If we want these people's help, we need to re-consider our own perspective of our beekeeping selves. "Hobby" may be the term we have always used

to describe beekeepers with only a few hives, but these reviewers have made me look at the way the term belittles the contribution that our "hobby" industry makes to our society; therefore, provide a meal - be a hobby beekeeper. **BC**

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Dear Neighbor,

Lately you mentioned that you heard news about honey bees disappearing and colonies dying, and you wanted to know what is happening. You also asked me what you could do to help honey bees. Let me tell you what I can. First, many scientists working on this problem have been making progress, but it is still limited by lack of funding, and so far we do not have concrete answers as to the cause of Colony Collapse Disorder (CCD). But to answer your second question, I took some time to make a list of some simple, and not so simple, ways you can help honey bees. So here goes - Ways you can help honey bees.

There is little to fear with bees in your yard and neighborhood. By nature, honey bees are only defensive (likely to sting) when their nest is threatened. Sure, you might step on or accidentally pinch a bee and get stung, but millions of people walk, bike and jog through parks and gardens all the time and are not stung by bees foraging there for food for their hive. Wear shoes and socks if you are walking through yards and fields of clover and plants attractive to bees.

If you find a nest of honey bees (usually in a tree or the side of a building), leave them alone and call in a beekeeper for removal if they are in a bad place.

Honey bee nests will survive from year to year - the bees are not likely to go away unless destroyed by parasitic mites or the CCD. Learn to recognize other insects that look like bees. The yellow jackets and paper wasps are not bees. They are both wasp species, and may become defensive while you are on a picnic in the park. They are the insects that seem to want to fight over your hamburger. These are primarily meat eaters, but enjoy a tasty fried potato or sip of soda.

Many yellow jackets make paper nests in the ground and in bushes. The hornets nest in paper nests in trees, and the paper wasps make nests in protected areas of buildings (such as under eaves).

They may be killed by using one of the over-the-counter pesticides if they are in a bad place (near playing children) - but as a group they feed their young caterpillars and maggots. These nests do not survive the Winter.

Honey bees (like all bees) are vegetarians and collect pollen (their protein source) and nectar from plants and water where they can.

If you have a flower or vegetable garden, you probably already have honey bees making pollination visits to certain flowers. They are essential for the successful pollination of a long list of fruits, berries and vegetables, so expect to see them on your fruit trees, berry flowers, squash, melons and cucumber flowers. For the country, honey bees provide over

15 billion dollars worth of food production - some say that is one bite out of every three! For the home garden they contribute to the food you enjoy and need for proper nutrition. Many home gardeners have noticed that there are fewer honey bees "doing their job."

Many wildflowers and flowers in the garden attract bees, butterflies and other pollinators. I encourage you to get a list of bee plants from your local or state extension service and plant them along with your butterfly plants. In California,

the extension service has prepared a list of native plants and shrubs that are helpful to honey bees. Many of these plants require minimal water and management. Don't give up, as many states do not support bee programs as well as others.

Starting in the Spring, provide a constant water source for bees. Bees are attracted to water in a number of different situations. If you establish a waterfall in the garden, or have a decorative pond or pool, expect the bees to gather at the edge for water for the hive. During the Summer a hive of bees will require as much water as the pet dog, so don't be surprised to find dozens of bees gather-



"Become a beekeeper. There's a wealth of resources available to help!"

ing water. Here's the key point: by establishing the water source early in the season, the bees are less likely to visit swimming pools and bird baths. They may be attracted to the salt and minerals of these sources, which is why I like to see folks have a place for bees to gather water that does not put the bees in close contact with humans and pets.

If bees start to cause problems at a swimming pool, consider covering the pool for a few days until the bees will move to another source.

Plant bee flowers in your garden and bee attractive trees wherever you are able. I live in a city that has extensive park and city landscapes filled with flowers - they could all be flowers that the bees could forage upon and get food. In the past the city planted thousands of trees that bees like to visit for nectar and pollen. Between the sidewalk and the road is a large basswood tree, also called Linden or lime tree. It is common in many cities and is an excellent nectar source for bees. It makes a very tasty honey! My street has several basswood varieties and they bloom over several weeks in the late Spring. My neighbor has a tall tulip popular tree that has large magnolia-like flowers in June. It is a beautiful tree with tulip-flower-shaped leaves and hundreds of large yellow and green blossoms. One tree will not produce a lot of honey, but a city filled with these trees will keep a lot of bees alive.

The nice thing about these trees, when they are mature, is that when they are in full bloom - you don't usually know it unless you hear the faint murmur of bees as they work the flowers over your head.

Work to have your entire community to "think natural pollinators" when it sets out to design parks, recreational areas and walking/riding trails. If you are concerned about having people and bees in close contact, think up something clever, like "Do Not Disturb - Natural Pollinators At Work!"

Reduce mowing and let beneficial nectar and pollen producing plants grow - Many plants produce flowers above the mowing height of most lawnmowers, so every time the plant is ready to bloom the top of the plant and all the flowers are cut off. I agree that a ball field or playground should be mowed while it is in use by children and adults, but once the season is over the grass and other plants

could be allowed to grow to six to 10 inches in height so plants like white clover, birdsfoot trefoil, and alfalfa are able to grow and flower. Once the blooming season is over the area may be mowed and will be ready for the next year.

Consider a bee flower blend of seed for large lawns. What is the advantage of huge lawns that require high-energy fuels to mow, feed and establish pest control? Why not plant of blend of grass seed with white or alsike clover, trefoil, and low growing asters to keep below the mower height and still look great at a distance? The clovers and other legumes house nitrogen-fixing bacteria in their roots, and the lawn around them will actually be greener than the surrounding grass. This will reduce the need for fertilizer applications. If you plant these plants and manage them well with conservative watering and mowing you will have an attractive lawn at lower costs and management time.

If you are a grass fanatic, why not plant the areas around the house with the lawn of your dreams, and then let the other areas go natural to support bees and other pollinators.

Encourage state and federal officials to develop areas of roadways and parklands that may be planted to plants beneficial to honey bees. There are many plants that will grow in these areas, including a few species that may be considered invasive by certain folks. But what is wrong with a roadside filled with blooming knapweed rather than grass? The Eastern/Midwestern species of spotted knapweed will produce lots of nectar in the lavender flowers during July and August.

Work within various "Green" organizations to make the honey bee a welcomed insect in environmental areas. True, Jamestown settlers imported the honey bee from Europe in 1623, and since then it has become one of the most dominant pollinators in North America. Many plants depend upon honey bee pollination, and while there are many thousands of other pollinator species, humans have destroyed many of their habitats, their food sources and in some cases their existence. The honey bee is one species that visits many different plants and benefits them by setting seeds and ensuring the future of the plant species. Indeed, the smart thing is to use honey bees in conservation areas will help establish the plants many of the native pollinators need to survive.

Certain other bee species need to be encouraged as well. We need bumble bees to pollinate tomatoes and help pollinate blueberries - they do a better job than honey bees. Bumble bees are able to buzz

the flower to cause pollination, and the honey bee is unable to do that.

Don't use pesticides when the flowers are open and the bees may be flying. Some insecticides are very deadly to honey bees, so always be sure you read the ENTIRE label before applying an insecticide, and when you do, use the recommended amount, no more. Most fungicides and herbicides (like Roundup) do NOT affect honey bees directly. Certainly the whole point of the herbicides is to kill plants, some of which may attract bees for food. Only kill those plants that need to be killed. Let the roadsides grow with milkweed, sweet clover, goldenrod and aster. In addition to being helpful to the bees, it is a lot nicer to look at than dying plants and bare soil where everything has been killed.

Support those Senators and Congressmen who are working to increase funding for honey bee research, and all pollinators as well. Find the elected officials in your state that are supplying research and education funding at your local universities and schools. Your future and that of your children and grandchildren is at stake.

Think about keeping a hive of bees yourself. There are many beekeeping organizations around the country that conduct beekeeping classes in the Winter and Spring. Most folks start their first hive in the springtime. If you decide to do this, find someone who will mentor you in your training as a beekeeper. It will probably take you several years to learn enough to feel comfortable keeping bees, but it is a great part time activity, and people of all ages are in beekeeping classes, from school students to retirees. The truth is we need more beekeepers throughout the country. (You can find a list of bee organizations on this magazine's website: www.beeeculture.com).

Support American beekeepers. Buy and use U.S. honey. And when you do, pick a local beekeeper's honey rather than honey imported from another country. By supporting your local beekeeper you are supporting the pollination of local food supplies, and you will be helping a neighbor rather than a

stranger. Plus, some allergists claim that there are medical benefits from eating local honey to reduce the impact of pollen allergies, claiming that local honey contains local pollen. Most local beekeepers do not heat and filter out all pollen, so look for a local honey from local flora sources the next time you are at a farm market, grocery store or fair.

There are a few things you should learn not to do if you want to keep bees. Do not leave empty soda cans and bottles in trash containers. In the late Summer and Fall there are fewer flowers for bees to visit, so the foragers look for something sweet, and if they find unfinished sugar or corn-sweetener soda cans and containers in the trash, they will learn to look there and collect the sugar rich liquid. Prompt trash removal and closed containers eliminate potential issues with bees around trash cans. If you or your children have unfinished soft drinks or other sugary foods, empty them down the drain before dropping the container into the trash. If you plan to keep your drink, put a lid on it!

Finally, it is important to prevent a ban on keeping bees in your city, town or residential area. The bees managed by a well-trained beekeeper pose little concern, but wild swarms in hollow trees and unmanaged situations may result in dangerous encounters. In southern parts of the country where the African bees are becoming established, the smart community supports beekeepers and encourages them to manage a conservative number of beehives filled with European bees within the area - this provides a means of competing with African bees. Otherwise the only bees in the area will be wild colonies, located in unexpected places like water meters and flower pots. The beekeeper is the solution to the African bee problem, and is not the problem itself.

Well, neighbor, I hope this has helped. Feel free to make a copy of this and pass it along to your friends and family. Thanks for crediting me as the source, and for asking your questions.

Larry Connor

Getting Ready

Southern Style

Jennifer Berry

It's been a tough Spring and Summer here in the southeast. Take special care getting ready for Winter.

Growing up, I spent most of my Summer months at my grandparent's farm in Missouri. It was a kid's paradise. Open fields, farm animals, fishing ponds and barns to explore. After my few morning chores were complete, the rest of the day was mine to discover. Unbeknownst to me, this was a working farm and not just a personal playground. Being a working farm meant my grandparents struggled from year to year to make ends meet. Dry or wet springs could delay planting in the fields. Prices for seed, fertilizer, pesticides, herbicides, gas, and repairs could be manageable one year and then the next they could go sky high. Then to top things off, market prices plummet on crops before they're even out of the field. This would usually take the final bite out of the bottom line. However, some years all the ingredients fell into place and steak made its way to our table, but this was rare (ha!). Living off the land can be rough, especially when your mortgage depends on it. Beekeeping for a living is also no easy meal ticket. Milking each of those bees for that single drop of honey can be tough.

This year in particular has been hard for Georgia farmers, beekeepers included. The exceptionally dry spring not only postponed crops from being planted, but also severely impacted our major early nectar sources: gallberry, blackberry, Tupelo, and tulip poplar. Fields across the state turned into dust bowls as southern winds continually blew, sucking out all the remaining moisture. Dust devils were the only things visible in these parched fields. Then a late freeze with temperatures in the upper 20s for three nights wiped out peaches, blueberries, apples, and all newly formed vegetation. The freeze also affected the northern half of the Tupelo region. If that wasn't bad enough, drought-induced fires began raging in the southern part of our state. Hundreds of thousands of acres were consumed. Pine tree farmers watched from a distance as decades of work disappeared in minutes. Firefighters from across America descended to battle the fires that continued for months. Lack of rain and high winds fueled the flames which with each passing day became more and more out of control. Colonies sent south for the gallberry flow turned to ashes instantly as the fires whipped through apiaries. However, the flames weren't the only issue. Smoke produced from the fires created clouds so thick that interstates and roads were closed. Beekeepers were unable to retrieve threatened colonies so up in smoke they went. Week after week smoke from the

fires blanketed the region. What little nectar was available was unattainable due to the clouds of smoke so some colonies not consumed by the fires simply starved. Like I said earlier, this has been a hard year for all farmers in the south. However, there is a silver lining. Even though cotton was planted late this year, nectar yields were very good, especially on irrigated fields.

In our northern counties, sourwood finally bloomed with a vengeance. Early in July, the scale colony located at Brushy Mountain Bee Farm was making five pounds of this wonderful mountain nectar each day. Also, it has finally started to rain, if only a little. The south is still well below average on the rainfall scale but at least the clouds open up occasionally and this wet stuff falls from

Check brood patterns, good (top) and bad (bottom) tell a story.





Feeding may be necessary this Fall.

the sky.

Enough talk about things out of our control. Let's examine what chores we need to tackle at this point. Even though Summer temperatures are still lingering, it's time to begin preparing your colonies for their long Winter nap. Remember this – a good honey producer for an early Spring flow starts from a strong colony going into the Winter. Here in the south, red maple is blooming as early as January. Weak colonies limping along don't have the time to build up in time for such an early flow. Plus, weak colonies barely survive the Winter months, especially in the north. Therefore, I prepare my honey producing colonies in the late Summer and early Fall. I assess mite populations, inspect for disease, re-queen, feed, repair equipment and move colonies into good locations (for honey and wind breaks). Windbreaks are especially critical for you northern birds since your winds are truly "cold."

There are only a few tasks you need to complete before Winter but these are very important if you want your colony to survive. To make things easier, below is an example of a simple data sheet. We always use data sheets to keep track of our colonies. Even if you only have a few colonies, take the time and create a system that works for you.

Colony #	Queen Condition	Honey/Pollen Stores & Position	Condition of Brood & Bees	Condition of Equipment
1				
2				
3				
4				
5				

First and foremost you should check the viability of your queen. How does her brood pattern look? Are there skipped/open cells?

If so, you may also want to look for other problems such as disease or mite infestation instead of automatically assuming it's queen issues. Late Summer through early Fall is the time we usually re-queen our colonies. This way I don't disrupt the colony in the early Spring just as they are kicking into gear. If you find a queen that is failing and can't acquire another, your best bet is to combine that colony with a strong one. Weak colonies rarely survive the winter and if they do, they are usually not very good honey producers.

The next task is to assess the amount of honey stores.

Due to the lack of nectar in the southeast, feeding has become a priority. The commercial beekeepers to our south began pouring syrup into their colonies early in the Summer.

They rely heavily on the gallberry flow but with only about one-third of the total actually materializing, reliance on outside sources has become a must. Our central and northern counties were able to store enough cotton honey (and other crops) along with sourwood to hopefully make the leap through Winter. Also, with the goldenrod flow just around the corner, colonies will hopefully be able to pick up a few more pounds. Here in the piedmont region our goldenrod flow can be minimal, so we don't rely on it at all. Plus this honey tastes horrible (my opinion of course). When you open the colonies the smell reminds me of damp, stale laundry that you forgot to remove from your dryer several months ago. If food stores are low, (< 1 full medium super for the south: < 1 full deep super for the north) you need to start feeding sooner rather than later. Remember to think in terms of gallons not pints. Feed a heavy 2:1 sugar solution (two parts sugar to one part water) in whatever feeding contraption you may have.

A practice we have started here at the lab is to leave two full medium or shallow supers of honey on each colony. I've heard the argument before; "you make more off honey so it offsets the cost of feeding." Sorry, I just don't buy into it. The time and labor involved in feeding colonies, not to mention the cost of sugar, is just not worth the extra extracted pounds of honey. Call me crazy, but feeding hundreds of colonies is not my idea of fun. Now granted, I'm not a commercial honey producer in which every drop counts, so I am coming from this at a completely different angle.

Feeding this time of year can be tricky, so be careful not to trigger robbing. A single drop of sugar syrup clinging to the side of a colony will attract attention. Once they have their mind set on robbing it is impossible to change it. In July we talked about the importance of determining mite population levels. This is very important. Mite popu-





Fix or replace old equipment, below left, to keep out pests, and the weather.

lations have reached their highest peak by now. Don't wait till your colonies are crashing. Once the downward slide begins it is almost impossible for them to recover. Check those mite populations today!

Now it is time to examine the brood area for disease. Look for symptoms of AFB, EFB, chalkbrood and sacbrood. EFB, chalkbrood and sacbrood are more prominent in the Spring but can occur in the Fall. You want to see healthy, white larva in the cells. Also look for depressed cappings or ones with holes. Open these and inspect the pupae. Anything slightly off colored may be a sign of trouble (unless the pupa is in its later stage of development). If you see symptoms of EFB treating with Terramycin is an option. If you see symptoms of AFB you need to remove the infected frames and burn them or in bad cases, destroy the entire colony. There are no treatments available for chalkbrood or sacbrood. Chalkbrood problems can be reduced by providing better ventilation

in and around a colony. Poor air circulation creates the perfect damp conditions necessary for fungal growth. If your colonies are in a low spot, move them. Low lying spots in fields accumulate moisture which in turn collects in your colonies. Also, clear any brush or debris from around the entrance of the colony. This reduces air flow into and out of the colony which in turn causes moisture to build up. Also, the direction colonies face is important. You need to protect them from prevailing winds. Tree lines and fences work great as wind breaks.

Nosema has been a hot topic as of late. Here in the south we just don't see it all that often since our bees are not confined for months on end. However, if you are concerned feed your colonies Fumagilin®-B.

Finally, you need to inspect your equipment.

Replace old, decrepit frames, supers, lids, and bottom boards with newer equipment. Beehives don't have to be pristine, little palaces; however, they do need to be in good condition. Gaping holes not only allow access for critters to come and go but also the rain and wind. Mice have an easy enough time getting into colonies. They just love to make their homes in the corners after tearing apart several frames. A continual food supply plus a warm cozy environment make it a suitable dwelling. Use mouse guards to discourage these unwanted guests.

I don't know about you but I am ready for a break. Cooler temperatures and shorter days will be a welcomed change, just don't let it catch you off guard.

See ya! **BC**

Jennifer Berry is a Research Associate at the University of Georgia at Athens.

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MAKING THINGS

Walt Dahlgren

Collecting swarms of bees is an exciting and self-satisfying procedure when all goes well. Unfortunately not all swarms are located on the end of a branch four feet from the ground as shown in many swarm pictures. Sometimes the bees are clustered around several small

tree limbs high off the ground. When the bees cannot be shaken from the tree, a bee vac is the way to go.

I have read many articles in this publication about bee vacuums and thought I should describe the one I built. Yes, I have the bee shipping container vac as many articles describe, light weight and convenient – until you put the bees into a hive. That is another 15 to 20 minutes of work. I wanted to vacuum the bees directly into the hive, return the hive to the beeyard and then leave.



Recycle An Old Hive Body

Obtain an old hive body (recycle right?), thin plywood, insect screen, weather-stripping and a ratchet type strap. Refer to the photos for an overall view of the hive bee vac. Dust off your table saw and cut three sections as shown in the photos. The base should be about four inches deep with the screen and top about two inches deep.

Hive Vac Base

First cut a 1½-inch diameter hole in the narrow side of the base. This should suit the flexible hose used to vacuum the bees into the hive. Next fit a sloping bottom inside the base and caulk all joints. The sloping floor helps direct the vacuumed bees up to the frames above. Install 3/16 x ¾ foam weatherstrip tape to the top edge of the base. Make and attach a pivoting cover to the inlet hole, refer to photos.



Hive Vac Screen

Fit two by two triangular gussets to the four corners to maintain the rectangular shape. Install a brace on center of the long side. This brace will prevent the screen from collapsing when the hive bee vac is transported with the hive vac top removed as described later. Staple insect mesh to the bottom and glue 3/16 x ¾ foam weatherstrip over the perimeter edge of the screen to make this joint airtight when assembled to the hive body.

Hive Vac Top

Fit a piece of thin plywood to the top, then drill a 1¼-inch hole at its center. Make and fit an adjustable air valve to the top – refer to the photos. I made a four by four by two box with a 1¼-inch hole in one side and top. Fit a pivoting cover to the top hole to permit opening and closing this hole. Attach this valve unit over the hole in the plywood top. Caulk all joints to make airtight. Attach insect screen and weatherstrip to the bottom of this assembly as they were applied to the hive vac screen.

Finishing The Hive Bee Vac

When you have completed making the above three parts of the hive bee vac, be sure to give them a good coat of paint. This equipment should look at least semi-professional when used in public.

Assemble For Use

Set a hive body with frames (with either foundation or drawn comb) on the hive vac base. Next place the hive vac screen on the hive body – be certain the insect screen is toward the hive. Place the hive vac top onto the hive vac screen. Using a ratchet strap, cinch the parts tightly together. When cinched tightly, the foam tape will usually keep the parts from sliding apart. Be careful as this could happen.

Hoses And Vacuum

Hoses from a shop vac work fine. Additional lengths of flexible hose can be purchased from various retail stores. A shop vacuum unit or the vacuum unit from a home vacuum cleaner should provide sufficient suction to work properly when you have enough extension cords to reach the swarm.

I also have a 12-volt inverter, which can be used on my truck battery to produce 110 volts for a small vacuum motor. Also I fitted an adaptor plate to a gasoline powered leaf blower to provide vacuum for this unit when the swarm is beyond house current and driveways.

Using The Bee Vac

Insert the hose from your vacuum unit into the hole in the top. Insert the hose to vacuum the bees into the hole in the base. Turn on the vacuum unit and adjust the air valve to provide just enough suction to move the bees. Vacuum small clusters of bees from the swarm – too many may plug the hose. Work slowly and patiently. You want live bees after you have collected them.



Transporting And Emptying The Bee Vac

After you have vacuumed the cluster and most of the returning scouts, disconnect the bottom hose and close the opening with the pivoting cover. Release the ratchet strap, remove the hive vac top and cinch the ratchet strap tight again. Now you may show the public that the bees are safely in the hive and keep them cool during transportation. Exposing the hive vac screen to daylight will encourage the bees still on the base to move up onto the combs.

Upon returning to your apiary, simply put an outer cover on the hive bee vac assembly and open the lower entrance hole. Tomorrow or on the weekend set the hive on a bottom board, take off the hive vac screen and add an inner cover, then replace the outer cover. Don't forget to place another empty hive with frames on the base, set on the screen and top, then cinch tight to be ready for the next swarm.

Using An Empty Hive (no frames)

Should you not have frames for the hive body, assemble an empty hive to the hive bee vac. Use the hive bee vac as previously described. When returning to the apiary, invert the hive bee vac assembly, remove the base and place a hive body with frames and cover on the empty hive full of bees. Offset slightly to provide a bee entrance and exit. The bees will then move from the empty hive to the frames above. Come back later to remove the empty hive body and place the new hive on a bottom board. This works well when one has combs partially filled with honey making the hive heavy and difficult to move. **BC**

Walt Dahlgren makes things, and collects swarms around his home in Jamestown, New York.

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Notes From Some Meetings

Kim Flottum

Sitting in talks at those big beekeeper meetings is often viewed as somewhat less productive than actually getting anything done in a beeyard. It's dark. There's numbers and charts and graphs. I've heard this guy before. The chair's really hard. I can't see. The air conditioning (isn't working, is too darn cold, pick one).

There's lots of excuses not to go. (OK, the air conditioning is too cold). But there really are good reasons to go and sit and spend the money and time and pay attention. I did, and here's what I've learned this Summer at a few meetings.

Small hive beetle. Dr. Jamie Ellis, now from Florida has done a lot of the basic work on this little beastie, and he's reported a lot of it on these pages. New to me however was information he gave at the Minnesota meeting in June.

Small hive beetles can feed on fruit. They don't have the same reproductive success as when they are feeding in a beehive but it works. However, when they are feeding on honey only (think honey supers in your honey house this month), they don't reproduce at all. But, they'll live longer than beetles feeding on any other food source. Any! They'll live up to six months on honey alone.

How do these beetles spread? Well, they got to the U.S. and Australia via deep water ports. Probably hitching rides on ships with, what? Swarms on board? Fruit in the hold? Don't know. But that's where they started. From these initial landings they moved by normal beetle flight, by swarms, but most by the good and able work of beekeepers. Then,

migratory movement and package suppliers took over

You've probably heard or read (in this magazine) about how bees imprison beetles in a hive by walling them in behind barriers of propolis. They keep them there, around the periphery of the brood nest, pretty much at bay. Once in awhile the beetles trick the honey bee guards into feeding them, but mostly there they stay. The economic injury level in a standard sized colony seems to be



right about 600 adult beetles – more and you should be doing something to reduce the population. Fewer than 50, and you've no problem at all. No, I don't know how you count the number of beetles in a hive. I don't know of a sampling technique that would give you an idea of how many, either. Guess, I guess.

Now, you've also heard that a strong, healthy colony, even when it has a fairly high population of beetles seems to do OK until you open the hive. Then, all beetle-heck breaks loose and the colony goes to you know where in a hand basket right quick. Initially, it was thought that opening the hive stressed it, and the beetles

were somehow keying in on the stress factors being sent out by the bees. Well, it really seems that opening a colony releases all those imprisoned beetles, setting loose a horde of female beetles ready to lay eggs. The result of course, is that within only a few days the eggs hatch and the colony is swarmed with destructive beetle larvae that destroy the comb, eat the honey bee larvae, pollen, and make a fermented, disgusting mess. I'm not just sure how you don't open a hive, but at least you know now what is going on inside.

So what's the latest for control, now that we know more about these critters. A variety of traps have turned up recently using pollen substitute for bait. We featured a homemade one here a couple months ago. They all work on the principal that a beetle enters one of these traps through a

hole too-small for a bee, attracted by the bait. Once in, the beetle falls into a pool of oil and vinegar, or something, and drowns. These are effective, non-toxic and usually easy to make or buy.

USDA scientists have found an even better bait – a yeast – that, when mixed with pollen substitute produces an alarm odor-like aroma that is extremely attractive to the beetles. This would also make sense when you think about what you get when you open a colony with lots of beetles already in it . . . an alarm-like odor

from the bees. This new bait isn't on the market yet I understand, but I suspect soon there will be something that comes preloaded, is transparent so you can see inside, and can be left inside the hive year round . . . only to be removed when it's full of dead beetles. If the maker is smart, the whole thing will be biodegradable so you can toss it under the pallet and it'll decompose all by itself. We'll see.

Hygienic behavior has been shown to be effective in beetle control also. When adult bees with the hygienic trait find capped cells with beetle eggs inside they uncap the cell and remove the eggs, just like they remove *Varroa* mites in capped

cells. I don't know if they remove the honey bee larvae when they find beetle eggs or not, but I suspect they do. Further, there is a nematode that can be applied to the ground around stationary colonies that consumes beetle larvae when they leave the hive to pupate. It's fairly effective in an IPM program.

Combined...hygienic behavior, effective traps and front door death-by-nematodes, and safe, non-toxic, effective small hive beetle control is close to a reality. Now there's some good news.

CCD was only on the agenda of one of the meetings I attended, but it certainly was one of the most talked about subjects out in the halls. Beekeepers, like everyone else, still don't know what it is, if they might have it, who else has it, is it coming back, how bad was it, or much of anything else about it, at least yet.

Early in the season those beekeepers that had experienced CCD this past Fall and Spring seemed to be on the mend, with new colonies beginning to grow, and CCD equipment not causing much of a problem, if it had been left to sit. A couple of beekeepers I talked to, however, (and several on the phone since then), were beginning to see signs similar to those that were observed last year – slow buildup, not eating and listless foraging activity, among other symptoms. Most of these, however, were in colonies that had been reused after the previous inhabitants had died of what is believed to be CCD. But tracking every piece of equipment when hundreds, or even thousands of colonies are concerned can be difficult. Very difficult.

Nancy Ostiguy, from Penn State discussed all the things that CCD isn't (and we all know them by heart by now, right?), all the things it could be but they weren't sure, and then let on that a new virus or two had been discovered that had been found across all CCD samples they had tested. I don't know how many that is, or where they were from, but she was confident in the results. This is, she said, a new and lethal virus, or new anyway. But, and there is always one of those, she couldn't tell us more because the data hadn't been published yet. Another scientist let on that the information was about to be in one of the scientific journals, and it may already be old news to you by

now, in September.

Then, just to add to the confusion, one of the scientists at Columbia University who had been called in to help mentioned that his team had found virus in bees from Australia. This was in a *New Yorker* magazine article that came out in early August, but he wouldn't elaborate until the article came out, or even if these were the same articles.

The secrecy, mystery, politics and intrigue leading up to publishing this information, however, has been interesting to watch. You'd a thought it was the race to publish the first DNA paper – whoever gets it first is the hero...who doesn't, isn't. The Australian connection is interesting as it steps onto APHIS territory about importing foreign pests. If it's true that is.

This discovery, if it is the cause of CCD, begs the question – if this is CCD, do we still need major research dollars (see below) to support continued studies of...CCD? Stay tuned for this one.

Meanwhile, in the halls of congress, some relatively unpredictable things went on in July. Long story short, USDA sprung for the \$7.3 million they had promised for honey bees . . . which was status quo for lab support, APHIS and CREES. More? Well, let's see.

In other parts of the farm bill, the specialty crops folks, who have never had commodity support before this year finally got some – think apples, avocados, asparagus – a real big dollop of support actually - \$1.6 Billion, or thereabouts. So, since USDA didn't spring for nearly enough for additional CCD research the feeling was, why not ask those now-rich specialty crop folks for a bit to help out . . . say a paltry \$5 million or so to help solve this problem. Well, that didn't sit well with them giving up their new found wealth, so it was no deal. It seems they must have known that a few days later there would be a much bigger chunk of money in the Farm Bill for this research . . . so they weren't worried. And there was. The Boxer Amendment went through and honey bees and other pollinator researchers got a handsome purse to spend. Well, if the house agrees to the same amount, and the farm bill passes, and the President doesn't veto the whole thing because it's too much money. We'll see more when

Congress comes back this month.

Anyway, because of all this CCD stuff going on, one across-the-board beekeeper behavior we've seen is that there's been a wholesale abandonment by commercial beekeepers to use HFCS to feed bees. Price and convenience have taken their toll, certainly, but quality is the main issue and beekeepers are staying away. Now, plain old sucrose solution, by the tanker is back and it's still the best substitute for honey there is, it seems.

Speaking of food, the new Tucson diet should already be available – the manufacturer said, in July, it would be ready in August. Though not published, the test data I'm told shows it was just a little better than Mann Lake's old formula and the USDA cookbook diet they compared it to.

Better nutrition is the name of the game this season. Beekeepers, are leaving HFCS alone and going with sucrose. Protein is being fed by the ton by lots and lots by beekeepers who used to hedge on feeding because of the cost and labor involved (which, I guess is a cost also). And lots more by those who feed normally in late Summer and Fall when pollen and nectar are scarce, or they are trying to beef up weak colonies for divisions later.

But with drought conditions ongoing, the honey season late, and beekeepers both scared and cautious, feeding is suddenly the task du jour. Pat attention to what these commercial beekeepers are up to – they don't spend dollars because they think it's a good idea . . . they do it because it is a good idea.

No big meeting is complete without a report from the two national groups – the American Honey Producers (AHPA) and the American Beekeeping Federation (ABF), and this summer was no exception.

Jerry Brown, AHPA talked about the import loophole that Chinese honey was falling through for as little as 28 cents a pound in 2005 that has finally been closed. By requiring cash instead of a bond to pay the tariff on their honey the Chinese exporters now need up-front money before the honey enters the U.S. Now, the real tariff is about 212% through 2012. That's raised the price of honey.

He also discussed the ongoing negotiations for forming a Packer/Importer Board made up from the

current National Honey Board. This has been endorsed by the ABF, but USDA hasn't done this before, and virgin territory is rare ground for this bureaucratic bunch.

What may happen is that a majority of the packers and importers (both number of packers and importers, and a majority of the honey they represent) vote to join the board. Only those who handle 250,000 pounds/year get to play, however, and that's only 70 - 75 operations but they control about 75 % of the honey sold in the U.S. If the vote is positive the staff and holdings of the current Honey Board changes hands and goes on as before.

What may also happen is that the Packer Importer Board (PIB) is voted in as above, but there's a three to four month delay in forming this new board due to USDA legal problems. This delay makes the change of staff

meeting next year. Imagine - the Honey Producers, the Federation, the Inspectors, the Bee Researchers and Professional Apiculturists, the Honey Packers and Dealers and probably people I don't even know are all going to be doing their thing in Sacramento some time during the week of January 9 - 12, 2008. If you go to one meeting this Winter, I'd really suggest this one. It's sure to be a humdinger.

Then, more about the Honey Board from the Honey Board . . . Lee Heine, former Chair of the NHB elaborated on the PIB formation even more. Will there be a short, or even long down period? He isn't sure the way things are going, so maybe, maybe not.

More from the NHB. To date they've contributed over \$200,000 to CCD research (that's \$200,000 of beekeeper's and importers money, don't

forget). Their timing was perfect however, since it was early in the game when researchers really, really needed some extra cash to get out and collect, and then analyze samples. Of course the follow-up funding from USDA,

Congress or anybody else has been minimal to none, so even with the good start the Board gave, the results have been slow to materialize. Perhaps that paper mentioned earlier is a result of the early input from the Board. Wouldn't that be a feather in their hat?

The Board is also heavily involved with Dreamworks Productions and Jerry Seinfeld's Bee Movie. If you haven't seen this already there's lots of ways you, too can take advantage of all the attention this movie will get, and what with CCD on absolutely everybody's list at the moment it should be a winner. Check out the Board's web page for more information on this

if you want to use it. The Movie is due out in November, I believe.

The volunteer Quality Assurance Program is taking off too, and in time will be the standard for packers. We had a good overview of what that program consisted of in this magazine a few months back. If you are a packer, pay attention to this program. If you are going to be a packer really pay attention to this program.

And, if you sell to bakeries, you may want to take advantage of the Board's newest program to enhance the image and use of honey in that market. Check it out.

Well, still the best part of any meeting is getting to talk to a lot of people who do what you do, but don't do it the same way. You can listen to the researchers and find out why some things are happening the way they are, but that doesn't tell you how to organize a crew to get the most work done, what kind of truck to buy, where to get the next load of equipment from, which front-end loader is going to be the best one for an operation the size of yours, who has the best delivery times for sugar syrup, where the best queens are from this week, where there's a good buy on used equipment, what's working for mites and what's not working for mites, what about this new Nosema thing we've heard about, what's the price of honey where you are and aren't, what do you think almonds will bring this fall and what are they bringing right now, who's got the best deal on delivering bees west and then east again, is it true that wild blueberries are paying how much and what are we going to do about this CCD stuff, anyway?

And there's only one place to find out the answers to all of these questions..it's out in the hall, over coffee, in the lobby of the hotel on the way to lunch, maybe in the bar in the evening or over supper at the place next door to the hotel. That's where you learn how to keep bees better, or where what's his name goofed, and how that new stuff works, really. That's where you find out about those little tricks that'll save you a thousand bucks next year, and make you an extra thousand if you'd just do it a little different.

It's out in the hall. That's where you need to be. But that hall is just outside the meeting room. And you gotta be there, first. **BC**

"Then you use this to scrape off the beeswax cappings. Really!"



and holdings difficult, and nobody wants this delay. USDA is unclear on the situation but apparently the referendum is set. Lawyers are involved so who knows what will happen. December is the date all this is supposed to happen so stay tuned.

The Federation's report was remarkably similar which was refreshing. They are chasing funds for CCD research, and are working to make the transition from the NHB to the PIB as smooth and cost effective as possible. Again, time will tell but it looks to be that things are going to change.

Incidentally, both groups talked at length about the January Joint

In Defense Of - Cooking With Honey

Karen Miller

*I am not interested in impressing the chic and moody, clientele of the big city.
But I am interested in impressing the many hungry faces I see at my
dining room table every night.*

To every mid-western home cook, every generous grandmother, every gardener and farmer who strives to make the most of their crop no matter how lean or abundant, I would like to say thank you. The mid-west is the overlooked region responsible for nourishing much of this country. This great nation's dinner tables are piled high with products of yours and my labors whether it be grown in our soil, grazed upon our pastures or even foraged in the sweet clover along our dusty roads. The mid-western families that operate farms, mills and participate in every aspect of the agricultural industry are never applauded for their contributions in the same way as our metropolitan countrymen and women. Remarkably, the millions of people packed into cities on either coast find cause to celebrate the history of their ancestors, the talents of their residents and lifestyle of those they envy, but hardly ever appreciate the rich history, customs and foods of the fantastic swath of farmland that is the mid-west.

There is no greater insult to my heritage and that of my family's occupation than to endure a negative review of my dinner menu. It has been put forth in this publication and perhaps others that beekeepers need to revamp the recipes and uses for honey, and even completely change the cooking with honey classes that are the mainstays of every beekeeping convention. In this brief space it is my intention to repel the attitude that the familiar, the economical and the nourishing dinners our mothers placed before us are no longer good enough for the new age of "Food Network" palates and celebrity chef showdowns. There is a need now, maybe even more than ever, to teach others the recipes and techniques that take honey from the jar to the dinner plate.

While grandma may have been around to teach you and me how to properly mix a biscuit or roll a pie crust,

families now are increasingly spread apart from one another, or they may be close but working long hours to make a farming lifestyle sustainable. There are fewer and fewer home economics classes in school anymore so where does one find instruction in the art of cooking? Who in the community would you trust but people with the same goal of partaking of the riches of the gardens and pastureland- the cooking judges of the county fairs, the pot luck coordinators and the county extension agents. These women and some men not only know how to feed

crowds of two hundred, but tables of two and they can do it without breaking the bank or the cook. It would be irresponsible not to teach the hazards of cross contamination, botulism or salmonella to someone inexperienced in the kitchen. Lets face it, we can no longer allow just anyone with a pocket full of untested recipes to guide newcomers through family meal preparation.

The truth of it is that people have become sick and even died from food borne illnesses. Poor preparation and food storage techniques are to blame. If we are to

responsibly teach non-beekeepers and beekeepers alike how to use our honey we must be sure that they receive proper instruction. Everyone who buys my honey gets a label on the jar warning them of the dangers of feeding honey to infants. This is my responsibility, just as it is the responsibility of the beekeeping workshop coordinators to see that attendees are learning proper food handling techniques. I have yet to be disappointed with the skill of a cooking class offered through my local club or a large beekeeping workshop and I do not see a sudden need to change. However, it is not hard to imagine that there are some among us that have been mistakenly lured into the fantasy of television and magazine images of dynamic



Like so many women, my menus are dictated by the pantry, the fields and the clock.

chefs and endless exotic ingredients that magically cook themselves without regard for safety, let alone practicality. I want to learn to prepare recipes for my family that utilize honey, are safe and proven. Wise farmers know that the success in the fields are born from following the example of the successful farmers who plowed the same fields before them. Chasing trends and buying every new gadget advertised as the next best thing rarely leads to success in the field or dining room.

Grocery stores may carry a greater selection of products than in the past but are they truly better? Should we suddenly abandon the recipes and customs we enjoy because of some marketing campaign? I do not have any interest in a lecture on the quality of mangoes from Thailand versus Mexico, not while I have a bushel of peaches attracting fruit flies on my kitchen counter thank you very much. Should you absolutely need to chase a trend, there is one (if you can call it that) that should receive even more attention than it already has from the beekeeping world. It is the earth shattering notion that we should all eat locally grown produce as much as possible, and that we make our purchases according to the foods that are currently in season. Maybe the cooking instructors are not explicit enough, or maybe new beekeepers and the public at large have gotten too far away from the mid-west to realize that the cooking classes have been saying this all along. This trend has been the mantra of every mid-western wife and mother worth her salt (or honey if that may be the case). My mother did not eat fresh corn until she sent one of my siblings or I to pick it. Neither our family, nor any other in the area ever ate a strawberry from California, a cantaloupe from Florida or honey from the Greek Isles. In fact, the cooking classes I have attended have all provided recipes for foods that are grown here locally. It was understood by all in attendance that the recipes were destined for a particular time of the year. It wasn't until this "trend" received a glitzy make over from "Gourmet" magazine that the rest of the nation realized what every farmer from Pennsylvania to Iowa already knew.

So if you are clamoring for more trendy recipes in your cooking classes, surprise, while you were looking at "Bon Appetite" magazine for something new "A Taste of Home" magazine beat New York and Los Angeles to the punch. Every year churches, schools and other community organizations publish cookbooks containing the recipes that people like me, my mother, and grandmother created to make to most of the foods of the season. These are the recipes that should be shared at beekeeping workshops – local honey, local ingredients and local recipes all taught by experts of the rich local cuisine of where ever your hives may be.

Anyone with an interest in cooking with their own honey has an interest in cooking with all of the foods available from their own soil. It is fitting that cooking classes reflect the interests of the attendees. I do not travel to central Ohio to learn how to cook far flung international cuisine. I go to learn about my local cuisine. I go to hear and sample excellent recipes from people who feed fami-

lies like mine every day in the real world on a real budget. Every part of this nation has local specialties that should not be subverted by overzealous food snobs or we risk losing our heritage and the significance of our contributions to the farming community our family calls home.

France, I'm sure is a beautiful country with its own regional differences, but I have no interest in attending Le Cordon Bleu Cooking School (I have Italian bees anyway). It may be the best cooking school, but I am not interested in impressing the chic, and moody, clientele of the big city. I am very much interested in impressing the many hungry faces I see at my dining room table every night. There are no sous chefs in my kitchen, no sommeliers, no fish mongers or pastry chefs either. My house is not a restaurant. There is only me to prepare and cook a meal so I am limited by the hours in the day that are available after the other chores are done. While I am often alone in my kitchen, I am not alone since there are thousands, tens of thousands of hard working mothers out there that live as I do and require simple, delicious answers to the question of "What's for dinner?" Any cooking class that I attend had better answer that question, in English no less. Like so many women my menus are dictated by the pantry, the fields and the clock. Just as my husband sits in an hour long lecture on how to properly manage a hive for peak productivity, I expect to learn how to make myself more productive using honey as an ingredient. I want to learn when I can replace other more expensive ingredients with honey. I also am looking for novel uses for honey to dress up and improve the familiar foods my family enjoys. A gang of teenagers hot from tearing the tassels from corn can drink a lot of soda. I prefer to show my appreciation and offer something more substantial than water, like a refreshing beverage made from the honey from our hives. This is the heart of regional cooking in America. My honey whole wheat dinner rolls are as exotic as any Indian flat bread. I am using the ingredients at hand just as any good cook does. I worry that our entertainment/food industry is belittling the classic foods that ordinary people eat and attempting to make everything more unusual, more expensive and more out of reach for the home cook. This disturbing trend must not be permitted to overtake the hearty fare of my kitchen or the kitchens of other beekeepers. We should continue to receive instruction and recipes that make further use of the bounty available to us.

This bounty also includes the traditional tools of the cooking trade that have found homes in every American cooking household. The Food Network may profit from the sale of immersion blenders and gelato makers but what good is it to develop a recipe that requires a major investment in hardware? I can bring home awards for my baking without a silicon coated rhino horn balloon whisk and so can you. Beekeeping techniques and equipment have stood the test of time for a reason – the same reason that a good cook is a good cook in a showstopper kitchen and standing over a camp stove. We should continue to educate people how to become good cooks and to do so using the products from our hive. This simple mission has always been and should continue to be the goal of the Cooking With Honey class. **BC**

Karen Miller is a hard working mother of five, a gardener, beekeeper, and freelance writer from the Marietta, Ohio area.

Where The Bees Are

Kathy Flood

As news of vanishing honey beehives reached everyone paying attention, the world felt the pain of beekeepers, farmers, and fruit lovers who take for granted the industrious insect now suffering colony collapse disorder.

In the jewelry world, as a bittersweet contrast, bees thrive.

It's odd, in a sense, how popular bees are as jewelry. Sure, butterflies are easy to fancy, with their languid wings of color and gems, graceful, feminine, sometimes fantastic. Ladybugs, quintessentially cute, stand for luck, so what's not to like. Enormous spider brooches hold some sort of allure for the exotic thrill of wearing so near the face what frightens many women. But the bee, surprisingly beloved in brooch form, seems to be seen as a sign of integrity, industriousness, yet still connoting sweetness ... despite its sting.

The bee as a pin-on gained an even higher profile when toy company Mattel, brainstorming over the perfect theme for its prized Barbie doll when she was about to turn 40 in 1999, gave its Gala Anniversary honoree her own bee-shaped brooch. The company noted, as encouragement to girls, "The beautiful golden bumblebee on Barbie doll's shoulder serves as a reminder that anything is possible. From an aerodynamic viewpoint, bees shouldn't be able to fly - yet they do."

Bees - along with birds, people and every manner of flora or fauna - fly under the jewelry niche known as figurals, which has always gotten major buzz as a category. It's taken on a second life, though, in personal-expression pins or self-identity jewelry. These are figurals that proclaim a passion ... from the flag worn by someone fervently patriotic, to dog pins sported by canine breeders or aquavita for aficionados of fish.

Not only is the bee Barbie's emblem, but love god Cupid's too. And the quickly multiplying legions of Christians who like to make themselves identifiable perhaps wear bees along with their crosses because a queen bee has been known allegorically to symbolize both the Resurrection and the Virgin Mary. Enameled hives, once considered to represent the church, exist aplenty in the jewelry kingdom too, from M.I. Hummel hives to rhinestone-encrusted Lucite colonies crawling with brass bees.

Bee-buff purists might be pleased with any winged thing as long as it's aesthetically pleasing, but serious collectors of insect and bug brooches naturally worship rare or unusual bees, especially the most famous specimens.

Coro, one of the most recognized and prodigious costume-jewelry houses ever in America, designed a



The most unusual facet of these four (above and below) 1940s bee beauties isn't their table-cut lozenge wings, but the fact the designer mixed those fabulous flappers (in both navette and kite shapes) with such whimsical cartoonish countenances. Typically, a jewelry house employing stones as showy as these wouldn't adorn the recipients with funny faces, so this result is a bit unusual. Normally these bees are found unmarked, but occasionally turn up with the signature of H. Pomerantz. They are weighty and well-made, of gilded base metal with pave-set rhinestone accents. Great example of 'costume' jewelry because the bees are graced with wings in varying gem shades, from topaz and diamond to amethyst and peridot. Brooches are \$100 each. (photo by Kathy Flood)



Green-winged bee and purple-winged bee (photos by Liza Amidon).





Glittering gold-plated base metal and rhinestones bee pin, marked Ciner C and no. 1892, dating the brooch to after 1944; \$165. (photo by Neil Cuddy)

clever contraption in 1929 called a Duette, in essence a long, open brooch that could host inserted twin clips (sometimes called fur clips for their sharp, pointed, double prongs able to pierce fur pelts). The clips were usually rendered in the form of figures such as camellias, Indians, swallows and more. One of the most famous CoroCraft Sterling Duettes is head designer Adolph Katz's 'Queen Bees,' a patented 1942 royal pair that can be worn together on the brooch or separately as clips. When the 'Queen Bees' appeared in the December 1943 *Vogue* magazine, suggested as a perfect Christmas gift, they cost \$16.50. Still selling in 1944 at Sears, they were advertised as 'heirloom quality.' Enamelled 'Queen Bee' earrings were available to create a set.

The renowned jewelry house Trifari took on the bee for its collections too, most notably in a war-era 'jelly belly' brooch. Restrictions on base metals during World War II prompted costume jewelry houses to switch to sterling silver, as well as to the revolutionary new plastic called Lucite – in place of crystal jewels not imported from Europe during the conflict. Lavishly shaped Lucite pieces served as large, unusual clear 'jewels,' in effect, whether working as sculptural flower petals, animal bodies or an



Fanciful sterling vermeil hive and bee chatelaine, circa 1944, the hive marked Coro Craft Sterling with Pegasus (bee unmarked), \$295. (photo by Neil Cuddy)



Special for its quivering 'trembler' wings, this 1960s bee pin with coral plastic-melon body and gold-tone metal with multicolor rhinestones and cabochons, is signed Jeanne. Value is \$65-75. (photo by Liza Amidon)

insect's thorax and abdomen. When possible, antennae and eyes still featured tiny faux gems.

The designer Ian St. Gielar, who died in March, featured bees amid his signature settings: elaborate, complex tapestries of tiny seed beads in floral or foliate patterns, with rich hues even when pastel.

Michelle and Bettina von Walhof create large-scale pieces of vibrantly colored handset crystals featuring the finest Swarovski stones. Their handsome, lifelike hornet pin looks ... more than slightly menacing.

Far less glamorous species of jeweled bees pollinate lapels all over the world, probably because the real thing, the busy bee, lives everywhere but Antarctica. Its admirable reputation as a hard worker gives the bee status as a badge of productivity. And while there may not be 20,000 different bee-pin designs – as there are species – plenty of apoideal specimens exist in every dimension and shade, including many that don't exist in nature. That grants the bee its chance to shed its cred as indefatigable drone and instead get sexy, at least in the jewelry world. **BC**

Kathy Flood is a journalist whose book, *Warman's Guide to Figural Jewelry*, is due in September.



Corocraft 'Adolph Katz' Sterline Bees Duette (twin pin clips that fit into a host brooch), handsomely enameled and jeweled sterling vermeil, market Coro Duette, Sterling, Des Pat 1798867, from the early 1940s, \$345. (photo by Neil Cuddy)

Trade + Bees = CCD

Jim Fischer

At this point it seems pretty clear that the U.S. needs to do a much better job of inspecting imports more carefully – consider pet food, toothpaste, and toxic toys.

There is an old Chinese curse – “May you live in interesting times”. These certainly are interesting times for beekeeping. Nearly everyone we meet asks us how our bees are doing, many civilians are suddenly interested in taking up the craft, and beekeepers are learning to not wear beekeeping tee-shirts in public if they don’t have the time to talk with a dozen people about the plight of bees. People with swarms in their trees or established hives in their walls now feel obligated to have the bees carefully removed, and don’t mind paying for the privilege of “saving the bees” in their own small way. If you haven’t at least doubled your retail honey price, you’ve been selling yourself short.

The downside to all the increased awareness is the specific problem that prompted all of the increased awareness. “Colony Collapse Disorder,” (CCD) has remained a precise-sounding pseudo-scientific term which translates into plain English as the “Huuuuh?” sound made by “Scooby-Doo” in the 1970s cartoons. There’s no diagnosis yet, so there’s no “cure”, either. All beekeepers can do is watch hives die. Depressing. Total bummer. Lucky I don’t have it myself. Hope you don’t, either.

No one is sure how many hives have crashed from CCD so far, but exact numbers don’t matter. If even 1% of cows in multiple cattle herds were dropping dead for reasons unknown to ranchers and their veterinarians, everyone from the National Guard to the Boy Scouts would have been mobilized. Bees just don’t get no respect.

But rumors have been circulating of a scientific paper slowly slogging its way to publication in a science journal that must remain nameless. Lots of rumors. Attributed to people that aren’t in the habit of rumor-mongering. Published in obscure and unusual places and authored by people you wouldn’t expect to report on science at all, let alone entomology and beekeeping.

We’ve all kept our mouths shut about it so far. Science journals demand “exclusive first-publication rights” for papers. If reports appear elsewhere first, they may refuse to publish the paper at all, and the paper may lose the aura of respectable Science (with a capital “S”) that comes from publication in a major peer-reviewed journal. Yes, it is high-handed, yes, it is unfair, but it is what scientists have to tolerate. Nearly everyone gets raises, bonuses, tenure, and promotions based in large part on such “published results.”

So, what’s the paper say? Well, that would be telling, wouldn’t it?

The paper may have been published by the time you read this. If so, you will be able to find at least the abstract, perhaps even the full paper at www.beeeculture.com/ccd/.

I can say that the term “pathogen” has appeared frequently in the informal comments of the research teams, and the more specific term “virus” has been used often. But that’s not as interesting as what is said about the source of this pathogen. It apparently has been traced to “two points of entry” into the USA.

Now, I’m not revealing anything not already “in the press.” Several other publications printed some quotes they shouldn’t have. The cat got partially out of the bag. But confirmation has not been offered. Those quoted would apparently prefer to not be quoted again. Or misquoted. More interestingly, denials have not been forthcoming either. The only possible conclusion is that the quotes were violations of confidence rather than amazingly similar works of fiction by different authors.

And rather than “virus,” perhaps I should be saying “viruses.” Even that’s not yet clear. Multiple groups of researchers have each announced that they have found one or more viruses that appear to be different than anything yet identified, but the groups are not cooperating, not comparing notes, and thereby not able to say if they are talking about the same virus or different viruses. There will likely be a prolonged squabble over who found what when, and who deserves credit for which. No one involved gets a gold star for “plays well with others.” Rather than receiving the usual 15 minutes of fame owed to those who isolate a “cause for CCD”, they may all end up as a mere footnote – a textbook example of the perils of allowing a “team effort” to break down into tag-team wrestling. Yes, science is a full-body contact sport, but this is starting to get embarrassing.

But how could a bee virus travel to North America? The easy way would be to travel in live bees. Perhaps the only way. So how might bees cross oceans?

One way would be to fly. No, not on their own, bees can’t fly that far. They are flown in as air freight. Don’t tell Samuel L. Jackson. He got all worked up over mere snakes on a plane.

Another way would be to arrive as stowaways on ships

and in cargo containers. This is how Florida's Africanized bee problem got started, with bees arriving by sea from Central and South America. The problem continues, although one might expect that Africanized bees would find the inspectors long before the inspectors finished even a cursory inspection of a ship and its cargo. The conclusion here is that even cursory inspections are rare.

Regardless of the source of the bees or the type of transport, the mechanism for the spread of CCD seems to be international trade, combined with a lack of port-of-entry inspections.

WTO-Mandated Imports Of Live Bees

In 2004, World Trade Organization rules forced the USA to abandon its long-standing prohibition on imports of live bees without permits and a quarantine period. Under the WTO, bees are "goods", no different from TVs or steel girders. (See "Apis APHIS", Dec 2002 *Bee Culture*)

So, beekeepers could buy bees from the other side of the planet. Why would anyone do that? In a word, "almonds." Almond trees bloom in February in California. That's too early for any but the strongest overwintered hives. Some hives die every year from a variety of causes, mostly all the other invasive pests and diseases that have arrived from overseas in the past 20 years. So, bees from South of the equator on the other side of the planet, where it is Summer, are sold to replace hives that have died, or to expand hive numbers to keep up with the ever-increasing acreage planted with almond trees.

Some of us pushed for some form of port-of-entry inspections to be written into the import regulations, pointing to the UK and European Union, where this was already done without any objections from the WTO or the exporting nations. We were ignored by USDA-APHIS, but what really hurt was that the proposal was also ignored by both national bee organizations. Bees were apparently not worthy of any consideration in trade negotiations, so no provision was made for even sampling shipments for diseases and pests. Did I mention that bees don't get no respect?

When you travel internationally, you need nine hands – one hand to hold your boarding pass and passport, one for your shoes, one for your baggie with three ounces of shampoo and toothpaste, one for your cellphone, one for your laptop, one for your jacket, one for your belt, one for your coins and keys, and one to salute the flag as you approach the x-ray scanner. But bees? They glide effortlessly into the country, as if they had diplomatic passports. (Drug smugglers, arms smugglers, terrorists, and spies take note – you can likely smuggle anything inside a bee shipment.)

The WTO rules dictate that the exporter, the guy selling the bees, "certify" that the shipment is free of diseases and pests based upon his own inspections or those of his friendly neighborhood local inspector. It is no surprise that not a single bee shipment has ever been delayed or cancelled due to concerns over diseases or pests. The exporter does not get paid unless he ships bees. The importer in the U.S. also only gets paid if the bees ship.

To make matters worse, state inspectors and state apiarists (in the few states that still fund this basic service) have no right to inspect these imported bees even after

In 2004, World Trade Organization rules forced the U.S. to abandon its long-standing prohibition on imports of live bees without permits and a quarantine period. Under the WTO, bees are "goods," no different from TVs or steel girders.

they arrive in their states, as state-level bee regulations are superceded by the WTO agreements. International treaties trump federal and state laws. (See "Where Are We Going, And What's With This Handbasket?", Jan 2005 *Bee Culture*)

CCD is exactly the sort of "worst-case scenario" predicted by those of us who lobbied for port-of-entry inspections for live bee imports back in 2002. We were ignored. I think I've mentioned this before, bees don't get no respect.

A tiny number of people seeking personal profit appear to have introduced yet another hive-killing problem into the U.S., but they won't even be asked to pay to clean up their mess. In fact, CCD "outbreaks" make them even more money. Some beekeepers who have suffered losses from CCD bought new "packages" of bees from overseas to replace their dead hives.

But the surreal business of shipping live queens and packages from far, far away was not originally intended to meet U.S. "demand." The entire scheme would not have been cooked up if not for Canada. When tracheal mites arrived in the U.S. from Mexico, Canada banned shipments of bees from the U.S., over the objections of some of their largest operations, who pointed out that bees, pests and diseases tend to ignore imaginary "borders" when they are nothing more than lines drawn on maps.

This left Canadian beekeepers with no reliable source of queens and packages. The large Canadian operations in Alberta learned the hard way how to overwinter bees rather than depopulating in the Fall, but Canada could not produce enough queens and packages early enough to meet the demand. So, beekeepers in New Zealand and Australia saw a market, and figured out a way to serve that market.

When Canada found that tracheal mites had either crossed the border from the U.S. or gotten into the country via other means, they did not learn from experience, but instead claimed that the border should remain closed for each of a series of excuses. *Varroa*, miticide-resistant *Varroa*, Small Hive Beetle, and then, in desperation to justify their stance, Africanized bees. During this period, some Canadian beekeepers voted with their feet, risking a \$250,000 fine for smuggling U.S. bees across the border. Some got caught. More didn't. When people are willing to break the law to buy your product, you clearly have a better product.

Once the complex logistics of air-freighting bees

around the planet were worked out, the exporters realized that the WTO agreements allowed them to force the US to allow imports of bees. To hear them tell the story, the U.S. controls on imports were "a barrier to trade" rather than prudent biosecurity. But neither bee-exporting nations feel that their *own* prohibitions on imports of live bees are a "barrier to trade." Somehow, they seem to understand biosecurity when it might protect their own bee industry, yet not when it might protect ours.

And, despite the compelling endorsements inherently made by the Canadians caught smuggling U.S. bees into Canada, some U.S. beekeepers couldn't resist buying imported bees.

So, to summarize, Canadian bureaucrats created a need to ship live bees across oceans, the WTO agreements made "trade" more important than biosecurity, our own bureaucrats could not be bothered to at least mandate the sampling of bee imports for diseases and pests, and a short list of people put their own profits above the collective well-being of U.S. beekeeping.

Inadvertent Imports Of Live Bees

While not mentioned in any of the rumors, I must point out that some colonies of bees arrive here as stow-aways in other cargo. One need look no further than Florida's experience with Africanized bees for a clear example of how this happens, and how often it seems to still be happening. Florida's woes did not start with a single colony that slipped in on a single tramp steamer. Multiple Africanized bee colonies have been found around nearly every port in Florida. More than could be explained by one colony arriving at each port. The conclusion here is that it is happening more often than anyone wants to admit.

If CCD was carried by Africanized bees, this would neatly explain how the pathogen(s) got to the U.S. without any symptoms being noticed by exporters of packages and queens. Africanized bees tend to abscond for multiple reasons, so CCD-like symptoms could go unnoticed in areas where all the bees are now Africanized bees.

Greed + Transport = CCD

So, what's the exact cause of CCD? Can't say. That would be telling.

But it doesn't seem to be The Rapture, pesticides, cell phones, genetically-modified crops, sunspots, Bat Boy, or bees of the "Russian" breed being hybridized by Russian mad scientists to "fly back to Russia."

It seems pretty clear that CCD is a result of greed. Greed amplified by trade regulations that treat live bees as nothing more than another "commodity," rather than live animals that can carry foreign, invasive, virulent diseases and pests into the Western hemisphere, and need to be inspected at port-of-entry.

Or, if you prefer, you can blame trade regulations that ignore the need for inspections of cargo even if to only verify that the cargo does not contain hitch-hiking insects that can carry foreign, invasive, virulent diseases and pests into the Western hemisphere.

But either way, greed is clearly the driving force.

But let's wait for a genuine paper to be published in a science journal. Without publication in a journal, we won't have Science with a capital "S." We have to play by the WTO's rules, and their rules state that "biosanitary concerns must be science based," and the rules also put the burden of proof upon us.

At this point, it seems pretty clear that the U.S. needs to do a much better job of inspecting imports. Even if bees still won't get no respect, there are other reasons to start inspecting all imports more carefully, the most recent examples being pet food, toothpaste, and even toys.

So, there's reason for hope that bees might start to get some respect.

Or at least some inspections.

But you didn't hear it from me, OK? **BC**

James Fischer plugged the output of the rumor mill directly to the input of the printing press for this story, but he doesn't like it one bit, as the primary obligation of "the press" is to be custodians of fact.

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Summer Squash

Easy to grow and ever so productive, Summer squash remains one of the most popular home-grown vegetables. The Summer crop differs from the Winter types only by the stage of maturity at which they're harvested. A quick yielding vegetable, this comes in an array of shapes, colors, sizes, and flavors.

Growing Conditions

As a warm season crop, Summer squash needs full sun and a well drained, fertile soil. It can't tolerate water logged conditions. While most soil types are suitable, light ones warm up sooner in the Spring. The pH can range from 5.5 to 6.8.

Planting

Prepare the soil carefully before planting. Enrich the plot with lots of organic matter. Also, add a complete, balanced fertilizer as you till the soil.

Because Summer squash can't tolerate cold, plant only when the weather is sufficiently warm. The seeds will rot in cold, wet ground. In most climates, Summer squash can be direct sown. Transplants are also used, especially

Connie Krochmal

in the North where the growing season is short.

If starting the plants indoors, do this about three weeks before your expected transplant date.

When direct sowing, plant the seeds an inch deep with two or three per spot. These will sprout within five to 10 days. Then, thin, leaving the healthiest plant once all of the seeds germinate.

Depending on the variety, Summer squash can be a bush, semi-vine, or vine. The latter requires the most space. Dwarf, space saving varieties are available.

For large vines, space the plants about five or six feet apart within rows that are eight feet apart. Small vine and semi-vine varieties will only need about four feet between plants with six feet between rows. Bush-type Summer squash can be planted 2½ to three feet apart in rows that are three feet apart.

Caring for Squash Plants

Water Summer squash during dry periods. If possible, use a drip hose or irrigation system as wet foliage is more prone to disease. Control weeds. These will take needed nutrients and moisture from the squash plants.

As fast growing plants, Summer squash needs a steady supply of fertilizer. If a slow release formula isn't used at planting time, a top dressing will be needed about every six weeks or so during the growing season.

Squash Problems

Cucumber beetles, squash bugs, and squash vine borer can be serious problems for Summer squash. When the plants are young, control these by using a row cover. However, such protection should be removed once the plants begin blooming.

Summer squash suffers from a number of serious diseases. Among these are fungi, bacterial wilt, and vi-

RECIPES

Ann Harman

The Summer squashes are such enthusiastic plants. They cheerfully supply us with more squash than we can possibly eat. Fortunately you can find so many recipes that you can vary your menus and do not realize you are eating squash every day. Choose all Summer squash that is young with tender skin. Then they can be used unpeeled and are nice and tender.

The Summer squashes, such as zucchini and yellow crookneck or straightneck, are interchangeable in recipes. These squashes have a wide variety of names that can be confusing. Don't worry; the recipes will work out just fine with whatever squash you have.

The squashes can be used in appetizers, soups, salads, as a vegetable accompaniment, in main dishes, with meat, in breads, cakes and cookies and in pickles and relishes. You can use them uncooked, or steamed, boiled, fried, baked, stuffed, and puréed. Now that makes me wonder if the Summer squashes are the most versatile of all our vegetables.

The Summer squashes do contain a lot of water. Therefore, if a recipe calls for draining, it is for a good reason. They do not keep too well so if you grow your own, pick and use immediately. If you have to keep them, store in the refrigerator for up to one week. The flavor of all Summer squash is best when they are small and freshly picked.

Let's start our menu with a dip for crackers or chips.

ZUCCHINI DIP III

2 cups diced zucchini
2 tablespoons chopped onion
1/2 teaspoon minced or pressed garlic
1/2 teaspoon salt
1/8 teaspoon paprika
1/4 teaspoon pepper
1/2 teaspoon dried basil
1 3-ounce package cream cheese at room temperature
1 teaspoon Worcestershire sauce
2 tablespoons fresh lemon juice

Steam zucchini over gently boiling water until soft, about five minutes. Cool and combine with onion, garlic and seasonings. Purée in blender until smooth. Add cream cheese and blend. Add remaining ingredients, adjust seasonings and chill.

Squash

Rachel Bard and Caroline Kellogg

ruses. The latter are often cyclical, typically showing up as blotches on the fruits or foliage. Powdery mildew occurs during hot, dry weather, while downy mildew prefers cool, damp spells.

Cleaning up all plant debris from the vegetable plot at the end of the growing season can help prevent insects and disease organisms from overwintering on the site. It also helps to select varieties that are resistant to disease.

Pollination and Honey Status

Summer squash requires pollination. The male and female flowers are separate. The first ones to open are the males, which explain why they produce no fruits. Each female blossom needs eight to ten bee visits for proper pollination to occur.

This vegetable provides abundant quantities of pollen and nectar. A very good honey yield is possible – around 100 pounds per colony. The yellow honey granulates quickly.



Eight Ball Zucchini

Have you ever tried chayote? It is a flavorful squash, light green and sort of pear-shaped. This recipe is quick and easy.

SAUT'ED CHAYOTE WITH GARLIC AND HERBS

2 tablespoons butter
2 large chayote squash, peeled, halved lengthwise, pitted, thinly sliced
2 tablespoons chopped fresh parsley, divided
3 garlic cloves, chopped or pressed
2 green onions, thinly sliced

Melt butter in large skillet over medium-high heat. Add chayote, 1 tablespoon parsley, and garlic. Sauté until chayote is crisp-tender, about three minutes. Stir in green onions. Transfer to bowl; sprinkle with 1 tablespoon parsley. Serves six.

Bon Appetit

Summer squash makes a great salad. This one can be made the day before which is handy if you are going to a Summer's end picnic. By the way, salads such as this one make excellent picnic fare since it will not spoil while sitting on the picnic table on a hot day.

SWEET-SOUR MARINATED SUMMER SQUASH

3 medium green zucchini (about 3/4 pound), thinly sliced
3 small crookneck squash or yellow zucchini (about 1/2 pound), thinly sliced
3 green onions, thinly sliced
1/2 cup finely chopped sweet red bell pepper
1/4 cup honey
1 teaspoon salt
1/4 teaspoon seasoned pepper
1/4 cup red wine vinegar
2/3 cup cider vinegar

1/3 cup salad oil
lettuce leaves
chopped parsley for garnish

In a large bowl mix zucchini, crookneck squash, green onions and sweet red pepper. In a medium bowl mix honey, salt, pepper, and vinegars, stirring to blend. Using fork or whisk, gradually beat in oil. Mix dressing lightly with zucchini mixture. Cover and refrigerate for four to six hours or overnight to blend flavors. Serve in a bowl lined with lettuce. Sprinkle with parsley. Serves six.

The Complete Book Of Salads
Cynthia Scheer

You need to try squash with meat, in this case with ground beef. I hope you have some fresh herbs to pick for this recipe.

Varieties

Summer squash fruits can vary widely in shape and size from one variety to another. They're often green, yellow, or white. There are four basic types.

The crookneck and straightneck Summer squash are somewhat similar in color and shape except for the neck. Sometimes, the crookneck will be warted.

Zucchini needs no introduction. Ready in about 60 days, these grow on bushy plants. Though this vegetable is typically green, there are yellow varieties.

The patty pan or scalloped summer squash is essentially a flared disk. Round and thin, they have ribs along the sides. Ready in about 54 days, these are white or yellow.

Many excellent squash varieties are available, including the following.

Cougar Straightneck

The large, bushy plants begin yielding in about 50 days, which is earlier than some yellow straightneck. Bearing over a long period, this is resistant to viruses.

Early Yellow Crookneck

A very popular heirloom variety dating from the 1700s, these low, bushy, vigorous plants give an excellent yield. They begin bearing in about 42 to 50 days. The warted fruits reach eight inches or so in length. They have a mild flavor.

Eight Ball Zucchini

An All-America Selections winner, Eight Ball begins yielding in about 40 to 45 days. The perfectly round, dark green, speckled fruits are best when they're two to three inches in diameter. The sturdy, bushy plants are vigorous. These give a very good yield.

Enterprise Straightneck

This high yielding variety is adapted to all areas. Resistant to mildews, Enterprise begins bearing long, tapered, yellow fruits in about 41 days. Pick when they reach seven inches in length. They last well, and have a mild, buttery flavor. The bushy plants are vigorous.

Papaya Pear Yellow Squash

A novelty with a papaya or pear shape, this yellow squash begins yielding in 40 to 45 days. Very productive, the compact, semi-bushy plants yield tender, top quality fruits. Papaya Pear grows well in all regions of the country. It was named an All-America Selections winner.

Peter Pan Scalloped

Considered the best of the scalloped squash, Peter Pan yields within 50 to 52 days. With deep scallops, the light green fruits should be harvested when they're three inches across. The vigorous, compact plants have no runners. This gives a very good yield of top quality, meaty fruits.



Papaya Pear Squash

Sunray Straightneck

Sunray resists powdery mildew and most viruses. Bearing in about 40 to 50 days, the large, bushes give great yields. The slim, smooth fruits should be picked when they're about five inches long. These have an excellent, nutty flavor.

Super Zuke Zucchini

Ready in about 55 days, this bright yellow zucchini remains tender even when the fruits become quite long – up to 10 inches or so in length. Super Zuke is disease resistant.

Culinary Uses

A versatile vegetable, Summer squash is steamed, fried, lightly boiled, stuffed, prepared in soups and baked goods, or added to a hot vegetable mix. It can also be eaten raw in salads or for dips.

Harvesting

Depending on the variety, Summer squash starts yielding anywhere from 50 to about 65 days from the time of transplant.

Harvest every couple days so the plants will remain productive. If the crop is so abundant that you can't eat it all, check with local food banks or soup kitchens to see if they're in need.

Summer squash can be harvested at the baby stage or any time so long as they're tender. Once the skin and/or seeds begin to harden, they're too mature. Most are harvested when they're several inches wide and around six inches in length. Cut or twist the fruits to remove them from the plants.

Handle carefully to avoid bruising during harvest. These can only be stored for about five days or so before the quality begins to deteriorate. **BC**

Connie Krochmal is an award winning garden writer and a beekeeper in Black Mountain, South Carolina.

ZUCCHINI-GROUND BEEF ITALIAN

- 1 tablespoon olive oil
- 1/2 cup chopped onions
- 1 medium green pepper, chopped
- 1 clove garlic, minced or pressed
- 1/2 pound ground beef
- 1 cup thinly sliced zucchini
- 1 cup ripe tomatoes, seeded and chopped
- 1/2 teaspoon oregano
- 1/2 teaspoon basil
- dash of hot pepper sauce
- salt and pepper

In olive oil sauté onions, green pepper, and garlic for two minutes. Stir in ground beef. Cook until browned. Stir in remaining ingredients. Turn into one quart casserole. Bake 30 minutes at 350°F.

Zucchini Cookbook

Nancy Ralston & Marynor Jordan

We have had an appetizer, a vegetable dish, a salad and a meat casserole. To complete the versatility of our Summer squash we need a dessert. This cake is wonderful.

CHOCOLATE HONEY ZUCCHINI CAKE

- 2-1.2 cups flour
- 1/2 cup cocoa
- 2-1/2 teaspoons baking soda
- 1/2 teaspoon salt
- 1 teaspoon cinnamon
- 3/4 cup butter or margarine
- 1-1/2 cups honey
- 3 eggs
- 2 teaspoons vanilla
- 2 cups grated unpeeled zucchini

Sift together the dry ingredients and set aside. Cream the butter and slowly add the honey in a fine stream. Add eggs to the creamed mixture, beating until well blended. Add the

dry ingredients and vanilla. Fold the zucchini into the mixture. Pour into a 12-cup greased bundt pan. Bake for 50 to 60 minutes at 350°. Let cool 20 minutes before removing from pan.

More Honey Recipes From Maryland Kitchens

If you are growing Summer squash, especially zucchini, and find yourself overrun with them give some to your neighbors. Please give them some recipes or they will hide every time they see you coming with an armload.

I've often wondered if the ball game named "Squash" got its name from people batting balls around with overgrown zucchini.

Ann Harman keeps bees and grows giant zucchini at her home in Flint Hill, Virginia.



? DO YOU KNOW ?

Colony Stress

Clarence Collison

Mississippi State University

The topics of "colony stress", "colony collapse disorder" and "queen rearing" were highlights at the recent Heartland Apiculture Society meeting in Frankfort, KY. Beekeepers continue to search for answers to better understand the conditions that are responsible for causing colony stress and what they can do to manage colonies to minimize the impacts of this condition. We also learned

that there might be a possible causative agent for colony collapse disorder on the horizon and beekeepers continue to explore ways in which to produce or obtain high quality queens.

Please take a few minutes and answer the following questions to determine how familiar you are with basic beekeeping knowledge.

Level 1 Beekeeping

1. ___ The queen's proboscis is longer than that of a worker honey bee. (True or False)
2. The worker population exhibits a behavioral trait known as age polyethism. Please explain how this trait functions within the population. (2 points).
3. ___ Queen and worker honey bees have hypopharyngeal glands. (True or False)
4. ___ Colonies suffering from colony collapse disorder (CCD) have a large number of dead bees on the bottom board and at the hive entrance. (True or False)
5. ___ Open brood in the colony stimulates nectar foraging. (True or False)
6. ___ Queenless honey bee colonies are inhibited from rearing queen cells when queen mandibular pheromone and young brood are present. (True or False).
7. ___ Adult queens receive royal jelly throughout their adult life. (True or False).
8. Please indicate what the following materials are used for in a beekeeping operation. (4 points)
A. Cop-R-Tox B. Mite-Away II
C. Terra Patty Mix D. Fisher's Bee Quick
9. The ___ queen rearing technique involves placing a frame of eggs and young larvae horizontally over the brood nest of a queenless colony and cutting away queen cells when they develop.
A. Doolittle B. Cloake Board
C. Alley D. Miller E. Hopkins

14. ___ Older queens have low levels of juvenile hormone in their hemolymph. (True or False)
15. ___ Foraging honey bees have high levels of juvenile hormone. (True or False)
16. ___ When worker honey bees switch from hive activities to foraging there is an increase in the volume of their mushroom bodies within the brain. (True or False)
17. ___ The establishment of honey bees on equipment from colonies suffering from colony collapse disorder (CCD) often results in a second case of CCD. (True or False)
18. ___ Deformed wing virus can be transmitted from one colony to another in either nectar or pollen. (True or False)
19. ___ Worker honey bees produce more footprint pheromone than queens. (True or False)
20. ___ Deformed wing virus has been isolated in the reproductive tissues of both queens and drones. (True or False)
21. ___ Africanized honey bees are well known for their highly defensive behavior (respond more rapidly and in greater numbers), however, the alarm pheromones of European and Africanized honey bees are biochemically similar. (True or False)

Advanced Beekeeping

10. ___ Bee Pro® and Feed Bee®, two commercial pollen substitutes, contain the 10 essential amino acids that are required by honey bees. (True or False)
 11. ___ Feed Bee® is a non-soy based pollen substitute. (True or False)
- (Z)-11-Eicosen-1-ol, 9-Octadecen-1-ol, 2-Nonanol, 2-Nonyl acetate, 2-Octen-1-yl acetate, Isopentyl acetate
12. The chemicals listed above are associated with the ___ of the worker bee and are known as an ___ pheromone. (2 points)
 13. ___ As a honey bee queen ages, she continues to increase in the production of footprint pheromone. (True or False)

ANSWERS ON NEXT PAGE



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Do You Know?

Answers

1. **False** Queen honey bee adults in comparison to workers have a shorter proboscis since they do not go to the field and forage for nectar.
2. Worker honey bees change their behavior as they age, a phenomenon known as age polyethism. At different stages in their lives they perform different sets of tasks (division of labor) in relation to age and needs of the colony.
3. **False** Hypopharyngeal glands are only found in the worker caste of the honey bee colony.
4. **False** One of the key symptoms of colony collapse disorder is that the adult population is suddenly gone without any accumulation of dead bees inside and around the hive.
5. **False** Provided there are adequate honey stores in the colony, as the amount of brood increases, the proportion of the foragers that collect pollen and the amount of pollen collected also increases. Although brood of all stages stimulates pollen collection, the larval stage is particularly effective.
6. **True** Queenless honey bee colonies are inhibited from rearing queen cells when queen mandibular pheromone (QMP) and young brood are present. Young brood combs alone suppressed queen cell production for 24 hours, even in the absence of QMP. The colony apparently perceives the young brood as a fecundity signal that the queen is still active.
7. **True** Adult queens receive a diet of royal jelly throughout their lives. A question was recently raised concerning the introduction of a queen into a colony that is lacking an adequate supply of nurse bees. How does the lack of nurse bees initially impact her performance?
- 8A. Cop-R-Tox® is a wood preservative. It is used on beehives to help prevent dry rot, mold, fungi, termites and other wood destroying insects.
- 8B. Mite-Away II® is a formulation of formic acid. Pads are placed on spacer sticks on top of brood combs to treat for *Varroa* and tracheal mites.
- 8C. Terra Patty Mix® is a mixture of Terramycin®, Bee Pro®, sucrose and other vitamins and minerals for treating foul brood.
- 8D. Fisher's Bee Quick® is a honey bee repellent that is used with a fume board to drive honey bees out of a honey super.
9. E) Hopkins
10. **True** Feed Bee® and Bee Pro® are two commercial pollen substitutes that contain the 10 essential amino acids required by honey bees, though in differing quantities.
11. **True** Feed Bee®, a new commercial pollen substitute, is a non-soy based formulation.
12. Sting Chamber or Stinger Alarm
13. **False** As a honey bee queen ages, the production of footprint pheromone declines over time. The secretion of six-month-old queens is greater than two-year-old queens.
14. **True** During the first two weeks of adult life, honey bee queens have a decline in the amount of juvenile hormone in their hemolymph and mated queens older than two months of age have low blood levels of juvenile hormone.
15. **True** Juvenile hormone is known to regulate division of labor in worker honey bees. Low blood levels are associated with activities performed in the hive and high juvenile hormone levels are associated with foraging.
16. **True** As honey bees workers switch from being house bees to foraging in the field, there are significant volume changes within the mushroom bodies of the honey bee brain.
17. **True** The establishment of new honey bee swarms on to equipment from colonies suffering from colony collapse disorder often results in the new colony also experiencing colony collapse disorder. These observations imply that there may be a pathogen responsible for causing CCD.
18. **True** Recent research has shown that deformed wing virus can be transmitted from one colony to another through food; both pollen and nectar.
19. **False** The secretion of footprint pheromone by worker honey bees is 10-15 times less than that of queen honey bees.
20. **True** Deformed wing virus (DWV) infection is not restricted to the digestive tract but spreads to the whole body of the adult bee including queen ovaries, queen fat body and drone seminal vesicles. The concentration of deformed wing virus in the reproductive tissues of both queens and drones suggests that DWV infection could have deleterious effect on their reproductive fitness.
21. **False** Comparison of alarm pheromone components of Africanized and European honey bees has shown that Africanized honey bees have a chemical component that is only present in appreciable quantities in Africanized honey bee samples.

There were 13 points in each level this month. Check below to determine how well you did. If you scored less than six points, do not be discouraged. Keep reading and studying - you will do better in the future.

Number Of	Points Correct
13-11	Excellent
10-8	Good
7-6	Fair

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



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Some Background On Import And Export Regulations In

AUSTRALIA

Alan Harman

"Exotic pests and diseases need stringent quarantine and surveillance," the report says. "Keeping pests and diseases out of Australia is more cost effective than eradication programs."

Truer word were never spoken

The Australian parliamentary Committee on Agriculture, Fisheries and Forestry launched an inquiry into the future development of the Australian honey bee industry with chairman Alby Schultz saying it is only a matter of time before *Varroa* gets through the quarantine barriers.

The concern has grown after the recent arrival of the *Varroa* mite into New Zealand increases the risk of its introduction to Australia because of the high volume of sea traffic between the two countries.

The committee describes the honey bee industry as a small but vital part of agriculture in Australia. While it directly contributes only some A\$60 million to the Australian economy annually, the pollination services provided by honey bees are worth billions of dollars a year to the agriculture and horticulture sectors.

"Without those pollination services, billions of dollars worth of production and thousands of jobs would be put at risk," Schultz says.

Despite its importance, the industry remains vulnerable to disease threats, loss of access to resources, and trade competition from low-wage countries. On the other hand, there is great potential for the expansion of the industry through bee exports, paid pollination services and the development of medicinal honey products.

The committee has heard from the federal Department of Agriculture, which plays a vital role in providing quarantine services and export certification, biosecurity risk management, market access assistance, levy collection services and industry development grants.

Schultz says Australian agriculture is highly dependent on feral honey bees for the pollination of crops and pasture.

"If the *Varroa* mite enters Australia, the managed honey bee population will be decimated, while feral honey bees will be virtually wiped out," he says.

Australia is the only major honey producer in the world still *Varroa*-free.

"*Varroa* will come to Australia, and how well prepared we are to meet it will determine the level of damage it causes," Schultz says. "It is vital to the future of Australian agriculture that we prepare to meet the threat of *Varroa* before it arrives on our shores."

The inquiry is examining the honey bee industry in terms of its current and future prospects, its role in agriculture and forestry, biosecurity issues, trade issues, the impact of land management and bushfires, the research and development needs of the industry, existing industry

and government work that has been undertaken for the honey bee industry.

Schultz says he expects a major injection of funding will be needed to boost research and biosecurity efforts because of the *Varroa* threat.

He says this will ensure that the scientists involved in the field have sufficient funds to expand their work and increase their numbers on that work, given the very real effect that this incursion of these exotic pests could have on Australian agriculture and horticulture.

The Department of Agriculture's submission to the committee noted that the Australian government matches the compulsory levy for R&D paid by the honey bee industry up to a maximum of 0.5% of the Gross Value of Production on a dollar-for-dollar basis. In 2005-06 the matching funding was A\$189,672.

The department's work for the honey bee industry work ranges from the National Sentinel Hive Program (NSHP) to the certification of honey and bee products for export.

The NSHP was established in 2000 to enhance early detection of incursions of *Varroa*, *Tropilaelaps* mite, Tracheal mite and the Asian honey bee. The program operates by locating sentinel hives in the vicinity of identified 'high risk' seaports.

In 2006, the NSHP operated and inspected hives and log traps on a quarterly basis. Throughout the year, there were 37 inspections of log traps at seven different locations throughout Australia for Asian honey bees, 105 hive inspections at 37 sites for external mites and 116 hive inspections at 34 sites for Tracheal mites. None was detected.

In late 2002, an incursion of small hive beetle was detected around Sydney. It was already widespread and eradication was not considered a feasible objective. The incursion has continued to spread and now affects substantial areas of New South Wales.

The presence of small hive beetle has already affected the industry, with some countries requiring certification that bees exported from Australia are sourced from an area free of small hive beetle.

In 2005, NSHP was reviewed by Biosecurity Australia, which recommended surveillance for the Asian honey bee should be extended to all ports on the eastern seaboard as far south as Brisbane and that surveillance should increase by more regular sampling of hives at certain locations.

Continued on Page 59

it right, and you better not make too many mistakes. If you do the bank tends to get edgy. And then edgier, and then even edgier. I can't tell you how many times I've heard beekeepers tell me that "I don't care what the research says, every time I try it that way my bees die"; or just the opposite, "I don't know what Joe Beekeeper is doing, but my bees are alive because I did it the way Ray Researcher said it would work. I can't afford to bet on another way, even if it sounds cheaper or easier."

Both are right, you know. The beekeeper who tried and failed and tried another way and didn't is the guy still in business. And the guy who tried and didn't fail is still in business. The connection here is that they both - let me repeat that - they both listened to someone at a meeting, in a lecture, out in the hall, somewhere other than....no where.

This Fall and Winter go, seek and find. You and your bees will be better off.

The Summer's discontent in our beeyard continues and the saga of queen problems lengthens. The eighth and ninth I think - I've lost count - queens introduced took, only to disappear in a couple of weeks. They both left eggs though so queen cells were possible and they sprouted almost immediately. They're still there as I write this. One colony had over a dozen, and it had brood...and it was the Russian...I'm crossing fingers and toes one of them takes, or I simply missed the real queen and I'm looking at the Russian's game of 'Fool The Beekeeper.' It worked.

Another colony had only a single cell...which makes sense if you think about the drought, then too much rain, then drought and heat, then too much rainy weather we've had here off and on. This has led to a spotty honey crop, and queen cells are a direct product of the resources available to the colony...if they're rich, you get lots...if they're poor you usually get squat. Which is my usual take on these....squat.

And that's why I'm feeding those slow, weak colonies I have like mad right now (I'm getting tired of squat, by the way). At the EAS Conference

the MegaBee people were handing out coupons for samples and I've got mine sent in already. I've got Mann Lake's new patties, some VitaBee dry food and some FeedBee too, and something somebody gave me that is supposed to grow muscle on a cue ball...I think it's simply soy flour, but I don't know for sure.

Talking about feeding bees in September is kind of unnatural, but the world seems to be changing weather-wise, or maybe it's just this year, but getting both carbs and protein into my colonies right now is the right thing to do. That's because I'm feeding the bees that take care of the bees that will go into winter this year (you have heard that before, and you heard it here). I want real, real healthy nurse bees feeding those larvae that grow up to be my colony's winter bees. And now's when this first flush of nurse bees is getting ready (of course, as reluctant as these bees are to accept a queen, perhaps perpetuating this line should be reconsidered, do you think?).

I managed to harvest a whole super of full frames from these five colonies...isn't that pathetic?...and I'm looking at mite populations right now. I put the second set of sticky boards on in mid-August to see what my normal mite fall is so I'll know if I need to do something, and how much of something I'll need to do. What with the spotty queen problem all summer there's been little brood all season, and the frames of drone comb I've harvested had hardly any mites, so I don't anticipate any mite crashes this year. But I'm looking out for what a friend from Sweden calls the *Varroa Bomb*.

A *Varroa Bomb* goes like this... you've done everything right...IPM mite control all season and there's hardly a mite in any of your hives. Life is good and winter should be too. But your beekeeper neighbor hasn't been quite so diligent all season, and she's got a boat load of mites in every colony. You know what happens...her colonies crash in September, those bees, loaded with mites, flee their horrible home and move in with your bees, and suddenly you've got a boat load of mites at the worst time of the year. That's a *Varroa Bomb*. It's lethal, effective, and happens because beekeepers screwed up, *NOT* because mites are so smart.

Well, I want healthy bees, good

queens, and no *Varroa Bombs* this year. So, if everything goes according to plan....

Some odds and ends.

There are over 7000 BILLION-ARES in the U.S. today. And there are just over 1000 commercial beekeepers. What's wrong with this picture?

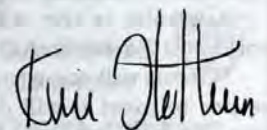
As we were putting this issue to bed - a quaint term now, since there's no paper anymore...it's all electronic, and sending it to the printer is easier than sending an email - there was even more noise about toxic toys from China being reported. A smart marketer right now will be making stickers that read....MADE IN AMERICA FOR AMERICAN KIDS...or, for honey, or even candles, which are made by the bazillion here...MADE IN AMERICA FOR AMERICAN HOMES.

And something else....what do you do with millions and millions of toxic toys? Send them back to China? Put them in a land fill? Dump them in the ocean? And what about the packaging?

Curious minds want to know these things.

This is National Honey Month, and coming up is that new animated movie that has to do with bees, pollination, honey and such. The National Honey Board has made it possible for beekeepers to get in on that action so if you're the marketing genius I think you are you'll reach out and take everything you can from this...it's gonna be a boon for beekeeping, and you'd be silly not to take advantage of it. Along with, or course, your AMERICAN HONEY FOR AMERICAN HOMES label stuck firmly on the top.

In the mean time keep your smoker lit (next time I'll tell you a gruesome tale about smokers), and your hive tool clean and sharp. It's harvest time.



The Northern Australia Quarantine Strategy program carries out surveys in coastal areas from Cairns to Broome and overseas in Indonesia, Papua New Guinea and Timor Leste to identify targeted pests and diseases that may enter through natural movements.

The number of beekeepers in Australia totals 10,000 with New South Wales home to 3,185 of them and Queensland host to another 3,080. The total number of hives is 605,764 with 265,474 in New South Wales and 119,418 in Queensland.

About 17% of apiarists operate 85% of the total number of hives. Most honey bee operations are small family businesses depending on a range of income sources, in addition to those related to apiculture.

About one third of honey produced is exported and Australia is the world's tenth largest exporter of honey.

"Commercial beekeepers are generally family businesses that have in many cases, existed for generations," the department said. "Like many agricultural industries, there are reports of skill shortages. The Center for International Economics (CIE) indicated that the average age of 54 years and experience of 25 years of beekeepers is an issue for the long term sustainability of the industry."

About 65% of all crops introduced into Australia require insect pollination, which is performed largely by managed honey bees.

The committee was told that one research report estimates that pollination services are potentially valued at A\$1.7 billion a year.

A typical charge for pollination services is about A\$40 a hive; however this varies from state to state and apiarists receive payment for about A\$3.3 million of pollination services a year.

Biosecurity Australia is conducting an import risk analysis of honey bee semen. This is in response to access requests from Australian Honey Bee Industry Council for access to overseas genetics. Work has commenced on a draft IRA report but resources have been regularly diverted to other higher priority issues, including responses to the incursion of the small hive beetle.

The South Australian Apiarists' Association told the committee the apiculture industry needs to realize the actual value of pollination services to all sectors of agriculture.

"After the introduction of exotic pests such as *Varroa* mite, there will be a large reduction of incidental pollination from feral bees and create increased demand for managed honey bee pollination," it said in its submission.

The association said there is a need for a national endemic disease control program.

"Exotic pests and diseases need stringent quarantine and surveillance," it said. "Keeping pests and diseases out of Australia is more cost effective than eradication programs."

It also called for a requirement to have compulsory training in the identification and management of major pests and diseases and said recognized treatments of exotic pests and diseases must be pre-registered for use should an incursion occur.

The Western Australia Department of Agriculture submission said more market research needs to be undertaken to provide the apiculture industry with the ability to formulate efficient and effective marketing strategies and production schedules based on up to date information on trends in Australia and abroad.

It said there are only about five researchers who study honey bees in a full time capacity in Australia. Training for future honey bee researchers is largely non-existent, it said.

"It can take up to five years postgraduate work for any researcher on the subject of honey bees to become efficient in understanding and managing the complex behavioral and social system," it said. "Most of the current researchers are aged 50 years or more and in 10 to 15 years will be retiring. Adequate research support by way of salaries and operational expenses needs to be provided to ensure R&D in the apiculture industry."

The Queensland government says the majority of registered beekeepers in the state are hobbyists and in general, they don't have the training or exposure to the possible diseases of bees and hives to become competent in recognition of disease.

This could allow a new or exotic disease to become established and spread before a problem was recognized and reported. It calls for a national awareness program directed at hobbyists and mainstream apiarists to help bridge this disease recognition gap.

"Contingency planning to deal with an outbreak of *Varroa* should begin now to improve Australia's capability to respond to an outbreak and give a better chance of effectively eradicating the pest," it says.

Research areas it suggests should be considered are breeding of mite resistant bees, biocontrol methods, effective chemical controls, methods to counter chemical resistance development in mites, improved mite surveillance/detection methodology.

It also recommends the use of sniffer dogs to detect diseases while they are still at low levels in the hive and able to be more effectively managed. **BC**



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My heart doctor is dead sure that eating local honey will cure seasonal allergies. But when I mentioned to my allergist that I eat pollen to keep from sneezing, he got this pained look – the kind somebody might give you if you told them deadpan serious that the world is flat.

I see a lot of specialists for a healthy man barely 60. It's been a rough year.

I was minding my own business having dinner at a joint called "Topper's," in Aspen last Winter. I ordered the tasty Asian seafood chowder. I'd had it before. But on my way back to the ski patrol locker room, which doubles as my cozy bungalow during the ski season, my palms started itching. Then it was my armpits, my neck, the insides of my ankles. Whenever one side of my body itched, the other did, too. So it was left palm, right palm; left ankle, right ankle, left armpit, right armpit. By the time I arrived at my chateau, I was scratching like a hound. You can't imagine how good it felt to scratch. Some of my patrol buddies were quaffing a cool one. One put down his mug and said, "You'd better get some Benadryl."

I walked into Carl's Pharmacy with glass of water in hand, took some Benadryl off the shelf and downed it right there in the drugstore. The pharmacist chuckled that he never saw anyone do this before.

The medication didn't seem to help. Don't try this at home, but I doubled up on the dosage, because I know they sometimes give some pretty big doses at the hospital.

About the time the itching finally subsided, I noticed that it felt as if someone were pressing on my windpipe. When I looked in the mirror, my throat appeared so swollen that I looked like one of those birds whose neck puffs up during mating season. But I didn't make any mating calls right then.

"OK," I thought, "So this is what it's like when your throat closes off." I'd just been to the hospital for a heart flutter, and I wasn't going back. That visit ran over \$10,000, and even with insurance, I was out over a thousand bucks. As soon as you walk into the emergency room, they start hooking you up to machines. Each test costs hundreds, if not thousands of dollars.

I could still breathe OK, and I had access to a ski patrol "epi pen," a device that looks like a big ballpoint pen. If you stab yourself with an epi pen, it injects epinephrine, which will reduce throat swelling, so you can breathe.

So I wasn't that happy, but I wasn't that worried, either, and when one side of my throat finally relaxed, I knew the worst was over.

It turns out I'm allergic to shellfish, which I never liked that much anyway. My allergist says I'm supposed to carry a twin pack of epi pens "at all times." I'm not going to do that. My pockets are full already, but I do shy away from lobster now, and mystery dishes.

Summers I work as a "mountain ranger" on Aspen Mountain. Think ski patrol, but without snow. We get a lot of Summer gondola riders. It's a cake job, until somebody keels over.

In July we got a report of a "bee sting" on top of the mountain at 11,212 feet. No matter who does the stinging, "bees" generally get the blame. I've seen honey bees on dandelions at 10,600 feet on the mountain but never on top. We have plenty of yellow jackets at all elevations, however.

The woman clearly had an insect sting of some kind, and she demanded Benadryl, an over-the-counter medication that we rangers are for some reason not authorized to give out. I told my patient that the swelling and itching on her index finger were a normal reaction to an insect sting and not to be alarmed. I said that if

she had never experienced a previous allergic reaction, she had no reason to expect one now. "Don't borrow trouble," I said. I gave her a bag of ice to reduce the swelling.

Aspen is an expensive place to live or visit, and it attracts a privileged clientele, some of whom can be difficult. My patient was adamant, and about this time, another ranger said, "I have some personal Benadryl. If one dropped out of my pocket . . ."

The woman's attorney husband liked the tricky legal angle of this idea. "I get it. We look down on the ground, and there's a Benadryl capsule. We pick it up. Finders keepers."

I wasn't wild about Ricky butting in here, but he did save my life once, so I guessed I could forgive his slipping an unauthorized but relatively harmless over-the-counter medication to a woman who didn't need it.

Some people are genuinely allergic to insect stings, and my heart goes out to them. But for most people, a sting should be only a minor inconvenience.

Honey bees are not a menace. They're not nearly as dangerous as grizzly bears, mountain lions, or Great White sharks. And if you're allergic, you can carry medication. So what's the problem?

It's the shrimp cocktail you want to watch out for. That stuff can kill you.

Ed Colby

Allergies

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