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OCTOBER 2002 VOLUME 130 NUMBER 10

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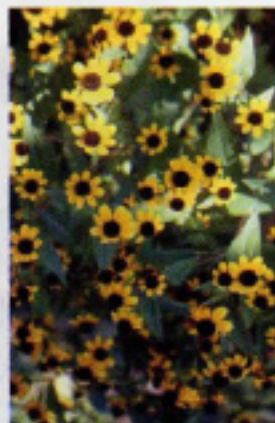
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~~Bidens are one of the last~~
honey plants to bloom -
October's last hurrah!
photo by Kim Flottum

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KEEP IN TOUCH

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Have You Seen This?

I am a new beekeeper with less than five years. I recently bought some used equipment. Yes, I know it is not good to buy equipment used in case of disease or pest contaminants, but I knew the beekeeper and his bees were healthy and robust.



He had one piece of equipment I could not figure out. It was a top entrance/cooler device (see photo). He claims it helps cool the hive, increase air circulation, decrease wax moth problems, etc.

As an experiment I set up one on top of a hive next to a standard hive. Within five weeks the new topped hive outperformed the standard hive. I know this is not too scientific based on a lot of variables, but has anyone else used this particular contraption?

I have yet to see it in any current bee catalog. Is this a waste or has my friend stumbled onto something worthwhile?

The bees seem to like it, but don't use it for an entrance pad or landings, but only to guard or fan the hive.

Let me know if you can identify this device.

Richard Flanagan
6712 Nutcracker Pl
Charlotte, NC 28212

MAILBOX

Careless In Chicago!

Once again the roundtable in Chicago ignored the history of the honey industry's troublesome efforts to create a workable honey promotional program. Reports indicate that the discussions were limited to "should-be" items. This exclusion would have been proper if the honey industry and other agricultural groups had no historical background in commodity promotion. But this is not the case since a good volume of literature is available for the asking. Has everybody forgotten the fate of the special referendum that was soundly defeated?

The history of that defeat should not be forgotten – especially so since the conferees of the Chicago RT feel that items from the rejected referendum need to be the main objectives of the new Packer and Importer Board (PIB). Subject objectives: Quality Control; Protecting the Image of Honey. Both items were the center of controversy. Producers had no quarrel with these objectives, but method of implementation was certainly questioned. Opposing producers questioned the likelihood of a honey board agency doing any better job on quality control than the Food and Drug Administration. The second item that protects the image of honey delegates regulatory authority to an inept group that might create more problems than solutions.

Ignoring history was not the only example of carelessness. I have an uneasy feeling that some of the PIBs so-called good points are no more than a spur-of-the-moment thought. For example, the 250M pound exemption for small packers is supposedly designed to shush dissent from small dealers and continue to collect 95 percent of the current funding level. This would be sound reasoning if all

figures were the same year in and year out.

It is my understanding that the exemption gives the small packer an opportunity to legally loophole the rules by simply limiting his production (if he is a producer/packer) and purchases below 250M pounds, thereby avoiding any responsibility to pay the tax. His urge to limit handling will be strong since the saving from tax liability may amount to \$2499. Also, this means that it might be profitable for the producer to limit his sales to one or more of the small packers, since the obligation of the tax will not be a factor in the price.

Mr. Honey Producer, now is the time for us to give attention to the matter of honey promotion. Without rhyme or reason we have fooled around with a number of troublesome schemes for 50 years. It is high time to decide what we want. No promotion? The current NHB? Or, the proposed Packer/Importer Board?

Glenn Gibson
Minco, OK

Wright's Right!

I am writing to give you my profound thanks for publishing the article, Nectar Management 101 by Walt Wright in the February 2002 issue. It has greatly increased my honey production just like the article said it would!

I contacted Mr. Wright to get more information and purchased his complete manuscript. I followed his recommendations and let the queen lay eggs freely up through the third brood chamber with no queen excluder. I made sure that there was no honey block above the brood nest and added several empty supers in late Winter.

It is now late July and my typical year average of two or three supers of honey has increased to

Continued on Next Page

MAILBOX

four deeps and six supers, two of which were un-drawn foundation. The only thing that Walt left out in his article was how to build a scaffold to get all the extra honey off!

Colleen Howe
Friday Harbor, WA

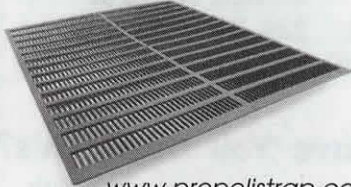
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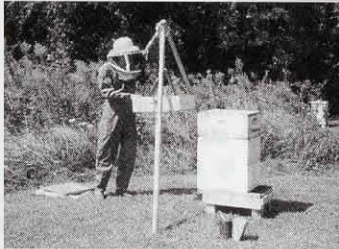
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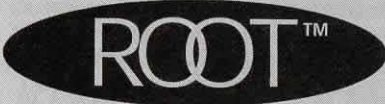



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Look What's New?



A personal, bench-top honey stick machine is being produced by The Busy Bee Farm, in Raymond, NH. Highlights include a heater flow gate, standard 110w outlet, 30-day money back guarantee and one-year limited warranty.

The machine will fill 400, 4ml (3/4 teaspoon) plastic straws an hour (increased capacity is planned). A five-gallon pail produces

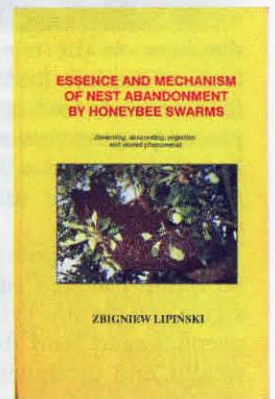
about 4,400 straws. The machine comes ready to plug in and start filling. It is small (36" tall, 14" x 16" base), portable and USDA approved for food use.

The cost is about \$2,100. Contact Busy Bee Farm, 140 Langford Rd., Raymond, NH 03077 Kate@BusyBeeFarm.com 603.895.6807.

Essence And Mechanism of Nest Abandonment by Honeybee Swarms. Zbigniew Libinski. 300 pages, color, b&w. ISBN - 8391351734. Published by the author. \$29.95 includes worldwide postage, at www.swarmingbook.com.

This book won a Gold Medal at the last Apimondia. So it must be good. I just can't figure it all out. There's lots of information here, but the four-point summary at the end may be most enlightening.

1. Honey bee colony well-being is a state or condition of physical and psychical (a sort of imprinting) harmony between its super-organism and its surroundings characterized by the absence of adverse stimulation, over-stimulation or any other imposed condition which adversely affects the health or productivity of the bees.
2. Protect bees from stress.
3. Keep young queens in hives.
4. Keep wild bees in the environment as a source of genes.



Getting to these four points is the purpose of the book. How, and what-happens-when fill the pages.

There are many graphics and charts showing anatomy, flow charts of stress mechanisms, instincts, swarms, nest abandonment and a whole series of color photos.

It will take you awhile to get through this text. The translation from Polish to English is a bit rough, and some things aren't clear, at least in the first reading. But it has some interesting ideas.

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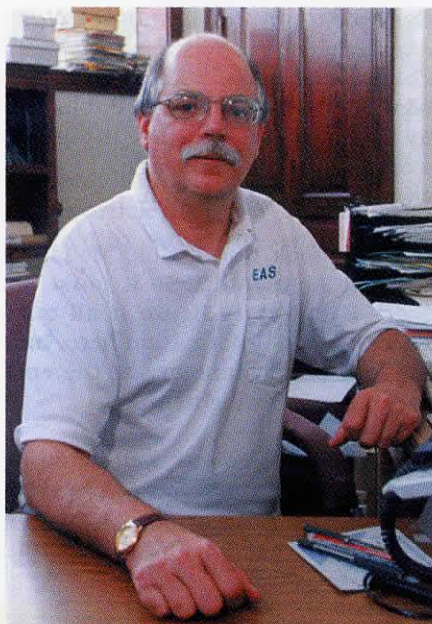
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INNER COVER

visited the Farmer's Market in Ithaca while at the EAS meeting in Cornell during early August, which is prime harvest time for the growers, but a tad early to catch the thousands of students not yet back for fall term. Nevertheless it was crowded with both buyers carrying purchases and lookers still deciding.

Typical stalls in the covered, but open building, were ten feet by ten feet, some with a counter and

displays on the isle, some without and you could walk in and look at displays inside. Larger booths included some of the ethnic food vendors feeding the crowd. There were musicians in several places playing this and that, arts and crafts dealers, T-shirt and hat makers, and a few other off-beat but interesting businesses present, but far and away most common were the vegetable vendors.

Tomatoes, potatoes, cukes, squash...a city-size salad was on hand. I looked carefully at how each display was set up, what signs caught my eye and any labels used. Right off, prepared or prepackaged food items had to have labels, listing ingredients, weight and producers...much like honey.

Signs were abundant when it came to announcing the name of the farm or business at each booth. Knowing the name is important so buyers can find you again (I don't know if location was permanent, but I suspect it was), even if they don't remember which isle or which wing of the building they were in last time. So "Tillers Organic Farm" was colorful, large (often too high to easily read) and had a graphic with it.

But after that signs got scarce. Most common - prices. Tomatoes, \$1.49/lb. Organic potatoes, \$1.00/lb. Organic was common on the price signs (somebody should tell them that according to the U of MN study this year, Local sells better than Organic).

Other than prices, signs were *real* scarce. "What variety of sweet corn?" wasn't answered anywhere. Maybe the salesperson knew, if you asked. Roma tomatoes were sometimes singled out, but not often. Essentially there were many, many large, attractive piles of mostly generic organic vegetables. After 10 booths you were bored.

It was as if Organic was all I needed to know. It wasn't important to the seller, at least to my untrained eye, to tell what variety of tomatoes (Big Boy, Rutgers), what type of squash (yellow crookneck, patty pan), or how on earth do you cook or eat some of the less typical things I saw. So I didn't buy any. Regular customers may, but new customers? I wonder. Can those operators afford to miss sales? I guess so.

The honey guy that was there did it right though. He had several varieties available in a good selection of sizes and container types. There were some candles, recipes on some bottles, piles nearby, and all sorts of honey colors to choose from. Labels were on front, back *and* top and Local was everywhere. The counter was conveniently set back just a bit so askers could

step out of the constant walk-by traffic to take a longer look and not feel pushed or crowded. Moderate but profitable prices kept sales brisk. Best of all, there were shelves below, at and above my eye level, so you had to look around, and short, medium and tall people all had a different, and interesting perspective.

Most of those Organic people could learn a lesson from him. In fact, so could most of us.

From the Just So You Know department. USDA tracks almost everything food, bless their accountable hearts, and routinely publishes annual reports on all of their countings. Here are some numbers.

Since 1989 annual U.S. maple syrup production has remained almost exactly at 1.1 million gallons. Imports, however have gone from 1.6 million gallons in 1989 to 4.6 million gallons in 2001.

Honey bee colonies in 1966 numbered 3.2 million, in 2001 2.5 million. Annual honey production has remained fairly constant, however, like the maple syrup people, at about 220 million lbs/year. Interestingly, imports have tripled in that time, just like maple syrup. Honey stocks (the amount of honey carried over each year - not sold in other words) have also increased. Another way to look at that is the "Stocks-To-Use" percent, which has gone from right about 12% in 1966 to about 20% last year. There's more of theirs coming in from off shore, and more of ours staying longer in warehouses. The antidumping and short crop this year will cause a blip in those numbers, but the trend is obvious, isn't it?

The history and politics of cane and beet sugar demands more space than we have here. But we can look at use. In the last several years per capita consumption of these two sweeteners, like honey, had remained

October Roundup

steady. Honey has, according to several sources, gone from 1.0 to 1.0 lbs/person, (unchanged, according to USDA). Sugar (both cane and beet combined) has gone from 63 to 66 back to 64 lbs/person/year. Both, I think you'll agree, can be considered steady. HFCS, on the other hand, both 55 and 42, has gone from 13.5 million pounds (dry weight) used in the U.S. in 1992 to 18.9 million pounds used in the U.S. per year in 2001, a 40% increase in a decade. Interestingly, while the cost of a bushel of corn in that time has gone from \$2.40 to \$1.90 a bushel, the price of corn sweeteners has remained rock steady at 2.8 cents per pound.

When put together - sugar, HFCS, glucose and dextrose syrups, honey and other edible syrups - the per capita consumption of these sweeteners has gone from 137.3 lbs in 1992 to 148.0 lbs in 2001, a 7.8% increase in 10 years (that comes to an awful lot of sweets - about 6.5 ounces/day, believe it or not). That's about a half a honey bear per person per day, by the way.

To satisfy that U.S. sweet tooth, the government continues to mess with the sugar program, keeping prices paid by U.S. consumers artificially high. Of course if they didn't, the disparity between sugar and honey would be even greater. Here are some of the highlights of this year's program.

The Farm Security and Rural Investment Act of 2002 reauthorized the sugar price support loan program and introduced measures to make the program work more effectively for producers and processors, and to lessen the cost of the program to the U.S. government.

It reauthorized the U.S.D.A. to make loans available to processors of domestically grown sugarcane at the rate of 18 cents per pound and to processors of domestically grown sugar beets at 22.9 cents per pound for refined sugar. As before, loans are made for a maximum term of nine months and must be liquidated along with interest charges by the end of the fiscal year. Processors are required to provide payments to producers in proportion to the amount of the loan value accounted for by the sugar beets and sugarcane the producers deliver. USDA retains

the authority to establish minimum producer payment amounts.

Some sugar loan provisions in the 2002 Farm Act include the following:

- Sugar loans must be nonrecourse, meaning that when the loan matures, the USDA *must* accept sugar pledged as collateral as payment in full in lieu of cash repayment of the loan, at the discretion of the processor.
- A new provision allows processors to obtain loans for "in-process" sugar and syrups at 80 percent of the loan rate. "In-process" sugar and syrups must be converted into raw cane or refined beet sugar at no cost to the Commodity Credit Corporation (CCC) before being eligible for forfeiture.
- The Act eliminates penalties that, under prior legislation, had been charged to processors who forfeited sugar to the CCC.
- The Act eliminates the requirement that sugar processors notify USDA of their intention to forfeit sugar under loan. Also eliminated are government assessments on sugar marketing by processors.

A key change in the 2002 Farm Act requires that USDA operate the U.S. sugar loan program *at no cost to the Federal Government, to the maximum extent possible*. Specifically, USDA must avoid forfeiture of sugar to the CCC. To discourage loan forfeiture, the sugar price at the time of loan repayment must be high enough to cover the loan principal plus interest and marketing expenses.

Another interesting tidbit. The import share of U.S. food consumption held steady at 8.8 percent from 1998 until 2000. In 2000 it went to an average of 12.3% of food crops and crop products and 4.2 percent of animal products including fish and shell fish. In 1992, the average was only 7 percent.

Just so you know.

Fall meeting season gets underway this month. If you haven't noticed, meetings are seasonal.

Spring rush, Summer picnics, and the Fall and Winter extravaganzas and gatherings are pretty much the picture each year. Content at each is pretty predictable generally, as is who will be attending.

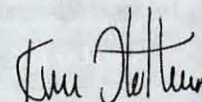
If you are a meeting planner or organizer you might benefit from the collection of articles we've gathered on that very subject by Jim Tew, Dick Bonney and others that can ease some of the difficulty meetings bring, and perhaps save you from forgetting (or help you avoid) that one detail that will forever mar the memory of the '02 Winter Meeting. They have their own listing on our web page at www.BeeCulture.com.

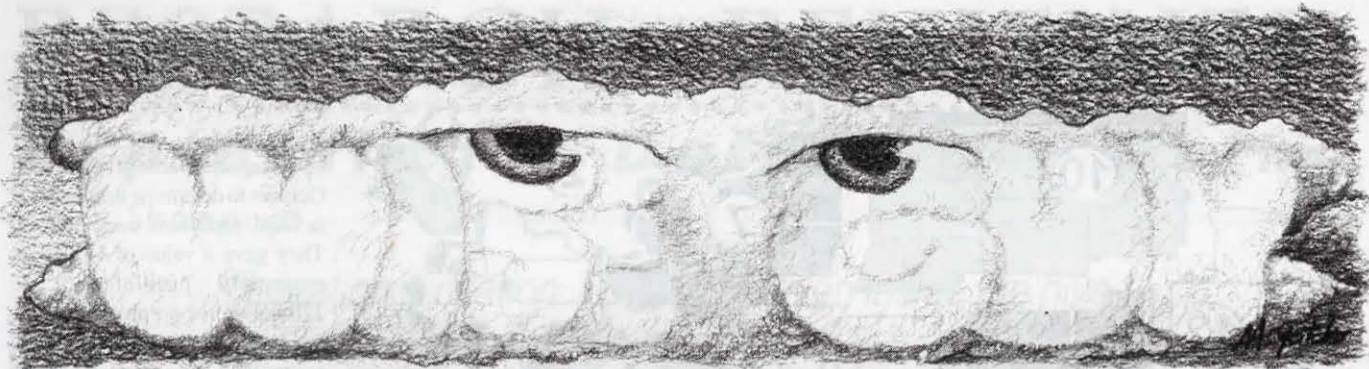
Also, my old friend Buzz Phillips has been on assignment this summer, cataloging some of the hiccoughs he's seen in the meetings he's been attending. Take a look at his comments in the article inside...and take some of them to heart. They will save you a lot of grief.

Extracting and treatments should be either nearly finished, or certainly in preparation by now.

It looks like a new treatment may be available this coming Spring, if things go as planned. Brushy Mountain has been pushing EPA to get a thymol treatment registered for *Varroa* and after much negotiations, and a softer approach by EPA, An Experimental Use Permit (EUP) may be granted this Winter. Residue studies are still needed, but with an EUP some agencies can be conducting those final studies while the treatment is being used. USDA's IR-4, the minor use people may raise their hand for this, providing they can get the funding - which will be directly influenced by users (beekeepers) input on the need for another choice in the *Varroa* battle. Look for information here on how you can support that effort. Letters and telegrams needed and appreciated.

In the mean time, get that hive tool sharpened, and clean the gunk out of your smoker. Be ready for Spring before it gets here, again. Next year will be even better.





Who should get the credit for raising the price of honey to a livable level or who should be blamed for the outrageous price? It all depends on who is buying and who is selling. Would the price of honey be higher if Chinese honey would have been found to contain an illegal antibiotic before the antidumping? Did the antidumping action alone raise the price of honey? Did the drought in America reduce the supply enough to raise the price? How come each time there was an antidumping action there is a worldwide shortage of honey?

Do you think if U.S. honey packers would have allowed domestic producers to have 5¢ to 7¢ increases in price each year from 1992 to the present (that would make the current price 90¢ to 95¢) there would have been an antidumping action? Or do you think greed became the driving factor for packers and all they saw was larger market share and more money? If you want to drive a Cadillac you at least need to let domestic producers drive a Chevy, and not a 15-year-old Chevy.

Honey purity will be a question until packers take responsibility for what leaves their building and goes to the public. We preach about standards and tolerances, but I believe very few of them have the ability to test honey they buy. If they choose to sell Chinese, Vietnamese or Thai honey which all have tested positive for an illegal antibiotic, then it should be that company that takes the hit, not our industry. Pride should fall somewhere between price, price and price, the three major selling points of today's packers. I heard a very disturbing discussion about how honey packers were having the same problem as domestic producers not making any money when honey was

at 50¢ levels! I was amazed because their import costs were down by as much as 50% in five years and the retail price was higher or as high as before. That means they were selling at a lower price and the retailer was making all of the money. Couldn't they either raise their price or tell the retailer, "No I can't sell for that price?" The honey packers in this country accused the domestic producer of holding his product off the market just to get a higher price. They also suggested that this is the reason they imported large blocks of Chinese honey (that contained actually two illegal chemicals, but never told the public) so they had an adequate supply. This was all testimony in the antidumping case, but my point again, why is it a sin to know the price you need from your product to make a profit? Why is it a "holding action" to not sell at low prices and ask a higher price? Don't you believe if packers want more market share they need to sell more than price? In almost all cases in all industries when a battle for market share erupts the total industry is hurt and in most cases the winner becomes the loser because with increased market share comes higher revenue but lower income due to increased expenses and lower margins. If you want to check almost any company's

problems they usually happen when they try to capture market share. In most cases businesses get into trouble and fade away due to *too much* business rather than *not enough*. Hard to believe but the facts are there.

So did the producer drive up the price? I hope so! But I have never called a packer and set the price that he paid for my product. Packers are the decision makers about whether I sell them my honey, or not. I can't tell them "\$1.20 is the final price and I am shipping it today and I expect a check by Friday." Honey producers are price takers. If someone offers you \$1.50 per pound for your honey that is *their* decision. As a producer I only have the ability accept or turn down that offer. I assume the packer knows his break even, import costs and other expenses that run his business.

What made honey prices to over \$1.20? GREED! If domestic producers would have been paid a fair price for their product the wholesale price of honey today would be 90¢ to 95¢ and there would be *no* shortage, *no* antidumping, *more* domestic producers, and much *more trust* between producers and packers. There is no shortage of honey, only a shortage of cheap honey.

Wise Guy

NEW to the Beekeeping Community The 'Sticky Machine'[®] (Patent Pending)

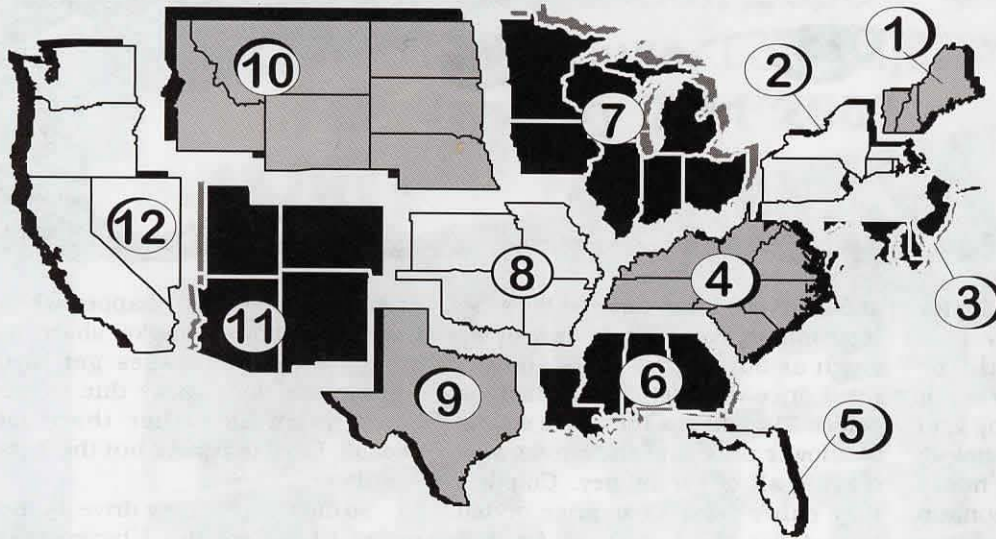
A personal bench top honey stick manufacturing machine, which produces approximately 400 straws per hour!

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OCTOBER - REGIONAL HONEY PRICE REPORT



Reporters are surveyed each October to determine the degree of several problems encountered. They gave a value of 1(one) for extremely problematic, to 12(twelve) for no problem at all. We averaged the values for each region, and for all regions for all problems. The lower the number, the greater the problem, in the region and overall. We also measured demand for honey - 1 being strong demand, 3 being no demand. These averages are listed in the far right column. Note changes within regions, and the differences in some problems across all regions.

Reg	Tracheal Mites			Varroa			AFB			Res. AFB			EFB			Chalkbrood			Skunks			Bear			Prices			Demand			
	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	'00	'01	'02	
1	6	6.2	8.1	1	10	5.9	12	10	10.8	12	5.5	11.1	12	11	11.5	9	10	8.5	12	10	10.3	8	8	8.4	12	6	8.2	1	2	2.3	
2	7	6	10	5.2	2.7	4.2	6.7	8.8	9.4	11.3	9.5	10.6	10.2	11	10.8	6.2	7.8	7.2	6.7	6.8	7.2	7.5	8	8.2	5	8.8	5	2	1.8	2.2	
3	10	5.5	10.5	11	5	10	6.5	12	12	12	7	12	5.5	6.5	12	5	8.5	9	1	8.5	6.5	12	7.5	9.5	5.5	7.5	5.5	2	1.5	2.5	
4	6.1	7.4	8.4	4.3	3.8	4.6	7.9	6.8	7.4	11.1	11.7	10.2	9	11.6	10.2	8.4	10.8	9.6	7.1	9	8.2	11.8	10.6	9.8	5.7	7.2	5.3	1.7	2	1.6	
5	8	3.5	5.7	2	3.3	1.7	9	7	9.3	12	3	6.3	12	8	7.3	12	7.5	5.3	12	12	8.3	12	12	10	2.5	2.3	6.7	3	2	2.7	
6	9.7	6.5	5	6.3	3.8	6	9.3	8.7	4.5	11.3	10.3	11.5	10.7	11	8.7	10	11	5.5	12	12	8.5	12	12	12	4	4	6.7	1.7	1.8	1.7	
7	6.5	6.9	7.4	4.9	4.9	6.6	8.3	7.4	7.8	8.9	8.5	7.4	9.1	9.8	10.1	7.8	9.1	8	8.1	9	8.9	10.1	11.7	8.8	4.6	5.1	6.8	2	1.9	2.3	
8	7.3	8.8	10	4.9	7	5.6	8.3	11	10.4	10.3	12	9.4	10.3	12	9.8	6.7	10	6	9	12	12	12	12	12	9.8	4	7.3	4.6	2.3	1.8	1.8
9	10.2	10.1	9.3	7.4	4	3.7	9	9	10.7	9.6	9.9	10.7	10.8	11.8	11	10.6	9.8	8.5	11.4	10.9	7.5	12	12	12	6.6	6.1	8.5	1.2	1.8	2	
10	6	7.3	7.5	5	4	4.8	8	9.7	9.2	12	9.7	9.3	12	11	11.2	8.5	7.3	8.8	4	8.7	6.5	12	12	11.7	3	6.3	9.3	2.5	2	1.7	
11	8.7	6.7	8.4	3.7	4	5.9	7	8.3	8.9	11.7	11.5	10	10.3	11.7	10.3	9.7	9	11.3	9.7	8.7	7.9	8.3	8	8.8	8.3	7.3	7	2	2	2.3	
12	5	7.5	7.3	3	4.3	7.3	6.3	6.5	10	10	10.8	11.5	10.7	11.8	10	9.7	8.5	8.8	9.7	9.5	8.8	9.7	12	11	4.7	4	8.3	1.7	2.5	2.8	
Overall	7.4	6.9	8.3	5	4.7	5.5	8.1	8.8	9.1	10.6	9.1	9.9	9.9	10.6	10.4	8.4	9.1	8.3	8.3	9.8	8.5	10.4	10.5	9.8	5.1	6	7	1.9	1.9	2.1	

	Reporting Regions												Summary		History		
	1	2	3	4	5	6	7	8	9	10	11	12	Range	Avg.	Last Month	Last Yr.	
Extracted honey sold bulk to Packers or Processors																	
Wholesale Bulk																	
60# Light (retail)	79.00	84.25	70.50	75.00	75.00	80.00	74.33	74.56	80.52	68.50	95.00	62.00	62.00-95.00	76.56	76.51	68.26	
60# Amber (retail)	78.75	75.99	70.00	72.92	60.00	75.00	76.25	62.00	65.50	62.00	90.67	57.00	57.00-90.67	70.51	71.56	64.32	
55 gal. Light	1.06	1.08	0.95	0.92	0.95	1.10	1.01	0.87	0.87	0.95	0.98	1.03	0.87-1.10	0.98	0.91	0.65	
55 gal. Amber	0.96	0.85	0.89	0.89	0.89	0.95	0.98	0.89	1.08	0.89	0.97	0.98	0.85-1.08	0.93	0.83	0.60	
Wholesale - Case Lots																	
1/2# 24's	36.59	31.45	37.39	36.62	37.39	25.00	28.08	37.39	37.39	38.94	24.00	25.00	24.00-38.94	32.94	34.58	29.19	
1# 24's	47.30	45.10	48.00	44.70	39.20	46.00	44.16	43.92	44.40	50.16	55.50	49.20	39.20-55.50	46.47	49.33	43.34	
2# 12's	54.61	42.09	47.40	42.28	52.61	38.00	38.33	42.50	41.17	35.46	45.00	41.33	35.46-54.61	43.40	43.94	39.34	
12 oz. Plas. 24's	40.68	39.50	24.00	39.95	39.37	36.00	35.65	37.60	37.20	42.00	45.90	40.20	24.00-45.90	38.17	44.69	36.93	
5# 6's	50.54	47.39	57.00	47.25	50.34	45.00	43.97	39.00	41.00	40.92	50.00	36.00	36.00-57.00	45.70	48.86	42.37	
Retail Honey Prices																	
1/2#	2.31	1.71	2.25	2.30	1.39	1.65	1.69	1.59	1.45	1.89	2.33	1.99	1.39-2.33	1.88	2.02	1.76	
12 oz. Plastic	2.56	2.31	2.90	2.41	2.60	2.84	2.02	2.35	2.65	2.53	3.10	2.54	2.02-3.10	2.57	2.43	2.23	
1 lb. Glass	3.29	2.73	3.00	3.01	2.46	2.99	2.57	2.90	3.50	2.94	3.66	3.24	2.46-3.66	3.02	2.96	2.68	
2 lb. Glass	5.96	4.56	4.80	5.15	4.39	5.49	4.24	4.35	5.40	4.35	4.97	5.31	4.24-5.96	4.91	4.85	4.41	
3 lb. Glass	7.00	6.82	7.80	6.75	4.79	9.99	6.36	6.74	7.50	6.83	7.94	7.59	4.79-9.99	7.18	7.09	6.26	
4 lb. Glass	9.76	6.09	9.76	8.87	9.76	9.89	8.07	8.79	7.74	9.76	14.00	13.00	6.09-14.00	9.62	8.47	7.90	
5 lb. Glass	9.58	10.49	13.00	10.88	10.00	9.83	9.03	10.49	9.83	8.68	10.59	12.99	8.68-13.00	10.45	9.50	8.66	
1# Cream	3.96	3.40	4.51	4.07	4.51	3.59	3.09	2.72	5.00	3.81	4.68	3.24	2.72-5.00	3.88	3.71	3.27	
1# Comb	4.00	3.89	3.95	4.37	5.38	4.25	5.07	4.19	5.38	5.00	7.25	4.50	3.89-7.25	4.77	5.84	4.22	
Round Plastic	4.17	3.78	2.60	3.00	4.59	4.54	4.31	3.66	4.59	5.00	5.44	3.50	2.60-5.44	4.10	4.06	3.79	
Wax (Light)	1.50	0.98	1.00	0.95	1.00	1.48	0.91	1.38	1.05	0.93	1.03	1.50	0.95-1.50	1.29	2.72	2.47	
Wax (Dark)	0.97	1.00	0.75	0.73	0.95	1.18	0.80	1.00	1.00	0.99	0.93	1.95	0.65-1.95	0.96	2.57	2.18	
Poll. Fee/Col.	41.00	38.80	40.00	37.50	25.00	40.00	39.75	32.50	28.00	39.27	47.00	39.50	25.00-47.00	37.36	40.83	36.87	

RESEARCH REVIEWED

Explaining • Defining • Using

Steve Sheppard

"Location, Location, Location – even inside the hive."

In beekeeping it can be said that timing is everything. When to inspect, when to feed, when to add supers, when to take off honey, when to requeen, when to _____ (fill in the blank), are all questions a beekeeper must answer. However, if timing is paramount, then location is a close second. Where to locate the apiary for the best nectar and pollen foraging, where to locate hives in the apiary to reduce drifting and maintain winter protection, and so on. Now it turns out that the clichéd phrase from the world of real estate also has relevance to interactions between queens and workers inside a beehive. In a related pair of papers from 2001 and 2002, Dr. Robin Moritz and colleagues show that the distribution of workers in a colony can be affected by the location of the queen in some interesting ways.

In the first research paper Moritz et al (2001) set up six single-frame observation hives containing either *A. m. capensis*, *A. m. scutellata* or *capensis/scutellata* hybrids (two replicates of each type). While both of these honey bee subspecies occur in South Africa, *A. m. capensis* is known for the increased tendency of its workers to lay eggs that have the potential to develop into females. The researchers placed 100 newly emerged and marked workers from each racial group in each of the queenright observation hives. After a three-day period to allow the bees to acclimate, the locations of the marked individuals were recorded 6 times daily over an additional period of 5 days. The queens in each hive were then constrained to a small cage (made of excluder material) at a particular location on the comb and the periodic observations of the locations of the marked workers continued for 3 more days. This study was designed to test whether the location of the queen to a particular side of the comb had an effect on the subsequent movement of the workers and, if so, whether there were differences between the racial groups. While the numerical differences were not striking, the authors reported that statistical analyses revealed that, indeed, there were behavioral

differences. They found that *A. m. scutellata* individuals occurred in increased frequency on the side of the comb containing the queen (compared to their locations on the previous 5 days), while *A. m. capensis* workers were more likely to be found on the side of the comb away from the queen. The hybrid workers were somewhat intermediate. They found no evidence that introduced workers preferred a queen of the same racial type. The authors speculate that the apparent "avoidance" of the queen by workers of *A. m. capensis* may help them avoid suppression of their ovaries by the queen's pheromone. This could thus be a partial explanation for a behavioral mechanism allowing these workers to increase their own reproduction. The "attraction" of the queen to *A. m. scutellata* may be the more typical behavior well-known to occur in European honey bees during retinue formation and swarming, and useful in dosing workers with queen pheromone.

In a follow-up study based on a similar experimental setup, the authors characterized the mandibular gland secretions of workers that "avoided" the queen compared to those from workers that were "attracted" to the queen (Moritz et al 2002). The mandibular gland of the queen is the source of "queen mandibular secretions" (QMS), a complex substance that has many pheromonal properties, including the suppression of worker ovary development. The primary component of QMS is 9-ODA (9-oxo-(E) 2-decenoic acid) sometimes called "queen substance". In workers, the primary components of the mandibular secretions consist of different, but related compounds, one of which, 10-HDA, can be called "worker substance". However, in workers that are more "queenlike" such as laying workers, their mandibular glands produce a comparatively higher ratio of 9-ODA/10-HDA. Moritz and colleagues collected workers that were "attracted" to the queen and those that "avoided" the queen during queen confinement. They used gas chromatography to assay extracts made from the heads of these

workers for queen and worker substance. They found that, in all three racial groups, the workers that tended to stay on the side of the frame with the caged queen (queen preference) had lower queen substance/worker substance ratios, while those workers that avoided the queen had more queenlike or higher ratios of 9-ODA/10-HDA. The authors conclude that these results may explain the frequent observations of laying workers in queenright colonies, especially in cases where queen excluders put in place by beekeepers may allow workers to escape the effect of queen pheromone in honey supers.

These studies illustrate that the overlay of the individual behavior of honey bees with the complex chemical world inside a beehive makes for some interesting possibilities for research. Similar studies could be done with temperate subspecies and with colonies of different reproductive states. Moreover, the methods employed by Moritz and colleagues appear applicable to the study of worker attraction and avoidance to things other than queens. For example, many beekeepers currently place chemical-releasing miticide strips directly in the brood nest (also an area frequented by the queen). The possibility that these added chemicals affect worker attraction to the brood and associated queen could be investigated using methods presented in these papers. ☐

Moritz, R.F.A., R.M. Crewe and H.R. Hepburn. 2001. *Attraction and repellence of workers by the honey bee queen (Apis mellifera L.)* Ethology 107:465-477

Moritz, R.F.A., R.M. Crewe and H.R. Hepburn. 2002. *Queen avoidance and mandibular gland secretion of honey bee workers (Apis mellifera L.)* Insectes sociaux 49:86-91.

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Mark Winston



Queen Smuggling

“The initial border closure was tough for both Canadian beekeepers and their many good friends and business partners south of the border who produced package bees.”

I could tell right away from the headline that the media was not taking this seriously. “Bee World All Abuzz Over Smuggling,” the *Calgary Herald* newspaper in Calgary, Alberta trumpeted. The puns continued without mercy: “Honey producers have bees in their bonnets . . .,” “The industry buzz is recent shipments are just the tip of the honey comb . . .,” “To use his buzz words . . .,” and “ bees don’t recognize borders and just buzz off aimlessly.”

The bad puns and unimaginative writing disguised a serious issue, two separate incidents last May where Alberta beekeepers were caught smuggling queens from the United States into Canada. Two hundred and fifty queens were discovered stashed between honeycombs in a beekeeper’s truck crossing the border at Carway, Alberta, a double crime since importing comb into Canada also is illegal. In the second attempt, agents “swarmed” (the punny reporter’s word, not mine) in on a car carrying 16 queens in cages with attendants, 90 bees in all.

Rumors about bee smuggling have been pervasive since the 1987 border closure, when Canadian beekeepers successfully lobbied our government to halt bee importations due to the arrival of *Varroa* in the continental United States. At that time Canadian beekeepers were running close to 700,000 colonies of bees, about half of which

originated as packages in the United States each Spring and were gassed off each Fall. That package bee system had been hugely successful across the Canadian prairie provinces, because newly installed packages could grow so fast in the Spring and produce so much honey in the short Summer that killing the bees off every Fall was economically viable.

Beekeepers who have not visited the Canadian prairies during the Summer might have trouble visualizing how such a seemingly wasteful system could be successful. Up to that time, though, packages were cheap, transportation costs low, and honey prices high.

Those economic variables enhanced the startling productivity of prairie colonies, with average yields of 200 pounds a year, some years exceeding 300 pounds per colony. The economics have changed, but the honey production has not. Long hot Summer days when the bees are foraging for almost 20 hours a day on extensive acreages of canola, clover, and alfalfa crops still produce huge honey crops, with the highest per-colony averages in the world.

The initial border closure was tough for both Canadian beekeepers and their many good friends and business partners south of the border who produced package bees. Strong bonds had developed between U.S. and Canadian communities, cemented by a number of marriages between legendary beekeeping families from

both sides of the border.

Canadian beekeepers would drive down from the still-frigid prairies to California, Texas, and the southeastern United States to warm up from the long Canadian Winters by helping to shake packages before quickly turning back north to set up their colonies each April. The driving was long and arduous, but Spring package time was a chance to optimistically begin a new season with fresh colonies while spending time with old friends and family.

Beekeepers on both sides worked hard, made very good money, and were having fun besides. Thus, it was not surprising that the border closure was heavily debated in Canada, with emotions running high on all sides. The decision to close the border changed the fabric of Canadian beekeeping more than any other event in our history, and unfortunately occurred during a precipitous drop in global honey prices. Colony numbers dropped and some beekeepers went bankrupt, more because of abysmal honey prices than the border closure.

Beekeepers are among the most resilient of the human species, however, and by the early 1990’s Canadian beekeepers had adapted to overwintering their colonies outside or indoors in special facilities. Colony numbers increased along with honey prices, and today only a few of our beekeepers would choose to return to package bees for financial reasons. High costs to

Continued on Next Page

"This year's capture of two queen smugglers is widely agreed to be a small bust relative to the large number of queens entering Canada illegally."

produce and ship packages would make it difficult to economically justify a package bee-based system.

Nevertheless, a small but vocal minority of Canadian beekeepers primarily from northern Alberta and British Columbia, but also from parts of Manitoba, persist in lobbying to lighten up on the border closure and allow the importation of queens. Most Canadian beekeepers disagree, and continue to support border closure through their provincial organizations and the federal Canadian Honey Council. Small hive beetles and Africanized bees still are not present in Canada, and *Varroa* resistant to Apistan and American Foul Brood resistant to terramycin are rare, so that a border quarantine remains justified to prevent the spread of pests and diseases.

Importing queens from the continental U.S. is perceived by most Canadian beekeepers as being economically unnecessary, and the border closure as protecting our industry from pest problems. Beekeepers throughout most of Canada have adapted by rearing their own queens during the Summers, overwintering sufficient colonies to balance winter loss, and importing queens from New Zealand, Australia, and Hawaii for some spring requeening and colony splitting.

The northern beekeepers have resisted these sanitary arguments and management shifts, arguing that only queens from the continental U.S. can meet their unique far-north requirements. Queen stock from the United States would be cheaper than the offshore imports, are perceived as being better-adapted to Canadian conditions, and would reduce the need to overwinter surplus colonies, thereby reducing costs.

The border-opening lobby remains a small minority of Canadian beekeepers, but a

persistent and vocal one. Over the years they have tried end runs around the Canadian Honey Council by directly lobbying provincial and federal politicians, have proposed innumerable plans to allow queens to be imported only into northern Alberta and B.C. under labyrinthine quarantine procedures, and considered various forms of federal and international legal action to overturn the border closure.

If the rumor mills are to be believed, some beekeepers also have been illegally importing thousands of queens each year, although the official positions of provincial and federal associations do not condone smuggling. At least one British Columbia beekeeper was convicted and fined for queen smuggling in the 1990's, and this year's capture of two queen smugglers is widely agreed to be a small bust relative to the large number of queens entering Canada illegally.

If you think queen smuggling is a trivial issue, ask yourself this question: What is the most damaging problem that has faced beekeepers in North America in the last 50 years, and how did it get here? The answer to Part I on your quiz is, of course, *Varroa*. The answer to Part II? A beekeeper illegally imported queens into the United States, and the attendants were carrying *Varroa* mites.

The puns that reporters have used to poke fun at queen smuggling may be amusing to some, but they hide a much deeper issue about respect for the organizational infrastructure of Canadian beekeeping and the process by which we communally develop positions about issues affecting all beekeepers. Obstinate griping about the border closure from a few beekeepers has encouraged an atmosphere of civil disobedience where illegally importing queens is perceived as benign. This cavalier

attitude about smuggling has done considerable damage to the integrity of our national bee policies.

The border closure discussions also have been damaging by distracting the Canadian Honey Council (CHC) from other important business. The stubborn refusal of the "border openers" to let this issue go has sucked the Council into the vortex where this small company of diehard importers reside, thereby preventing the CHC from addressing more significant problems facing the beekeeping industry. At this year's January CHC meeting, for example, a threat by one province to withdraw from the Council unless the border was opened drained much of the meeting's energy, which could have been more profitably expended by dealing with more important topics.

Yes, perhaps it's appropriate to mock our queen smugglers with sarcastic news reports, but it's an important problem that deserves more than bad puns. Bootlegging bees threatens all of us by increasing the likelihood of new pest problems arriving in Canada, or at least speeding up their appearance. Consider, for instance, whether it is just coincidence that the Canadian province with the most problems with antibiotic-resistant American Foul Brood is Alberta.

Bee smuggling also has diminished the capacity of our provincial and national organizations to function effectively. Sarcastic media reports were the inevitable outcome of bee rustling, and these belittling representations of our industry do have impact. How seriously, for example, will our Minister of Agriculture consider requests and resolutions from beekeepers after reading pun-heavy articles suggesting that our federal government should "mind its own beeswax?"

In the last few months we've had antibiotic-tainted honey and queen smuggling tarnishing our industry's public reputation. How much more bad news will it take before we smell the burning honey and clean up our own act? **BC**

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News From EAS 2002 at Cornell

Here's the very latest from the Best & the Brightest

Malcolm T. Sanford

Dr. Roger Morse, who some consider Dean Emeritus of U.S. beekeeping, and long-time supporter of the Eastern Apicultural Society (EAS) would have been proud. Sitting at the same banquet table were seven of his students, along with his life-long partner Mary Lou. One, Dr. Michael Burgett of Oregon State University, was about to formally receive the third Roger A. Morse Award for outstanding achievements in the field of apicultural extension, teaching and regulatory activities given by the Eastern Apicultural Society (EAS) at his alma mater, Cornell University, where Dr. Morse was professor of entomology and apiculture for over three decades. Beyond the considerable contributions of the man the students called "Doc," it would be difficult to overestimate what Cornell University has meant to modern beekeeping. Not only is it home to the Dyce® creamed honey process and laboratory where many workshops are scheduled, but it also boasts one of the largest collections of apicultural literature in the world, currently housed at the Mann library on campus. It is more than fitting, therefore, that this institution in the Finger Lakes region of New York served as host for EAS 2002.

The Eastern Apicultural Society of North America, Inc. (EAS) is an international non-profit educational organization founded in 1955 for the promotion of bee culture, education of beekeepers, and excellence in bee research. EAS is the largest non-commercial beekeeping organization in the United States, perhaps in the world.¹ It meets once a year at rotating venues, in the eastern half of the U.S. or Canada.

A key element of EAS is that it caters to those with a deep interest in apiculture, most of whom are not commercial beekeepers. Thus, it carries on the tradition of the legion of dedicated amateurs, such as L.L. Langstroth, who are responsible for advancing the craft in so many ways over the last 300 years. This year, for example, the Chairman of the Board, Kim Flottum, chose to honor a philosopher, Dr. Richard Taylor, who lives just up the road from Cornell in upstate New York. Dr. Taylor is so well known he needs no introduction other than to say he has dedicated much of his writing life to promoting his own particular brand of the joy of beekeeping. An invitation to EAS at Cornell by Dr. Taylor himself and a description of his famous honey house appear in the May 2002 *Bee Culture*.

It is apparent from the tenor of beekeeping

meetings over the last few years that much of the joy of the craft expressed so eloquently by Dr. Taylor has been lost to many beekeepers who must daily actively protect their bees from a variety of organisms, including tracheal mites, small hive beetles, brood diseases, viruses, and most damaging of all, the Asian brood mite, *Varroa destructor*. This year, however, the dedicated amateurs of EAS are leading the way toward a paradigm shift, by informing themselves about the prospect of using the honey bee's innate defenses to help it survive through genetic selection, rather than chemical intervention. In the process, it is palpably clear that they are seeking to recover some of the unabashed enthusiasm that they once had for taking up one of humankind's oldest activities.

One sign of this was the Society's selection of Dr. Orley R. "Chip" Taylor of the University of Kansas for the James. I. Hambleton Award. Dr. Taylor's talk was appropriately entitled, "What We Know and Don't Know About the Honey Bee Mating System." Much is known about queens, according to Dr. Taylor. They take one to two mating flights, generally lasting about 15 minutes, and in the process, mate with six to 17 drones within one to one and half kilometers from their hive. There is good information about drones, which Dr. Taylor discussed in some detail. For several years in collaboration with others, he used radar and drones traps in an attempt to discover how these "flying gametes" behave in order to find queens. Their activities center around what are called drone congregation areas or DCAs.

According to Dr. Taylor, drones show strong directional fidelity to DCAs and visit many during their daily flights. Older drones fly longer distances from DCAs, which helps contribute to maximum genetic diversity. DCAs are often found associated with structural landscape features; they do not form in featureless terrain. In the final analysis, drone availability is a function of distance and number, Dr. Taylor said. But although DCAs are important entities in their own right, ironically and surprisingly, few if any actual matings take place in them.

Dr. Taylor concluded with the provocative statement that the *Varroa* mite had done a favor to bee breeders by removing feral honey bees from the natural environment. Thus, it is now easier to control the genetics of a honey bee colony than it was in the past.

The downside, however, is that there is much less genetic diversity to work with than previously. Whether in the long run this severe narrowing of the honey bee's genetic diversity will be good for bee breeders, in spite of the increased control they are offered in the mating process, remains unknown.

Dr. Medhat Nasr of Rutgers University also addressed the mating situation. In a theme that was to be repeated several times, he said that drones were a vital part of any breeding program and an effort should be made to propagate them. The loss of feral colonies resulting in a reduction in the number of drones available for queens to mate with is leading to early supersedure due to poor mating. Contemporary queens examined by Dr. Nasr have only an average of three million sperm, much less than the normal complement of around five million; seven to nine million being optimum. The reason so many sperm are needed is that as each egg descends into the queen's oviducts, several are released, and since only one actually accomplishes the fertilization, the rest are discarded and lost in the process. Another important issue is that nutrition plays an important role in drone rearing because sperm number is determined in the larval stage.

Besides inadequate sperm, Dr. Nasr says early supersedure is the result of stress caused by beekeeper management and chemical treatments, especially the increased use of coumaphos (CheckMite+®). Unfortunately, coumaphos is an organophosphate, which attacks the nervous system. This seems to be a problem because coumaphos molecules build up in wax and the ventral nervous system of the queen is continually in contact with more and more of this material as she crawls over the comb. This result, according to Dr. Nasr is that many queens appear to be "walking on fire."

Breeding for control of *Varroa destructor* (the new name for *Varroa jacobsoni*) was the title of a well-attended and keynote symposium at EAS. Dr. Marla Spivak of the University of Minnesota discussed two directions this kind of breeding might take: 1) limiting survival of *Varroa* mites on adults and/or 2) limiting mite survival in bee brood. Unfortunately, she said there is no good way to measure survival on adult bees based either on the number of mites that fall to the bottom board and whether or not they are damaged. Thus, the second option is much more promising.

Survival on brood is dependent on several variables, but most important are reducing the post-capping time to emergence or limiting mite reproduction in affected cells. The former is not promising, according to Dr. Spivak, since only about 1.4 mites are produced by each female on the average; most models involve the mother mite producing three or four.

Two ways to limit mite survival in brood is to stop reproduction and/or develop hygienic bees that uncap and remove affected brood. The latter trait is useful, Dr. Spivak says. Hygienic bees, however, only detect and remove about sixty percent of affected individuals, and the mother mite may escape during the removal process. In addition, the trait's effectiveness declines with infestation level, and heavily mite-infested

colonies of hygienic bees can and do collapse. Thus, Dr. Spivak concluded, a suite of treatments will be necessary, which will include hygienic behavior, although the trait cannot be relied on alone as an effective treatment.

Dr. John Harbo of the USDA Baton Rouge Bee Laboratory described his breeding efforts, which have resulted in stock that shows suppressed mite reproduction (SMR). This trait has been discussed in other articles in this magazine and I reviewed it in the December 2001 *Bee Culture*.² It has most of the things a breeder is looking for, including being measurable, heritable and additive. It is only a trait, however, according to Dr. Harbo, and not a population of bees. Thus, it must continually be conserved in populations. The mechanism for this trait is not known, but Dr. Harbo conjectures that it could be related to insufficient matings by males and females in the cell.

Tom Glenn of Glenn Apiaries in Fallbrook, California discussed the transition of his breeding efforts from open mating to instrumental insemination.³ He concurred with Dr. Nasr that the use of coumaphos is one reason for increased, early supersedure of queens. The time has come, according to Mr. Glenn, for beekeepers to "get off the pesticide treadmill." Commercial beekeepers must accept a certain amount of contamination as they are caught in a price vs cost trap Mr. Glenn said, so the future lies in the committed, amateur beekeeper, who will no longer tolerate chemical treatment, and who must lead the way in the brave new world of "stewardship" of honey bees through genetic selection for tolerance to pests and diseases.

Beekeepers can facilitate selection in a number of ways, according to Mr. Glenn, who quoted the well-known saying, "A small group of committed citizens can change the world." They can help accomplish this by influencing the genetics of a bee population one hive at a time, as every colony is a possible participant. In addition, he urged those present to take up queen rearing themselves, for he said there is no better time than now to engage in an activity that is considered one of the most intricate and interesting the beekeeping craft has to offer. Another plus at EAS is that the meeting also offered hands-on experience in queen rearing and so participants got both theory and practice. At the very least, Mr. Glenn urged beekeepers to continually ask and demand that queen producers provide a product in tune with their desires and philosophy.

In a separate presentation Mr. Glenn described the genetic solution to most problems as being a continuous process. He said that three levels of genetic contribution exist, as do cards in a deck: 1) individual bee (ace of spades), 2) colony (a dealt hand) and 3) the total population (full deck). The goal is to stack the deck with extra aces (desirable genes), which can then be expressed (shown) at the individual level (in the hand). The aces are those traits currently being discovered by scientists, including hygienic behavior (Dr. Spivak), SMR (Dr. Harbo), tracheal mite resistance (Dr. Bob Danka), and being introduced into the North American bee population through Russian bees (Dr.

Continued on Next Page

Rinderer). The bottom line, Mr. Glenn said, is that most of these (aces) traits exist in the bees currently managed in the United States, but unfortunately they are being suppressed by chemical treatment and thus not allowed to show (express) themselves.

Sue Cobey of The Ohio State University concluded the symposium with a call to arms for what she calls "responsible beekeeping." Step by step beekeepers are emerging from the "hype" and "hyperbole" of crisis management, which has resulted in maintaining susceptible bees (chemical treatment) to a more mature situation, where they can let the honey bee rely more on its own devices she said. This parallels the biological relationship that is also building between honey bees and *Varroa* mites, one that is characterized by constant change not only in mite/bee populations, but in both the beekeeper's/scientist's knowledge of this relationship. An example is the current work showing that as many different flavors or "haplotypes" of *Varroa* exist, as apparently there are species/races of bees. All this is leading, Ms. Cobey said, to a much more "professional" approach that will benefit honey bee and beekeeper alike.

Sprinkled throughout the EAS meeting were other topics of current interest. The tracheal mite is still on the minds of many beekeepers as it should be, according to Dr. Nasr, who sees this organism as a major culprit leading to winter loss. Dr. Diana Sammataro of the Tucson Bee Laboratory discussed the mite's biology. It is found in all three castes, the "k-wing" symptom is not as reliable as that of crawling bees in early spring issuing from colonies with lots of honey, and at least 25 (preferably 50) individuals must be dissected to determine infestation level. Menthol and formic acid both control the mites by fumigation, which is highly temperature dependent.

Grease (oil) patties are also being used to treat tracheal mites. According to Dr. Sammataro, these change the "flavor" of susceptible, young bees, causing the mites to move ever onward in a futile attempt to find a suitable host. Control strategies include treatments mentioned above; especially important is eliminating older bees (especially drones) in the fall as they are most infested (move colonies to rid them of old foragers and drones), and encouraging a round of brood production to get young, emerged winter bees prior to first frost.

Dr. Gard Otis of Canada's University of Guelph, Ontario discussed what he called the winter bee - protein connection. Winter bees are designed to be "on hold" throughout the cold season and, therefore, nutrient storage is needed so they can commence brood rearing activities as the active season approaches. Dr. Otis analyses of the large storage proteins (vitellogenin and lipophorin) in bees show significant trends in colonies correlating with presence of winter bees, suggesting the importance of getting these proteins into the colony early on. There is much to be learned here, he concluded, including best ways to measure protein content and the cost effectiveness of feeding bees pollen substitute.

Those treating *Varroa* mites with hard chemicals are having a difficult time, according to Dr. Patti Elzen of the Weslaco Bee Laboratory. Resistance to both fluvalinate (Apistan®) and now coumaphos (CheckMite+®) means that beekeepers must begin to emulate those in other realms of agriculture who practice resistance management. Unfortunately, the only way to favor mite susceptibility is to stop using a chemical class after resistance is established. This means that when there is resistance to a pyrethroid such as fluvalinate, all others of the same class (e.g. flumethrin) will no longer function. The best way to minimize resistance development is to reduce pesticide selection pressure on mites by using materials only when necessary, and removing them from the hive as soon as possible, according to instructions on the label.

A specific strategy for resistance management in *Varroa* mites according to Dr. Elzen is to: 1) sample the yard and only treat when a threshold population is reached, 2) apply the resistance test developed by Dr. Jeff Pettis at the Beltsville, MD Bee Laboratory to ensure materials are effective⁴, and 3) rotate materials by using coumaphos (CheckMite+®) for **two years** followed by a **one-time** use of fluvalinate (Apistan®), and 4) leave the treatments on only as long as the label says.

Those wishing to use a more biotechnical rather than chemical approach to *Varroa* control were accommodated by presentations by Drs. Burgett and Zachary Huang⁵ (Michigan State University) on drone trapping and Dr. Tom Webster (University of Kentucky) on the use of screened bottom boards. He concluded that more mites appear to fall during hot weather, making these more effective at high temperatures, and that their use should help slow development of *Varroa* resistance to chemicals. He also provided ideas on how mites could be more easily counted (smaller and/or especially marked sticky boards).


Mr. Tony Jadcak, bee inspector in the state of Maine, discussed the current pest/disease situation with respect to commercial pollinators. Maine is unique being the "end of the line" for these outfits, as more converge on the blueberry fields each year in search of pollination contracts. The state is a veritable "mixing pot" of bees as many are offloaded at one particular location, euphemistically named the "airstrip," an abandoned runway. This large pool of bees provides Mr. Jadcak a unique insight into the current disease and pest status of beekeeping operations. Last year an estimated 50,000 colonies from about ten states were sampled and 12.7 percent of those examined had American foulbrood. They were burned. Florida and Georgia had the most infested colonies; outfits from these states also generally had detectible levels of small hive beetle. In addition, Mr. Jadcak encountered coumaphos resistance in a large operation in time to prevent an already serious loss of bees from becoming truly catastrophic. In the course of over twenty years of bee inspection in Maine, Mr. Jadcak's job has changed from that of protecting the beekeeping industry to ensuring adequate pollination is available to growers of an ever-expanding blueberry crop.

Every year the EAS conference is attracting more quality presentations from the best and brightest researchers and innovators in beekeeping. At Cornell, it also hosted a contingent of international speakers from Canada, Mexico and Brazil. Dr. Ernesto Guzman provided a perspective on the impact of the African honey bee in Mexico; it is responsible in great part for a 50 percent decline in honey production, and Dr. David DeJong, former Cornell student now at the University of São Paulo, Brazil, provided the same for his country, where the bee is now considered an asset instead of a liability. This year's event also featured presentations on other bees that are being studied for their pollination ability, including bumble bees (Dr. Marion Ellis, University of Nebraska) and squash bees, *Peponapis sp.* (Ms. Roberta Glatz, a New York beekeeper). Dr. Ellis' project, called "Bumble Boosters," employs a teaching-by-doing philosophy in conjunction with information sharing (networking). Students from forty high schools across Nebraska are involved.⁶

Finally, the meeting was highlighted by Cornell's own Dr. Tom Seeley, who spoke on the dance language of honey bees and how they relate to honey bee society, which he characterized as a "honey factory." The famous dances of the bees are used to both increase the number of foragers (waggle dance) and turn up the honey-processing rate (tremble dance).⁷

If the above presentations weren't enough, the week-long meeting at Cornell was also jam-packed with hands-on workshops, the ever-popular short course and Master beekeeper examination, and honey and bee

product competitions. Finally, the vendor display rivaled that of any other North American bee meeting, with over 25 vendors represented from Georgia to Canada.

The organizers of next year's meeting hope to see everyone in August 2003 in the great State of Maine. 

1. www.easternapiculture.org
2. bee.airroot.com/beeeculture/digital/2001/column38.htm
3. members.aol.com/queenb95/
4. entomology.unl.edu/beekeeping/tidings/btid1999/btdjan99.htm#Article3
5. www.mitezapper.com/manuscript/zapperpaper.htm
6. bumbleboosters.unl.edu/
7. www.nbb.cornell.edu/neurobio/seeley/seeley.html

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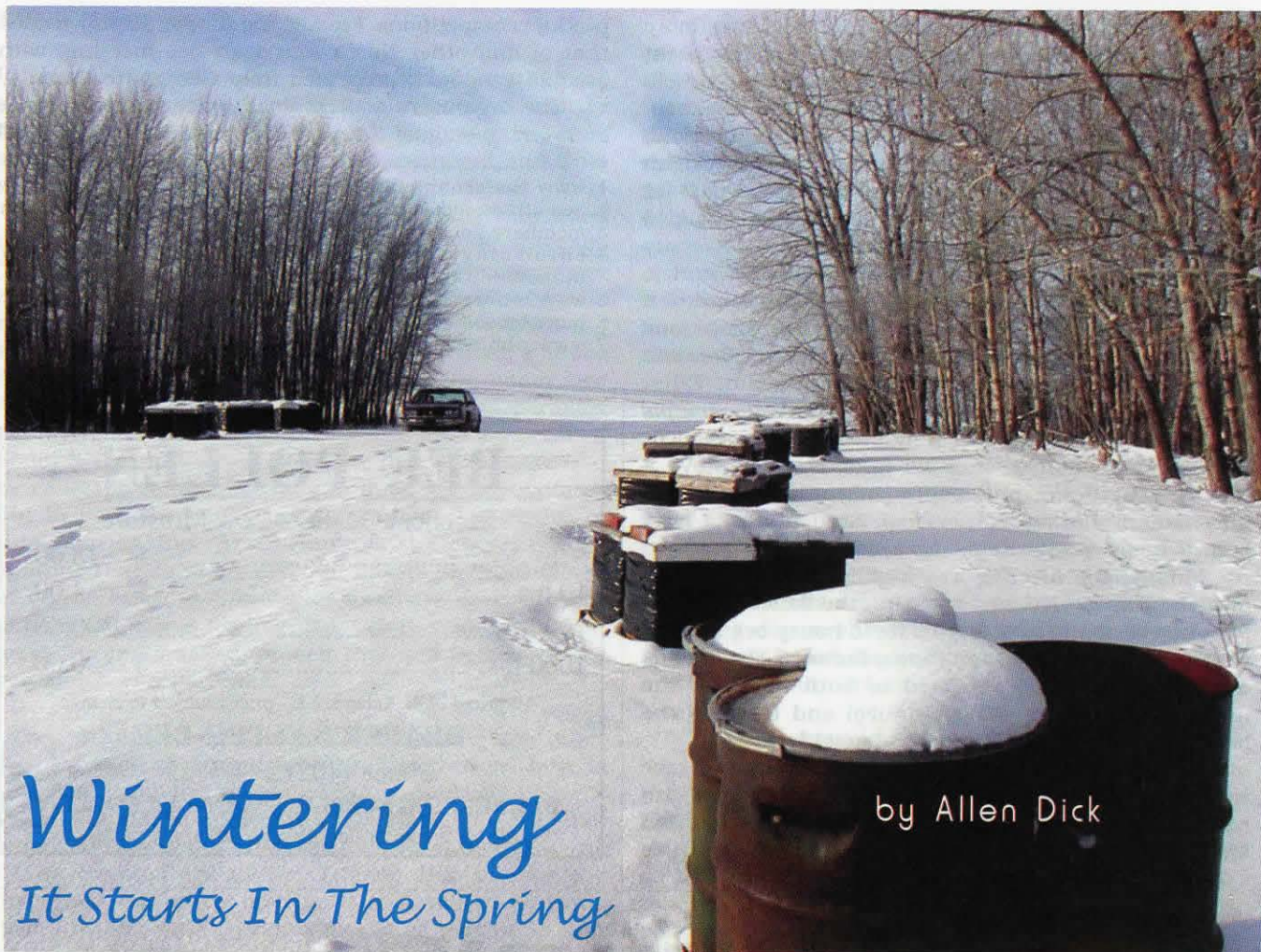
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Wintering

It Starts In The Spring

by Allen Dick

“Successful wintering begins in the Spring” That’s an old saw that gave me a lot of trouble when I first started with bees. I simply didn’t want to believe it. It ran contrary to my plan to operate *my* bees *my* way. I wasn’t ready to try things *their* way. However, over the years I have learned, often the hard way, that the old saying is very wise. Unless all management, from Spring on, is carried out with keeping the bees in top shape as a top priority, subsequent wintering will be poor. Moreover, any colonies surviving to the following Spring will likely be in poor shape, and require extra work and expense.

Enough stresses come to bear on a hive of bees over a beekeeping season without the beekeeper making things harder by splitting too heavily, forgetting to feed, medicate or treat for mites when necessary, neglecting to super, situating the bees in poor locations – perhaps for pollination, practising bizarre manipulations on the hive, or robbing too much honey without making it up promptly with feeding. As we have observed before, feral bees often Winter more successfully than managed bees. If that is the case – and it is the case – then it should be obvious to us that our management is principally to blame for many of our losses.

Even the best beekeepers have an occasional bad Winter, but usually, when the causes are considered objectively, the blame falls on something that happened



Good wintering starts in the Spring, with careful examination.

- or did not happen - during the previous Spring, Summer or Fall. A hard Winter can exacerbate existing problems, but good bees can stand a lot of cold, if only a few precautions are taken to ensure that they have a good environment. **The main factor in wintering is the quality of the bees in the Fall.**

Fortunately good bee management is not very tough or very complicated. In fact, it is often the very things we decide not to do that make a positive difference in the condition of our bees. Good management is very simple if we remember that bees are normally able to take care of themselves very nicely and just need a little help if we want them to make some extra honey for us. All we have to do is be considerate of the bee's needs, avoid getting greedy by splitting too heavily, robbing too much honey, or taking too many pollination jobs, and to watch out for problems like predators and disease.

Rather than trying to force bees to do things, as some (mostly older) bee books suggest, we need to think more in terms of how we can work *with* the bees towards a mutually beneficial goal. To do that, sometimes we need to think like a bee, or try at least.

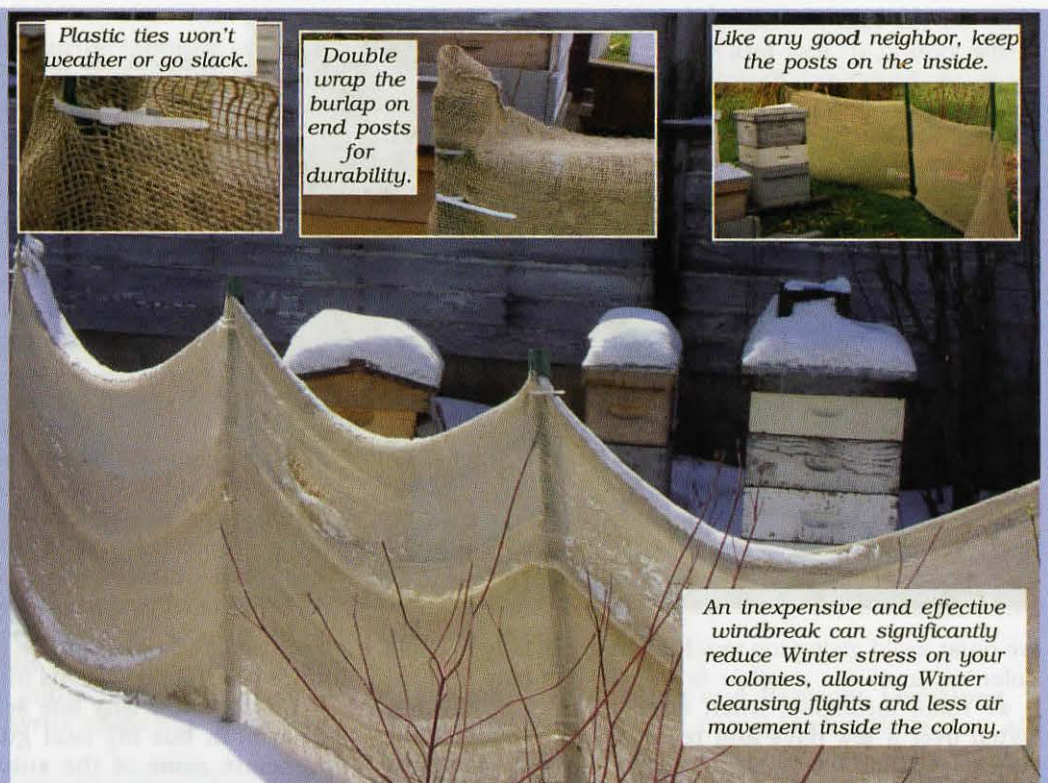
Space Management

Probably the principal thing we do for bees - other than disease and predator management - which the bees could not do for themselves, is to manage the space they have available by adding and removing

boxes. This practice ensures that the volume they have to work with matches the colony and the season. In particular, we must give every hive adequate room at all times so that the bees do not get honeybound and quit working and/or swarm and so that hive populations can grow large and healthy for Winter.

Unrestricted brood rearing is the key to having large populations of robust young bees in the Fall so

the colony will be large enough to thermoregulate well in Winter, and to stay ahead of disease and natural attrition. As a rule, in Spring the space should be restricted a bit compared to later in the year. Additional space beyond what the cluster fills on a warm day should be provided only as the population grows, and as average daily outdoor temperatures increase. Although



Windbreak

You can easily and unexpensively fashion a windbreak for a few colonies of bees for the Winter that's portable, reusable and repairable. Here's how.

First, determine how long your windbreak will need to be. Keep it at least 10 to 15 feet from the colonies to allow room to walk, and to keep drifting to a minimum if you have heavy snow. A somewhat curved line tends to deflect strong wind a bit better than a rigid straight line, and a curve usually is a bit more esthetic than a line. Plan on the line extending about four feet past your apiary boundary.

Once the length has been determined, from a local nursery or garden center obtain a roll, or rolls of landscape burlap. Plant people use this to protect trees in Winter from salt spray, to hold grass seed in place and to provide sun and windbreaks to new plantings. Common rolls are 25 feet to 100 feet long, by four feet tall. It is inexpensive and fairly durable.

For support you can use most any type fence post, but consider the effect if you are using raggedy old cedar posts, or newer t-posts. Once Summer vegetation is gone your beeyard becomes much more conspicuous and, good neighbor beekeeping lends itself to not being ugly.

If using t-posts, fasten the burlap with twine or better, those plastic things that bind wires together . . . and that some police use for handcuffs.

If using wooden posts consider fastening with a small (3" - 6") board to hold the burlap securely and not let it tear.

Remove the windbreak when skunk cabbage blooms, or in early March.

Continued on Next Page



Moving colonies in the Fall to a better 'Winter' location may be required. Moving them to better forage areas in the Spring may also be required.

we must avoid giving too much room, especially to small colonies, until the weather is settled – usually in June – we must anticipate when large areas of brood may hatch over a few days and result in a doubling of the hive population virtually overnight, and add space just before it is needed. In Summer lots of extra space is required to ensure room to ripen and store nectar, which can come in at rates as high as 30 pounds a day in a heavy flow. By Fall, extra boxes should be removed and only as much space as the bees actually occupy on an average day should be provided.

Splitting

In Spring, when splitting and equalizing hives, we should make sure that the splits we make are large enough and well provisioned enough that they can withstand *any* unexpected weather, like June frosts or rainy spells, and continue to develop without setbacks. The hive volume should be small enough that the bees are not subject to drafts, but spacious enough that there is room for expansion. We should choose good queens from proven wintering stock. In the early stages, feeding may be necessary and robbing by neighboring colonies avoided. If we do these things, and follow good practice in disease and predator control, we should have few problems and the splits should build up and be in prime condition for Winter. They may even make some honey before then.

Unnatural Methods

If we decide to reverse, Demaree or shook swarm, be sure that you know what you are doing. These are unnatural operations and can be risky, even in the hands of an expert, if weather does not co-operate or an expected flow does not materialize.

Frame Manipulation

One manipulation that can do more damage to wintering success than just about any other practice is moving and interchanging frames throughout the brood chamber in late Summer or Fall. Many beekeepers do this in early Fall, in the expectation of 'helping' their bees. They take pollen frames and put them where they

think such frames should be for Winter, and move other frames around, for various theoretical purposes, as well.

I don't know why late season comb interchange is so harmful, but my best guess is that we just don't appreciate some of the subtle things about the way that bees prepare and fill their combs. These subtle things become very important in Winter when the bees are unable to work wax, or do much more than cluster for warmth. Imagine what a city would experience if everyone woke up and discovered that a downtown city block, complete with office towers, had been exchanged overnight for a block from the suburbs, perhaps one with a school. No matter how neatly it was done, the city would suffer serious disruption and not function well for some time afterwards.

Oddly enough, moving combs around judiciously at splitting time in Spring does not seem to hinder the bees, and often seems to stimulate them.

Good wintering means healthy, productive queens will produce lots of brood, workers and eggs, at the right time of year. Grease patties for tracheal mite control should definitely be on in early Spring, and back on again in the Fall. And Fall requeening should be seriously considered if there's a problem.



Comb Honey Production

Comb honey production during Summer can boost income and give us a lovely product to market, but comb production can also have a negative impact on wintering, due to the pressure that the crowding necessary for comb building and completion places on the brood nest. Hives that have been used for comb production may need extra feeding, additional space provided as soon as possible after the end of comb production, and/or to be treated as a weak colony for wintering purposes. Although such colonies may appear to have a good population, the bees may be old and not suited to wintering.

Questionable Honey Sources

Most honey is good for bees, but some plants give honey that is toxic to bees, or simply unsuitable for wintering. Usually dark honeies should be regarded with suspicion due to potential high solid content, and honeies that granulate rock hard should be avoided if a cold Winter is expected; bees have problems liquefying hard honey and often starve in the midst of plenty. It is wise to extract as much as practicable of these honeies as early as possible, and immediately feed either a good wintering honey or syrup made from pure white sugar.

Robbing Too Close

It is not unreasonable to take a honey or pollen crop from bees that we manage, but we must always remember that we can safely take only what is *surplus* to the bees' requirements, and that a first portion must be left to the bees. In some years, and in some hives,

there may be no surplus at all and we may need to feed the bees to keep them alive and well. It is only when we do a good job and through luck and/or good management create a surplus that we can safely take some honey or pollen for ourselves. The better we manage the bees, the more we may expect to get.

Even when we have a good honey crop, we must be careful when removing the honey. When the supers are removed from hives, leaving only several boxes of brood, it is entirely possible to unthinkingly take away almost all the hive's feed, since there may be very little honey in the brood boxes. If the flow is over or if bad weather comes along right afterwards, it is very possible for the hive to starve. Often such starvation will be only partial, resulting in brood being torn out and adult bees losing irreplaceable protein and fat from their body stores. A beekeeper causing this loss will often not recognize it, since the bees are still there and the hive is alive when he gets around to looking at it again. However the bees are damaged and a hive that has been through this stress will likely die or dwindle the following Winter.

Supplementary Feeding and Summer Locations

Making sure that the bees have ample feed at all times and never starve – anytime during the year – is probably the most basic way to ensure that bees will thrive and be ready to Winter. Even one day without adequate pollen, honey or water can result in serious, long-lasting damage to a hive. That damage may not be obvious to an inexperienced beekeeper, but brood will be lost and/or adult bees may sacrifice irreplaceable body protein and fat.



Next
Month



Barrie and Julie Termeer own and operate Honeybear Apiaries in an area in central Alberta, just south of Edmonton in western Canada. They've developed their business into a first class commercial operation over the years and much of their success is due to consistently good wintering.

Most of Termeer's bees are wintered outdoors on their Summer locations. They use unique and inexpensive individual hive Winter wrap that allows the sun to warm the south side of the hive, but protects the top, back and sides from the cold. Hive lids can be removed easily at any time of year to check the bees, and to feed, to add pollen patties, or to medicate. They usually have over 90% wintering survival, and most hives are strong in the Spring.

Termeers also Winter some of their bees inside a temperature controlled building. Usually these hives are splits or nucs which are still in singles, and which benefit from the controlled environment. We'll be going into more depth in an interview with Barrie next month, and discuss their Spring and Summer management, as well as more details on their wintering systems.

Fortunately, if we have chosen good locations, the bees will usually take care of themselves and all we have to do is be aware that if there is a dearth of bloom or we have recently taken honey away, that the bees may need supplementary feed. Simply hefting the hive will show how well they are provisioned. If in doubt, feed. If the bees don't take the feed, then they likely do not need it. When checking brood, a good beekeeper looks for pollen and nectar around the brood area and at least an extra frame of feed nearby. If either nectar or pollen is not found in ample quantities, remedial action is warranted. Feeding sugar or pollen supplement should be initiated or the hive moved to a location where the bees can find more and better food for themselves.

Poor nutrition can also be the result of poisoning, disease or over-splitting and can add to the adverse effects of these problems. These conditions must be anticipated and avoided, but if they occur, the hive must be nursed through, no matter what the time of year and if they show shortage of feed near the brood, fed - even if there are flowering crops nearby.

Old timers say, and say rightly, that there is no medicine for bees like a good honey flow. If bees are in a good spot and all the hazards of Spring and Summer have been avoided, the hives should be in prime shape for Winter.

Fall Feeding

At the end of the honey season, good beekeepers check their hives for weight and feed immediately if necessary. Either frames of honey or liquid sugar can make up for lack of stores. If most significant flows are over, and hives are light, it is wise to feed them as early as possible, since well-fed hives are much less likely to wear themselves out looking around for food and will settle down and Winter better. Whether and when to plug them is a question that is best answered locally, but hungry hives will go downhill fast, so feed them up to at least a moderate weight as early as possible. Follow that with a final feeding a few weeks before Winter weather is expected, if necessary.

Winter Preparation

If all hives have been well tended over the Spring and Summer, and are strong, healthy, and well fed, then actual Winter preparations are minimal and survival should be good if any method suitable for the region is followed carefully. Winter preparation at this point is the easy part. Feeding and wrapping or moving inside or to Winter yards is all that needs doing. However, any hives that are weak will require either combining or special treatment.

Combining hives that are a bit small, but otherwise good, is a sure way to have uniform hives throughout the operation and get high Winter survival. A 50% loss is taken on those combined hives right at the start, but the resulting strong hive should give splits the following Spring, and we might well have two dead, or very poor, hives if we don't combine them. Combining, compared to special treatment, has the advantage that we are left with only one type of hive to manage - strong, healthy hives - and that we have little to do in Fall except feed and wait for the onset of Winter to wrap or move them inside.

Combining is accomplished simply by stacking the occupied brood chambers of one hive onto the occupied brood chambers of the other. If there is no honey flow happening, feed both hives to reduce aggression. Unoccupied brood chambers can go into storage. Where fighting is anticipated, a sheet of newspaper placed between the hives, with slits cut in it, is often recommended, however we never do that. We combine on nice days when the bees are happy and intermingle without fuss.

Wrapping, if practiced, and final feeding should be completed well before the first day of Winter. Wrapping in October or early November is ideal in most northern regions, but we often have left the last of the wrapping until the first week of December with no apparent ill effects. It becomes difficult to get hives to take feed after the middle of October, and they may not be able to dry it out and store it properly later, so we try to finish feeding by then. For indoor wintering, hives are normally moved inside after the warm fall weather is over, and just before the weather gets cold. **EC**

Allen Dick is a part time commercial beekeeper from Swalwell, Alberta, Canada. He is a frequent contributor to these pages.

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E. COLI KILLS COLONIES

Andrew Sperlich

Recent events in Walkerton Ontario showed how fecal coliform bacteria from cows can seep into drinking water and pollute the system, leading to illness and sometimes death. I learned the hard way that polluted water can also make bees sick.

My mishap started from using well water that was contaminated with bacteria *Escherichia coli* and coliform bacteria. Apparently surface water had run into it causing the contamination. I knew we were having a problem with the water but never did I think that the bees would be affected.

The Spring weather was rainy and the hives were

light so I used the well water to mix a syrup for feeding the bees. In total I mixed over 2,000 litres of the syrup for my Spring feeding with water that had a count over 80 parts per hundred of *E. coli* and coliform bacteria.

Bacteria such as *E. coli* can change the pH of the water turning the solution into an acid solution and in my case, the pH range was 5- 5.5. The *E. coli* can ferment glucose producing various acids and continue to lower the pH which in turn causes further inversion. Ethyl alcohol is a by-product of this type of fermentation process. When fed to bees it induces dysentery and death. I lost 400 hives during 25 days in Spring. When the boxes were opened, the bees showed all the symptoms of being poisoned and there was a strong smell of rotting bees and alcohol. The deaths corresponded with the times that I returned to the bee yard to feed the bees.

With all this being said it will still be a long shot to prove in court the *E. coli* is connected to the bee death and the income loss. I can highly recommend that beekeepers have their water tested before mixing feed. All animals need clean water, bees included.

B A C K G R O U N D

How does *E. coli* get in the water?

E. coli comes from human, domestic and wildlife faeces. During precipitation, *E. coli* may be washed into creeks, rivers, streams, lakes, or groundwater. When these are used as sources of drinking water – and the water is not treated or inadequately treated – *E. coli* may end up in drinking water.

Farm Management and *E. coli*

Anyone who mismanages manure can contaminate a water source. Proper manure storage, handling and application methods minimize the risk to water supplies, while maximizing the benefits of applying manure to our crops. Of course, larger farms do produce larger volumes of manure. Nutrient Management Plans are most important to ensure that the manure produced, is used in an environmentally sensitive manner. This includes responding appropriately to any mishaps or weather related issues while applying manure.

How to protect yourself from contaminated water?

Avoid unpasteurized drinks. Drink water treated with chlorine or other effective disinfectants.

Direct surface drainage away from well casing. Surface water should not collect near the well. Check well pumps and distributions systems regularly. Investigate any changes in water quality.

Test your own water source periodically. Twice a year is recommended: in early spring just after the thaw, and late summer when water levels are low.

For testing kits or information, contact your regional health authority.

Honey Bees and *E. coli*

Researchers Yang Xiaolong, Diana Cox-Foster, and Scott Camazine, at Pennsylvania State University, injected bees with *E. coli* to investigate the survivorship of immune challenged bees. Three types of bees: normal bees without *Varroa* mites, bees with *Varroa*

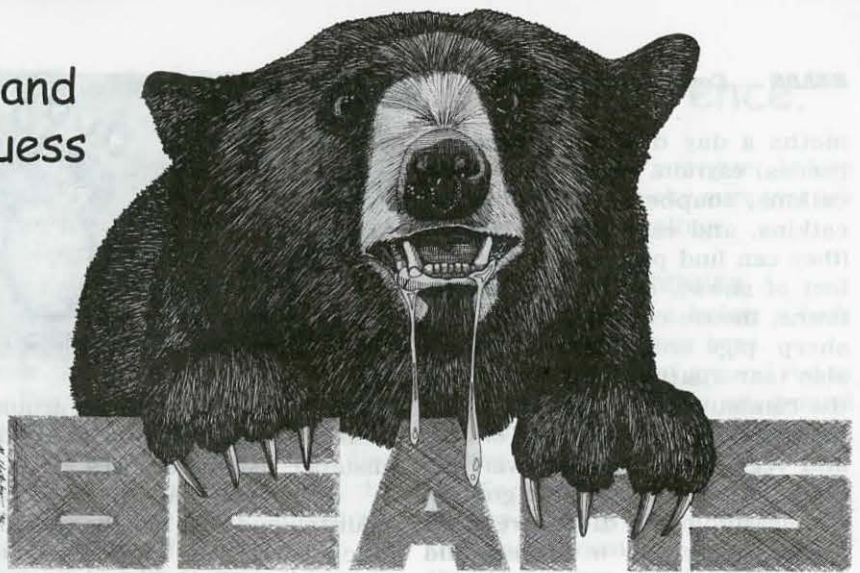
mites and normal wings, and bees with mites and deformed wings were compared. After challenge with *E. coli*, bees infested with mites but with normal wings lived a significantly shorter time than normal bees. The bees with deformed wings lived the shortest. This indicates that *Varroa* mites suppress the immune response of honey bees. The normal bees survived the longest. Bees with mites and normal wings survived significantly shorter than the normal bees. Bees with both mites and deformed wings die rapidly even without bacterial challenge. **EC**

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Hivelights 15(3) 14-17

There are more bear, and there's less habitat. Guess what's next.

MORE

BLACK



Kim Flottum

In late August a black bear in the Catskill resort area of upstate New York fatally mauled an infant in broad daylight. Fatal black bear/human interactions are rare – fewer than 40 deaths were reported in the 20th century. You are 180 times more likely to be killed by a wasp, and nearly 400 times more likely to be killed by lightning than to be killed by a black bear.

This is no consolation to the family of the child that died, certainly. But non-fatal black bear/human interactions are increasing yearly. This is due to several factors; primarily loss of habitat as development expands into bear country, or more commonly, when development areas bisect what was a black bear's territory.

However, as hunting pressures decline black bear populations are actually increasing in the U.S. Estimates put the population in North America at about 750,000, with around 30,000 being dispatched each year through hunting and destruction when they become problems.

As wild habitat is reduced and bear populations increase, the

likelihood of bears and beekeepers coming into contact is increasing – in some places rapidly.

If you already live in bear country and have had problems with your hives, you know the value of a good electric fence. But knowing a little bear behavior may reduce further some of your problems. And if bears are just entering your area,

pounds, ranging from 125 – 600. The largest recorded was nearly 900 pounds. Males have a range of from 8 – 100 square miles, depending on food supply and terrain. Both male and females range from 50 – 80 inches long, and stand about 30 inches at the shoulder.

Females are smaller, averaging about 140 pounds, ranging from 90 – 300 pounds. Home range for a female is 20 – 40 square miles, and interestingly, they pass on their areas to their daughters. Black bears live to be 20 – 30 years old, sometimes longer if they don't cross paths with humans, or the occasional grizzly who will kill and eat a black bear. Both males and females are primarily nocturnal, but not always. This is true especially if food becomes scarce and



Goltz photo

as they are mine here in Ohio, forewarned is forearmed.

In the east there are only black bear (*Ursus americanus* Pallas 1780). The west has black, grizzly and other species roaming around. In the eastern half of the U.S. black bear are generally black with a brown muzzle, and often a white blaze on the chest. In the west their color ranges from black to brown to blue to silver. Mature males average 250

a normal range expands to accommodate extra hunting.

Black bear are omnivorous, eating mostly vegetation. But they're also opportunistic, and will eat most anything. It's a long list – clover, dandelions, chokecherries, wild plums, blueberries, cranberries, all sorts of nuts, insect adults and larvae including ants, yellow jackets, wasps, honey bees, (they've been known to eat up to 40,000

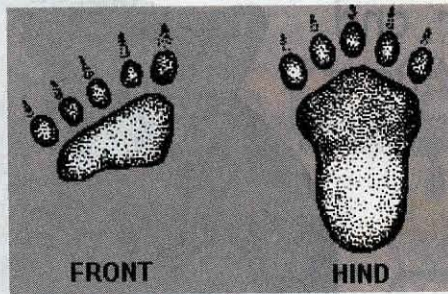
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29

moths a day during outbreaks), beetles, carrion, horsetails, willow catkins, soapberries, cottonwood catkins, and especially pine nuts (they can find pinecones under six feet of snow), corn, occasionally fawns, moose calves, beaver, fish, sheep, pigs and chickens. They'll also tear apart some trees eating the cambium layer and destroying the tree. They love all kinds of fruit and vegetables...ripe or overripe, both on the trees or on the ground. Generally, their diets are high carbohydrate, low in protein and fats. If they get a high protein source their weight increases and fecundity increases. They need water everyday.

But, as I said, they are opportunists. When their travels bring them into human territory they are strongly attracted to gardens, orchards, compost piles, bird feeders, livestock carcasses, outdoor refrigerators, garbage cans, pet food (and sometimes pets), pet cages and barbeque grills...and barbeques even while they are cooking. Garbage dumps are especially attractive, and will change their usual solitary lifestyle to a gang of many eating free and easy.

They choose to live in fairly dense forest, generally hardwood but evergreen will do. Their range in North America is from northern Mexico, the forested parts of 32 states (and that is probably increasing), and all provinces of Canada except Prince Edward Island.

Males and females, once they establish their territories, travel on fairly well defined paths. These may be invisible to most of us, or they may be as obvious as a logging road. While on the hunt for food they have some pretty good tools. They can see at least as well as humans, probably better. They can hear twice as well as you and I, and can smell seven times better than a blood hound. They have a pretty good navigational sense, too. Problem bears usually need to be moved more than 40 miles or they will return. More than that not usually, but records indicate displacing them over 100 miles in not a guarantee they won't find their way back. Bears less than



three years old have not yet acquired that skill and moving them less distance usually suffices.

So. If you have bees in bear country, and that may be your own back yard, you can take some precautions to not openly invite bears to your apiary.

Around your yard, and even your neighborhood, keep garbage cans inside. Bear proof cans are available and even supplied in some places. Keep pet food inside, all the time. Don't feed birds from April to October. Fence your garden, and keep fruit off the ground and ripe fruit picked. Keep compost piles turned, don't put meat scraps or fresh vegetable or fruit trimmings in and add lime to hasten breakdown and reduce the aroma. If you farm, don't let expired animals lay around for any length of time, and burying them less than four feet deep doesn't count. If you cook outside make sure your grill is 100% clean when done - that happens all the time, right - or store it inside when not in use. Bears have been known to sneak up and snatch hot meat right off a burning grill, so keep your eyes open if you've had trouble or even visitors in the past in your yard. Of course if it's your steak or your life, take the bologna sandwich option inside.

If you spot a black bear in the back yard, don't panic (he says so calmly), but pick up anything edible, your children, your pets (not necessarily in that order) and head inside. And call...somebody, depending on where you live (police, game wardens, wildlife refuge). With drought covering much of the country this year, black bear are expanding their routes, and your home, apiary, town or city may become visited with some regularity. Oh, don't feed bears. *Ever*. Yellowstone Park Police have a saying - a fed bear is a dead bear

because they *always* become a problem.

When it comes to locating (or maybe relocating) an apiary in bear country, knowing some of the behaviors previously mentioned may help find a safer location. Look at the food list, especially those that occur in early spring, and in the fall. Bears are especially hungry after winter and looking for food, and as they prepare to slow down for winter (they don't actually hibernate) the same holds true.

That same road that makes getting to your hives easy could be the same road a bear uses to cross this particular farm or woods. Why invite them in? And water, both bees and bears need it, and if you're close to the only supply in five miles, a bear just might wash down that last frame with a long cool drink from the only place possible.

Remember, too, bear's incredible sense of smell (seven times better than a blood hound). Beehives smell, there's no doubt about that, and no hiding it either. But don't leave your lunch behind, or plastic bags that held sandwiches, and don't ever dump your coffee out near the apiary. When working hives, use enough smoke, but don't overdo. Clean up every bit of wax and propolis you scrape out of the way, and if harvesting supers, don't set them on the ground, then on the truck. Go right to the truck and keep them covered. Don't drip honey, either. Not a drop, between hive and truck, or let it run off the truck bed.

When a bear encounters a colony, dumps it over and starts removing frames, they often take them some distance away to finish lunch, as it were. As often as possible it seems, they go to an area that's cleared, and somewhat raised, 20 - 50 yards away. Probably two good reasons for this include going to a place to watch for competitors, and, once removed, defensive bees return to the hive, or what's left of it, leaving the bear to munch on your profits, honey, brood, wood and wire in peace.

Use all of these indicators to help locate an apiary. What other food grows nearby? Water? Roads? Barking dogs just down the road? On the edge of a woods? What's downwind? How often can you get

there, to check a fence or to spot tracks and trouble?

In reality, the only good defense is a good fence. Nick Calderone (September 2000, and on our web page) laid out the rules for a good fence, and I repeat them here in light of more bear will mean more fences.

ELECTRIC FENCE The electric fence is very effective for bear control, so long as the bear does not encounter it while running through the woods, in which case, it will likely run right through it. Beekeepers often place strips of bacon on the hot wires to catch the bear's attention and bring it to the fence more slowly. You can set up a temporary bear fence, which is quick and easy, or a permanent one, which is not so quick or easy. I suggest that you use a temporary fence for a new yard. It is fast and inexpensive, about \$200.00 per fence. If the yard proves to be a good honey producer, you can invest in a more substantial fence.

You can make a temporary fence from round fiberglass fence rods, some polywire or ribbon wire, insulators, a fence energizer and a battery. Round fence poles are not as rigid as the T-type poles, but with round posts, you do not have to worry about their orientation when you put them into the ground because the insulators will swivel on them to whatever position you require. Since fiberglass posts are not very substantial, I recommend putting one in every five feet. I also recommend three or four wires. The first one should run six inches above the ground; the rest should be placed at 12" intervals above the bottom one. Turn the insulators so that the wire runs on the outside of the poles – this will give the fence more strength. Use a heavy duty, deep-cycle marine battery. It will tolerate repeated cycles of charging and discharging. Select an energizer appropriate to your needs – you are running bees, not cattle – a 10-mile energizer is fine.

An old super with a couple of 2 x 2's nailed to the bottom to keep it off the ground will provide a good housing for your battery and energizer. Be sure to waterproof or paint the outside of the super, especially the bottom. Use an old outer cover to cover the super. Pass

"The best defense is a good fence."

the hot and ground wires from the energizer to the fence through one or two holes drilled in the side of the super. Fit the holes with short pieces of snug fitting, flexible plastic tubing and run the wires through the tubing. Place the super inside the perimeter of the fence.

Use black, 12-gauge wire and a ground post clamp to connect your energizer to a metal ground rod. Use red, 12-gauge wire to connect the energizer to the fence hot wires. Always connect the hot wires on the fence posts with a strip of wire to ensure that they are all hot. Depending on your soil type and moisture conditions, you might want to run chicken wire or wide-mesh hardware cloth on the ground around the outside of your fence and connect it to the ground post. This will ensure a good contact under all conditions. Keep the mesh about four inches away from the fence. Use long stakes to fix it to the ground.

A solar-powered energizer is an alternative to a battery-powered energizer. It consists of a solar panel, a battery and some electronics, all of which are usually contained in some sort of housing. The fence connects to leads coming out of the housing. Solar fences have advantages and disadvantages. On the positive side, you do not have to visit your apiaries as often to replace batteries, or worry about them running down if you forget them. On the negative side, the solar unit is somewhat more expensive, highly visible and prone to theft. I recommend painting your unit with a camouflage design and mounting it as low as possible. The Red Snapp'r® model from Mann Lake is self-contained and comes with a 6-volt gel battery. The battery must be replaced every year or two, but the replacement cost is modest. Mount the unit on a post with the collecting surface facing south and in clear view of the sun.

Purchase a voltmeter for measuring the voltage running through your fence. Whether you use a battery- or solar-powered energizer, be sure that you measure at least 5,000 volts between the fence and the ground. Check the

literature on the energizer before purchasing it to make sure you are getting adequate voltage.

TIPS FOR BEAR FENCES

1. Install the fence before a bear starts to feed on your bees.
2. Use at least 5' of ground rod in the ground – the deeper you ground the fence, the better it will work during dry spells.
3. To avoid grounding out your battery, keep grass mowed around the fence. Consider an herbicide if the land owner complies.
4. Do not use an energizer with a capacity that is greater than what is needed – you are running bees, not cattle – a 10 mile energizer is fine.
5. Check your fence each time you visit your apiary – adjust the distances between the wires if needed – keep an eye out for short circuits.
6. Measure the fence voltage each time you visit the apiary.
7. Purchase two batteries for each fence – keep the second one charged and switch it with the run-down battery when you visit your apiary, that way you can avoid an extra trip and potentially dangerous 'down time' when the fence is not protecting your bees because you are recharging your battery.
8. For protection in dry areas, fix chicken wire or hardware cloth to the ground along the outside of the fence perimeter and connect it to the ground post.
9. Do not leave garbage in the vicinity of your apiaries, and clean up all hive material when done.
10. Do not locate your apiary beneath overhanging branches that may fall on your fence.

As long as hunting continues to decline and habitat is disrupted, the chance that you or your bees will encounter a black bear continues to increase. This summer, not far from where I live a bear was struck by a car. The bear limped away. The car was towed. Black bear are large, strong, and when hungry or fearful, can be very dangerous. Protect your home, yourself and your bees by knowing more than the bears do. They will be back, next year. ☐

EAT MORE HONEY

It's good, and good for you. Especially if you're not getting any younger.

James E. Tew

It's hard to know what to say.

About 10 months ago, I realized that I was not as young as I once was and that I was never going to be any younger than I was at that moment. Something snapped. I enrolled in a controlled exercise program, under the supervision of a professional trainer, in an effort to improve my quality of life. All these months later, do I feel younger? Well, some I suppose, but I definitely feel better.

How does this all relate to beekeeping? While exercising, people drink Gatorade®, eat Power Bars and perspire a lot. I have been frequently asked about the benefits of honey to people on exercise programs. Honestly, I didn't know much about using honey as an energy source during exercise programs. I did take a few honey sticks for some of the workouts and can report that you need to go slowly on taking honey during a good workout.

The common question I'm asked is, "Should I eat honey when I exercise?" I'm surrounded by honey all the time. I have access to thousands of pounds of it. At times, I seem to be oblivious to it. So I admit that I was drinking Gatorade® and eating Power Bars®. To try to find an answer to their question, I did some exploring and found the following articles. I have put some of the more direct comments in bold print.

Yes, eat honey before you exercise

The results of research presented at the annual Experimental Biology meetings in San Diego, California may sweeten the appeal of honey to athletes. "During the past three decades, carbohydrate 'sports gels' have become a popular means of providing energy to athletes," said Dr. Richard Kreider of the University of Memphis Exercise and Sport Nutrition Laboratory, and the lead investigator of the study. **"We found honey to be one of the most effective forms of carbohydrate gels to ingest just prior to exercise. This could translate into greater endurance during a workout or a race."** As part of a three-phase clinical trial, honey is being studied against other forms of carbohydrate gels when ingested just prior to or during exercise. The trials are sponsored by the National Honey Board, which develops research and consumer information programs to increase the demand for honey, and are being performed in collaboration with IMAGINutrition® of Aptos, CA. **"Honey appears to be**

a carbohydrate source that is relatively mild in its effects upon blood sugar compared to other carbohydrate sources," added Dr. Kreider. "The lower 'glycemic index' profile of honey is an important consideration for sports enthusiasts because when ingested just prior to exercise, higher glycemic index carbohydrates (like dextrose, maltodextrin or sucrose) may promote fatigue more quickly due to the corresponding release of insulin and faster muscle glycogen (stored carbohydrate source) utilization."

In other studies of a similar nature, more promising results have been reported¹. Studies were undertaken to evaluate honey compared to other popular forms of carbohydrates used by athletes. All three double blind, placebo-controlled studies were conducted at the University of Memphis Exercise and Sport Nutrition Laboratory, led by Dr. Richard Kreider. Encouraging data were presented at the annual meetings of Experimental Biology, the American College of Sports Medicine, and the National Strength and Conditioning Association, and research papers have been submitted to appropriate peer-reviewed journals. "We wanted to see if honey would be a good source of carbohydrate for athletes in comparison to other forms of carbohydrate. Honey did as well or better in several areas," stated Dr. Kreider.

The first trial involved 71 subjects who were given one of seven carbohydrate gels, including honey and placebo. Honey produced only mild increases in blood sugar and insulin, prevailing over dextrose (glucose) and maltodextrin, and was similar to a popular commercial carbohydrate gel. **This indicates that honey could be an effective pre-workout energy source that does not induce hypoglycemia.**

Eat honey after you exercise

The second trial studied 39 weight-trained women and men. Following an intensive workout, each subject immediately consumed a protein shake blended with sucrose, maltodextrin, powdered honey or placebo as a carbohydrate. **The honey sweetened "muscle shake" was the only one to sustain blood sugar over the two hours following the exercise.**

¹ National Honey Board Sponsored Research. www.nhb.org/pressrm/athleticresearch.html

Eat honey while you exercise

The final trial focused on nine competitive cyclists who were given a honey, glucose or placebo gel prior to and at 10-mile intervals of a simulated 40-mile race.

Honey significantly increased power and speed over placebo, equaling the performance of

dextrose. **This study is the first to show that honey is an effective carbohydrate for endurance athletes** and resulted in media attention from around the world. "Our first study suggested honey could operate as a 'time released' muscle fuel for exercising muscles. Our second experiment suggested that honey would be a good carbohydrate source to replenish muscles. However, our last study convinced us that honey can improve endurance exercise capacity," concluded Dr. Kreider.

This research demonstrates that honey is a carbohydrate option for athletes based on its low glycemic index, positive metabolic response, and effective energy production. These results are great news for athletes or anyone looking for a natural, convenient energy boost. The taste of honey has broad appeal, and honey is readily available in a variety of forms and flavors.

Eat honey to eliminate "free-radicals"²

Free radicals and reactive oxygen species have been implicated in contributing to aging and to many disease states including cancer and cardiovascular disease. Humans protect themselves from reactive oxygen species, in part, by absorbing dietary antioxidants. **Honey is one agricultural product that can be a rich source of phenolic antioxidants such as 4-hydroxybenzoic acid, and 4-hydroxycinnamic acid.**

² Buckwheat honey, a natural sweetener, conveys antioxidant protection to healthy human subjects D. D. Schramm, C. L. Keen. Dept. of Nutrition, Univ. of California-Davis, 1 Shields Ave., Davis, CA 95616. ift.confex.com/ift/2002/techprogram/paper_10726.htm



Here we report the effects of consuming 150 grams of corn syrup or buckwheat honey on plasma phenolic content and on plasma antioxidant capacity in healthy human subjects (n=10/treatment group). Corn syrup contained 0.21 ± 0.06 mg of phenolic antioxidants per gram. The two buckwheat honeys, designated honey- and honey+, contained 0.79 ± 0.02 and $1.71 \pm .21$ mg of phenolic antioxidants per gram. Plasma phenolics were detected using AOAC and HPLC methods. Antioxidant capacity was assessed using Prussian-blue and TRAP methodology. Following consumption of the two honey treatments, plasma phenolic content increased in subjects ($P < 0.05$). Likewise, the honey treatments effectively increased the ability of plasma from subjects to reduce metal ions (Prussian-blue; $P < 0.05$) and scavenge free radicals (TRAP; $P < 0.05$). **Data from this investigation support the conclusion that phenolic antioxidants from processed honey are bioavailable and convey antioxidant protection to healthy human subjects.** Since more than 150 pounds

of sugar are consumed by each U.S. citizen every year, **results from this investigation strongly suggest that if honey was substituted for sweeteners traditionally used in food products, it could substantially improve total antioxidant intake by humans.**

In a separate study in *Prevention* magazine, September 2002, there was a report from the University of Illinois, presenting data showing that **honey is rich in heart-protecting antioxidants.** The principle researcher, Dr.



Continued on Next Page

"Eat more honey. There's science behind the marketing"

Nicki Engeseth, reported that **honey slowed the oxidation of bad LDL cholesterol in human blood.** Dr. Engeseth was quoted, "Honey – the darker the better – dramatically slowed the rate of formation of conjugated dienes, products of oxidation related to LDL in blood. Buckwheat had the highest levels of any of the honey tested – about 3 times the antioxidants as acacia honey, a much lighter honey. Dr. Engeseth said that 8 ounces of honey gave as much protection as 8 ounces of melon, but who is going to suck down 8 ounces of honey? **So, continue to eat your antioxidant-rich fruits and veggies, but choose honey**

anytime you must choose a sweetener.

My Summary of what I read...

It appears that honey is an admirable food for people on exercise programs – before, during and after exercise. Additionally, honey taken in normal amounts in the daily diet appears to be highly beneficial in removing free radicals and other such carcinogenic agents. In all studies, it was difficult to determine how much honey to eat, but it appears that simply eating honey in normal amounts in common foods was appropriate. Don't overdo it. Anything can be abused – even honey.

Now, some questionable press

While waiting to have my hearing checked and my hearing aids maintained, my wife handed me an AARP magazine for July/August, 2002. There was an article entitled, "Who'll Stop the Pain" with the header, "After years of being **stung** by doctors' indifference, pain patients are fighting back for the treatment they need." I bolded the word "stung" for you in the previous sentence because that was the only time that there was any reference to beekeeping in the whole piece; yet the article was supported by three graphic bee photos: (1) a grimacing man with honey bees scattered about his hairy chest, (2) a "pain-chart" made up of pinned bees, and (3) a one-pound honey jar with, what were suppose to be, threatening bees inside. At once, I was insulted, amused, and confused. Using bees in a frightening way was nothing more than the grabber for the piece. The pain-chart was particularly interesting in that it had ten rows of bees. Row one had only a single bee while row ten had ten bees. Reference was made to the chart after asking a patient, "How bad is the pain on a scale of 1-10?" The patient's response was an 8 so the photograph had circled row 8 on the pain chart. I suppose 8 bees are a lot so I suppose the patient was suffering a good deal of pain. Discussing the content of the article would be out of place here, but I can tell you that one of the observations were that patients 40 and younger don't accept pain while patients 50 and older routinely accept pain as part of life. I wish that bees had not been associated with unrelenting pain.

Finally

Eat more honey; encourage others to eat more honey. It's good for you - and don't worry too much about stings. **EC**

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

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AVOID BAD MEETINGS

Buzz Phillips

"Oh what an awful meeting. I should have stayed home and...weeded the garden...fixed the gutters...cleaned the barn." What makes a meeting so bad that you would have preferred to stay home and clean the chicken house?

The bad-meeting factors can actually be categorized: the program itself, the presenters, and the audience. Sometimes one of these factors occurs, sometimes two, and the biggest catastrophe of all – all three at once. However it will be better to consider each category separately – even though they are intertwined.

The Program

After-Lunch Naptime Meeting room chairs are usually hard – plastic or metal. Interesting – when the speaker is exciting, information pertinent and slides legible, the hardness of the chair disappears. But when the opposite occurs have you ever noticed how hard and uncomfortable those chairs become? Some meeting places have comfortable padded chairs – the better to sleep in. Unfortunately most people sleeping away, seated in a chair, tend to snore. For your entertainment, and to keep you awake, count the snorers, especially during the right-after-lunch slot. This naptime can be traced to two causes: too big a lunch and/or a very boring speaker. Turning out the lights for 45 minutes of slides is just like going to bed except you haven't set the alarm or put the cat out.

Speaking of turning out the lights, why do some meeting rooms only have "on-off" switches? Plunging the room into complete darkness means note-taking is impossible, stumbling over people and stuff on the floor is probable and the presenter cannot see valuable notes.

By the way, have you noticed that some of the most frequent words heard at meetings are: "would somebody get the lights!" (right after "I apologize for this slide."). The Light Switch Operator should be at least a Presidential appointment and given a large badge proclaiming his status. Perhaps then he would stay at his post.

Bigger is Better For some reason those organizing the current program are bent on outdoing the past program. An increase in the number of speakers will do the trick! Cut the lunchtime short. Cut the breaks short. Cram in the speakers. Lots and lots. Ever thought about the attendees? Brains numbed with information, some of

which might be essential. Lines at the restrooms, lines at the coffee table. No time for sharing thoughts at lunch – indigestion instead. There's no value in crammed information. It just gets jumbled or forgotten. Pace the program leisurely – it will be more successful in the long run.

But We Have To Have Him! No you don't. There is nothing in the organizer's book that says you have to have a dull, mumbling, disorganized speaker on your program. You know perfectly well that everyone groans inwardly when he steps to the front of the room. Yes, you can clandestinely keep a "black book" – a list of speakers everyone avoids. What to do if he volunteers? There is nothing wrong in giving him a "busy" job during the meeting day, something to keep him occupied without causing a snafu. Maybe the lights?

"Oh, did you need ...?" Well, yes an overhead is needed. The entire talk is on overheads. A lapel mike? Very handy because nobody has enough hands for laser



Another sleeper for sure.

pointer and slide control and mike – that adds up to three. A slide projector that happily accepts everyone's carousels instead of jamming on the 10th slide or refusing to reverse. A public address system that actually works without feedback shrieks and defective volume controls that either stifle the soft-spoken or deafen the audience. By the way, what is wrong with testing the mikes and speakers well before the audience is expected? Don't ever accept to be "first speaker of the day" where you will be subjected to squeals or silence while "the system is adjusted." Maybe do it yourself, to be sure.

Interesting note: slide projectors and overheads have bulbs that work with electricity. Here we have two factors for failure – anyone got an extension cord? And – oops – is there a spare bulb anywhere? Laser pointers work with a battery – a little battery that would fit conveniently in a pocket but everyone's pockets are empty of those.

The Projection Screen This essential device ranges from the 4' x 6' one that Buzz brought from home to the wonderful big one that descends from the ceiling. Now let's combine the projection screen with no lapel mike, just one mike fastened to the podium which is in front of the screen and off to the side a bit. There's the slide, but the presenter cannot see it. He's in front of the screen. So the audience hears "This slide shows mumblewhispermumblewhisper and you can see how significant that is." Unfortunately the mike is not

Continued on Next Page

affixed to the head of the speaker as he swivels around to see what in the world he is showing. Ill-prepared speakers forget, or don't remember what's on the slide, and the audience suffers.

The Speakers

The Unprepared Yes, you have heard and seen him many times. The most frequent word is "uuh" followed by a long pause. The slides were fine until the 8th one, which is upside down and backwards. The next slide is absent. The next slide has two in the slot which jams the projector.

Not even time to sort slides? Fine, scribble on some overhead sheets. The handwriting can't be read. The overhead table is small so make do with a couple of chairs to hold the slippery sheets. The presentation now rivals that childhood game of 52-pickup. What a mess. Who's responsible for this?

The Over-Prepared Given 30 minutes with 5 of those for questions our next speaker arrives with 3 fully-loaded carousels and a file folder of notes. For reasons unknown this speaker usually instructs the moderator to inform him when time is up. That time always occurs just as the speaker is coming to the most important point of the presentation. Stop now and you have just heard a thorough review of the history of the problem, which you have heard countless times before. Keep going and the next speaker will never respond to your phone calls or e-mails ever again.

The Over-Your-Head Speaker This speaker has been informed of the level of expertise of the audience, enthusiastic beekeepers of diverse backgrounds. Then why oh why is this talked sprinkled with such words as "allele" or "gynandromorphic" or "temporal polyethism," accompanied by slides of complicated charts and graphs. Now is a good time to count the snorers. What a jerk.

The New Equipment It's a bird! It's a plane! It's Power Point! Someday Power Point and all its idiosyncrasies will be ancient history. Until then we will endure it and all its successes and

disasters. For reasons known only to those electronic gnomes living inside computers Power Point presentations range from working extremely well to those where the speaker keeps saying "well, I had a photo illustrating this very well." In this case the computer sits sullenly with its screen black. It is best to bring a book to read while waiting for Power Point and its accompanying speaker to get going.

"I Apologize for This Slide" Is this excuse in the same category as "the dog ate my homework"? Probably. Terrible slides, for whatever reason, should be abandoned and the presentation reworked so they are not necessary. It can be done.

In Living Color Face it, what is seen on the computer screen a few inches from your nose is not what will be visible on a large screen from mid-audience of 150 attendees. Red seems to be a favorite color (visions of fire engines?). It is not visible on a rich purple background. Neither are white letters on a yellow background. In fact red is an extremely poor color to use. It just does not show up. Whatever happened to black letters on a white background? Colors and fancy backgrounds are just too much fun, that's what. Get serious, make slides visible in the back row.

The Overly Informative In this category we find the slides listing about 10 items the speaker wishes you to consider. After you have made your way through the first three, the slide changes. Tables listing 30 items turn out to be invisible even to the first row. This type of presentation is really frustrating - you feel you have missed something along the way. Like the speaker.

The Under Informative The speaker reads each slide, nothing more, nothing less. Questions rattle about in your head but all you get is what is on that screen. A question period at the end of the presentation still will not suffice. No point in asking this speaker back in the future. You still will have limited information.

The Audience

Behavior You have met them - people in the audience who have not seen each other since last Wednesday and have to catch up on

the gossip. Groups standing in the back of the room discussing the latest swarm catches, some of which are very funny. Large groups standing around the refreshment table in the hallway. Snatches of their conversations can be grasped every time the door opens.

Outside of a busy obstetrician, what do people need with cell phones that ring, chime and bleep calling the owner in the middle of an interesting presentation. Some shut it off and ignore it. Some leap up, clamber over others and hurry out while answering the silly thing. Some stand in the back of the room gabbing away. Is that all so important that it can't wait? And how rude. Just how important are they, anyway?

Time for Questions The presentation was about processing honey. The questioner, so eager to be heard, starts out with: "I noticed in my hive the other day... Where has he been for the past 40 minutes? What about the one, listening to a talk on diseases, who asks, after a long explanation, why his hive died? Then we have the fellow with firm opinions totally contrary to those of the speaker and wishes to deliver his own presentation. Since it is not a question, it is best to move quickly on to the next speaker.

Who Is to Blame? The Ultimate Question

On Time Could it be an inherited trait? Or is it our casual attitude towards daily life? Or is it someone else's problem?

Why can't (most) meetings run on time?

It does take a little bit of courage to stand up and ask the speaker, politely, to shut up. But it is up to the speaker to know just how long his talk will take (rehearsal in front of the family dog or other interested person). And it is up to each member of the audience to realize that everyone has questions and there is not enough time in the entire day and night for them to be answered.

Post this motto at your next meeting: Stand up, speak up, shut up.

Well, here's a meeting notice, in the mail. Looks like the chicken house will get cleaned. ☐



Bee Culture's Beeyard

Keeping Beehive Records

I recently read the ditty that goes, "Confession is good for the soul, but terrible for the reputation." I read that statement and I immediately thought of the bee articles that I write for you. Each and every month, I confess or admit something to you – all in an effort to make beekeeping real – not just ideal.

Well, this month my confession is that I am not an ardent beehive record keeper and that's my loss. Keeping good records is clearly a good idea. When I began the beeyard project, I established (yet another) notebook specifically designed to record the coming/goings of the hives in the *Bee Culture* yard. That lasted about six months. I am making no effort in this piece to discuss financial record keeping. For information on this subject, see: <http://bee.airoot.com/bee-culture/months/02apr/02apr4.htm>

Why all the problems?

The problems I have encountered when trying to keep hive records are not mine alone. As with physical fitness, doing something – anything – is better than doing nothing. But doing nothing is so easy to do. For those of you newer to beekeeping who have not yet had the opportunity to develop a record keeping procedure, be aware of some of the following challenges.

It's one more thing to do

Right now you are in a chair and are comfortable while reading this. Record keeping seems completely appropriate. However, in the field, you must remember matches, dry fuel, your smoker, and don't lose your hive tool. Got duct tape? You should have brought extra frames, supers and a few extra inner covers. Going to mow the yard this time or not? If so, bring all the amenities for the grass cutters. Oh, by the way, for record keeping, bring a paper pad and a pencil (don't use pens, ink runs when wet) and put them where

you can get to them while wearing gloves and a veil as angry bees fly all about. It's easy to get distracted. The good thing about bringing the paper pad for record keeping is that, at least, you have paper for starting your smoker.

Result: Record keeping becomes just one more task to do at a very inconvenient time. Of course, if you take a moment and make your notes in the truck cab, before you leave, you've reduced the inconvenience, and increased the probability of good memory. But often time isn't on your side.



The position of the bricks is used as record keepers.

I'll do it from memory when I get home

Well, at least you're doing something, which is better than nothing. The obvious shortage is that you simply forget which hive needed a frame replaced, which hive had a questionable queen or which hive would soon need another super.

Result: Your record keeping wanes and finally fades.

I'll use a tape recorder and eliminate all the writing requirements

No, just stay with the paper and pencil. The tape recorder is just one more thing to take to the yard and the controls are difficult to operate with sticky hands and a sweaty brow. Besides that, you will be tired when you get home and you will probably plan to do it later. Later is frequently a long time in coming.

Result: Your record keeping wanes and finally fades.

I'll take a laptop computer to the field.

Absolutely not. Not a long-term or short-term option.

Result: You'll trash your computer and you still won't have good records.

So what to do then?

In my book, *Beekeeping Principles*¹, I was interested to re-read the single sentence I wrote concerning record keeping. I said, "Record keeping is not something to be done to the extreme, but keeping a written account of the bee operation is a tremendous improvement over what is normally used – a mental record." In *Honey Bee Biology and Beekeeping*², Dewey

Caron had the following comments about record keeping.

"You do not need to keep extensive records – remember KISS (keep it simple, stupid). For starters, record date, what you found (generally or for each colony inspected), and what you did. Star or otherwise note future anticipated management, such as colonies light on stores or a sample taken for disease analysis. If you prefer, colony records can be more extensive. There are manual aids or, if you are a computer buff, record systems for your computer. After a couple of seasons, apiary records, even simple ones, will improve your



Guess which hive has a questionable queen.

beekeeping or at least provide an interesting comparison of different seasons."

So what to do then? Keep some kind of records – the more detailed, the better. The A. I. Root Company offers a 3-ring binder specifically directed toward record keeping. Conditions about the queen, the colony, equipment, an apiary map, and weather are some of the factors for which provisions are made. Vickery, in *The Honey Bee, A Guide for Beekeepers*³, provides charts,

which can be photocopied, on practical record keeping topics. Record sheets provided are: Profit and Loss Statement, Colony Condition, and Beekeeping Equipment Inventory. If you were starting from nothing, either of these record systems would be a good place to begin.

Keep records, but also keep a diary

What's the difference? An example of records are what a hive specifically needs – supers or maintenance while a diary records general events such as the date of the season's first swarm, when queens were introduced, or when

the nectar flow started. Ironically, a calendar has proven itself to be an admirable base for a diary. For computer users, no doubt it would be possible to maintain such a diary electronically and then amass all the dates in your database on specific events. For instance, if you had four years of information, you could (probably) ask the program to

give the four dates that you recorded your first swarm. Ironically, after a few years of diary-keeping, you will develop a range of dates and times and will become quite good at predicting upcoming beekeeping events. However, I found it to be clumsy to try to keep comments on specific hive needs on a calendar; hence, my suggestion that keeping all records in one document may not always lead to a smooth system.

For yourself, consider the following points

- 1. Your personality – detail oriented or not?
- 2. How many hives to you maintain? It's easier to keep detailed records on a few hives.

¹ Tew, James E. 2001. *Beekeeping Principles*. The Walter T. Kelley Company, Clarkson, KY. 42726. 245 pp.

² Caron, Dewey M. 1999. *Honey Bee Biology and Beekeeping*. Wicwas Press. Cheshire, CT.06410-0817. 355 pp.

³ Vickery, V. R. 1991. *The Honey Bee – A Guide for Beekeepers*. Particle Press. Westmount, Quebec, Canada H3Z 2T1

If you have several beeyards, consider recording the apiary, rather than an individual hive.

3. What resources do you have? Computer, recorder, pencil & paper or bricks?
4. What do you want from your records? Details or general ideas?

There is no standard record-keeping procedure for beekeeping

As with so many other aspects of beekeeping, there is no standard record-keeping procedure. Each beekeeper develops some kind of system that works for her or him. Some systems are intricate and detailed while others can approach being amusing.

Many of you are *hive writers* and physically write on the colony – The outer cover and inner cover are popular locations. Though crushingly simple, this technique works so long as you don't interchange equipment. In my beekeeping past, I purchased beehives from a widow whose beekeeper husband had recently abruptly died. He was a "hive writer." As she and I examined the colonies, the woman quietly cried as she read her departed husband's last beekeeping observations written in pencil on the inner covers. Though this was a stressful time, having the hive records right there on the hive made the hive's history obvious. For many years, the Ohio State University's record keeping procedure was to record events on a 5x7 card and staple the card to the inner cover. The inner cover handhold was closed to prevent bees from chewing the card. On many hives, several cards were in place providing for a lengthy history.

Others of you use a *hive top secret code*. Normally you use sticks, stones or bricks. If you know the code, you can tell from a distant glance what is happening within the colony. Most of the time, such visual information is very specific and addresses only one subject area. Common themes are: queen condition, disease, or supering.

Record keeping in summary

Record keeping is akin to queen replacement in that everyone agrees that keeping a young healthy queen, as head of the colony, is good

practical management. Yet, most of you (and I) don't requeen regularly. Record keeping is obviously a good idea but most of us don't do anything other than primitive procedures, and for most of us, that is probably enough. As I worked my way through these written thoughts, I have realized that record keeping is a 3-part program: Financial and expense records, hive records, and seasonal records. Hive records and seasonal records (your diary) will make you a better beekeeper while financial records keep you updated on your economic success or failure in your bee project.

For most of us, hive records work best when they are bold and obvious (rocks, bricks and sticks) rather than written and recorded. For most of us, it seems that record-keeping procedures should be general and simple. Good or bad, many of us simply rely on mental records and don't bother with any visual or written record at all.

Nowhere in the academic world do I know of a long-term record keeping project on general colony procedures. How helpful such detailed information would be today in light of our concerns over poor

queens, reduced honey crops, swarming rates, annual colony deaths. It would be immensely helpful to be able to compare our general numbers and rates today with the general numbers and rates, of say, 1970. No records. Can't do it.

I can promise you that record keeping – more than just primitive procedures – will make you a better beekeeper. But you should requeen every other year, and you should control mite populations and don't let your colonies swarm. So record keeping just becomes one more thing needing to be done. Even so, try to do it.

Your technique

If you have a record keeping technique that really works – be it written, computerized or brick-based, let me know about it. If Editor Kim and I get enough interest, we will address this subject again. ☐

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Soap & Lotions

Christina Spence

So, you've dived in and are trying to make your own toiletries. Good for you! This final article in the series will be devoted to all the other information you need when getting started.

Label Information

When creating a cosmetic label, more is involved than simply the name of the product and company, and perhaps a nice graphic. Under U.S. law, there are a few basic things that every cosmetic label must include. You must include the name of the product (e.g. Honey lip balm), the list of ingredients, and the contact information of your company. For extensive information on labeling your products, visit the FDA website at <http://www.fda.gov> and click on "cosmetics" If you don't have Internet access, you can call 1-888-SAFEFOOD.

Suppliers

This list of suppliers includes first those who carry soapmaking and toiletry making supplies, and those suppliers who carry packaging and labeling supplies. Most of these suppliers have very small minimum purchases – perfect for small businesses. If you're online you can view their products on the Internet. If not, phone for a catalog.

- **Camden Grey Essential Oils** - www.essentialoil.net/; 877.232.7662
- **Creation Herbal** www.creationherbal.com/; 800.766.2489
- **From Nature with Love** www.from-nature-with-love.com/soap/; 888.376.6695
- **Sugar Plum Sundries Soap Works** www.sugarplum.net/; 423.624.4511
- **Wholesale Supplies Plus** www.wholesalesuppliesplus.com/default.asp; 800-359-0944
- **Bramble Berry** - www.brambleberry.com/; 360.734.8278
- **Pine Meadows** www.pinemeadows.net/; 801.221.0483

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- **Action Bag & Display** - www.actionbag.com/
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- **Nashville Wraps** - www.nashvillewraps.com/; 800.547.9727 or 615.865.0901
- **US Box** - www.usbox.com/ or 800.221.0999
- **SKS Bottle and Packaging** www.sks-bottle.com/; 518.899.7488 Ext 1
- **Soap Deli** - www.soapdeli.com/custom.html; 877.NEATSOAP.
- **Online Labels** www.onlinelabels.com 888.575.2235.

A New Lotion Bar Recipe

A few readers have written in, and have experienced problems with the Honey Cream Bars recipe. Sometimes the honey may separate. Here is another recipe to try. This one does not contain any honey – only beeswax – but seems to have more consistent results.

- 3 ounces beeswax
- 2 ounces cocoa butter
- 3 ounces sweet almond oil

Melt and mix all ingredients thoroughly. Mold into desired shape. Allow at least a full day for the bar to set. Pop out of molds and wrap in plastic film.

How to Price Your Products

Making homemade honey products is a lot of fun, but as a business owner you're in it to make a profit! It is vital, therefore, to understand how to price your items correctly.

The basic formula to remember when deciding on a price is: Cost of Goods + Indirect Costs + Profit (what you expect to make beyond cost of labor) = Minimum Price.

So, let's say you're making some bars of honey soap. The cost for each bar is \$2 including indirect costs. The profit you'd like to make is \$1.50 on each bar. Therefore, your price should be a minimum of \$3.50.

It's also a good idea to view comparable items and what they're priced at. Browse through a local craft shop or even online to see what other beekeepers charge for their products, so that your prices are competitive. You want your items to be fairly priced, while providing a decent profit for your efforts.

New Ways to Sell

Now that you've expanded your line of honey products, you may want to discover new ways to sell these products.

- **Online selling.** The Internet opens a whole new world to small businesses. Why not try selling your products at online auctions such as eBay or Yahoo, or even invest in a small website devoted to your company? To include your website URL on all your business cards or packaging.
- **Crafts stores.** Owners of local craft stores may look for unusual high-quality products to sell.
- **At home parties.** Famous companies such as Tupperware and Watkins have sold this way for years – through at home sales parties.
- **Mail order catalogs.** A small mail order catalog advertised in classified ads can bring in a surprising amount of new business.

Conclusion

Honey is a marvelous substance that has been used for hundreds – if not thousands – of years as a natural beauty aid. With the help of some useful recipes, you can increase your inventory to include items such as natural soaps, lip products, lotions, and even bath products. And now, armed with the information you need to get started you can increase your product line, and your customer base. ☺

Be A Honey Bee Ambassador

Ann Harman

The dictionary says an ambassador is one who is an official messenger with a special mission. We beekeepers are the only ones who can be the official messengers for honey bees and our special mission is informing consumers and others about the value of honey and of honey bees in pollination of crops. Are we being good ambassadors for honey bees and hive products?

I thought about this while I was reading the results of a small survey taken at a supermarket in an urban/suburban area. The questions concerned agriculture and food production. The results prompted the state Farm Bureau President to say "Consumers don't see the connection between the farm and the grocery store." This was quite apparent to me during a recent visit to the supermarket. I was buying some leaf lettuce. So was the woman standing next to me who said "this lettuce has dirt in it." Well, yes. Lettuce does not fall from the sky – I wonder where she thinks lettuce comes from?

Here is an opportunity for beekeepers to be ambassadors of the farming community. Our bees are busy pollinating and gathering nectar and the resulting apples, melons and honey are for sale to consumers. Beekeepers need to be able to tell customers how this all works. How apples get to be found on a tree and how the honey bee put them there. Well, some may credit Mother Nature but where would she be without honey bees?

Often beekeepers are selected as speakers at non-beekeeping meetings, such as service organizations, garden clubs and other groups. We go; we tell the story of bees, including pollination. But do we take the reprint of Calderone and Morse, "The Value of

Honey Bees in the Pollination of U. S. Crops" to leave with the organization? This reprint, from the article in *Bee Culture* magazine, March 2000, can be obtained from the American Association of Professional Apiculturists. The reprint can be ordered from Eric Mussen, University of CA, Davis, CA; e-mail: ecmussen@ucdavis.edu. It's also on *Bee Culture's* web page.

You need to order a number of copies of the reprint (very low cost) to have handy whenever something about bees arises in your community. Your local newspaper may report forthcoming legislation against keeping bees. You need to step forward as an ambassador and show how beneficial honey bees are. The reprint makes that quite clear. Some beekeepers visit schools to introduce students to the world of honey bees. Leave a copy of the reprint with the teacher to use as a guide to the production of our foods.

How many times have you sat back with the latest issue of your local newspaper and wondered why there was nothing special to read? Local newspapers are always hungry for something interesting. Perhaps you could create an interest in a series of articles about honey bees. Some local newspapers have regular columns about gardening or conservation. Perhaps the author of such articles would like your input about honey bees. Readers probably think "honey" but that could be only one subject for an article. Bee communication, pollination value, local crops being pollinated, the life inside the hive – once you start thinking about topics you'll have enough to last a year.

Public libraries frequently have a display case where the library visitors can enjoy the posters and items on some topic. Go visit your public library and offer to make an

exhibit on bees. Explain that you would like to make two exhibits during the year – one on honey showing the different colors and describing flavors and a second exhibit some months later on honey bees, their life and work. You will want to include pollination of crops in your exhibit. All right, so you are not artistic and feel that your display would look dumb. But I am sure you know someone who can create a nice display with your guidance for the information to be conveyed.

If the library is lucky enough to have some books on bees, those can be part of the display. The books do not have to be beekeeping texts. There is nothing more enjoyable than some of the stories written with bees as a theme. If you have such books at home, then use them. The librarian can help you find such books in the collection. With an attractive library display you will reach quite a number of non-beekeepers. Keep your messages simple – honey is delicious and honey bees are nice and useful.

If an exhibit can be done during harvest time for garden vegetables the message of pollination can be very timely. People are eating melons, cucumbers, and squash. The important role of honey bees cannot be overemphasized.

Once we have a reputation as someone who messes about with a stinging insect we suddenly become the local expert in any insect that stings or bites. We answer swarm calls only to find yellow jackets or hornets. We listen to horror stories about the wasps in the garage or barn. Do we take a little bit of time to answer questions about these critters? Beekeepers should be at least somewhat familiar with the life cycles of wasps, bumble bees and yellow jackets to remove the

Continued on Next Page

confusion people have involving stinging insects. In this way the honey bee can take her place in that ferocious world as a beneficial insect, one who pollinates crops and produces honey. Furthermore, the honey bee is not ferocious unless we manage to annoy her. Here is just another opportunity to be an ambassador.

Just recently I read an article, partly humorous, in my local newspaper about an event involving yellow jackets. Unfortunately the journalist referred to those critters as bees. So the word "bee" appeared in every sentence - bees came out of the ground, bees stung, bees chased...only once was the word "yellow jacket" used. An e-mail address was at the end of the article so I gently wrote the author and explained that yellow jackets were not honey bees. I hope no offense was taken, but I felt I needed to be an ambassador for our honey bees.

Perhaps we should widen our horizons with good honey bee publicity. The Summer through Autumn months are the time of year for farmer's markets, large and small. You may not be selling your honey at any of them but people are selling apples, pumpkins, watermelons, cantaloupes, berries of all kinds, cucumbers, squash - all bee-pollinated. If you know someone selling fruits and vegetables at a farmer's market, how about offering to make a small display showing that the fruits and vegetables were the work of honey bee pollination. A colorful poster might bring more customers for the growers selling their wares. Maybe they'll sell some honey to enhance the display.

Cooperative extension agents are indeed busy people. However, you need to pay them a visit. Even if your county does not have an agent, a neighboring county will. You need to take a copy of the Calderone and Morse reprint and spend just a few minutes being an ambassador for the pollinating honey bees working in the area. The agent may have some ideas for distributing information on honey bees.

That publication can also help you be an ambassador to the Scout troops in your area. Scouts need to

If you or your group are going to be doing one of these Ambassadorial events, it pays to blow your own horn. The library or Nature Center may help, but in all likelihood you'll be part of something else, and may get lost in the shuffle of announcements. To avoid this, submit a news release to your local paper, being very aware of deadlines and publication dates for good timing. Here's a sample.

NEWS RELEASE

The Brown County Beekeeper's Association will have a beekeeping display, complete with an observation hive, honey tasting and candle making demo at the County Nature Center all day Saturday, October 26, 2002. Doors open at 9:00 A.M.

Mike Smith, President, will be on hand to show all the fascinating features of a beehive, safely working with the observation hive. Come look at this exciting window on the bees.

Sally Jones will be making dipped and rolled candles all day. Learn how the whole family can make these simple, but elegant candles at home for gifts or dining.

Try 20 different kinds of honey - from dark and flavorful to light and delicate and learn why all the colors and all the flavors exist. Want to cook with honey? Learn how for better pastries, breads and sauces. Mary Black, Brown County Extension Specialist will have samples on hand, and be giving cooking demos all day.

For more information contact the Nature Center at 555.1212, or call Mike Smith at 555.1313

know the value of honey bees and how they participate in the food chain. While you are passing out this information to Scouts, also consider including the local 4-H and FFA. Your future farmers may be proud of their rabbits and pigs but information about honey bees is vital to their farming knowledge (like, where does Purina Rabbit Chow come from - alfalfa, pollinated by honey bees!).

One frequently overlooked way to spread the word about the value of honey bees is through various agricultural publications, from newspapers to magazines. Dairy farmers, crop farmers, sheep

farmers and others are common subjects of articles and photographs. How often do you see something about honey bees? Well, it is up to you to do something about that! If you are not familiar with the agricultural publications, your county extension agent can be of help. Don't worry about supplying photos of honey bees doing something unless you already have some. Concentrate more on giving information and let the publication illustrate your points. Information can range from the value of pollination to the fascination of bee communication or the life of queens.

Nature centers have become very popular. You find them in local and state parks and perhaps other places. Maybe you have been approached to put an observation hive in a nature center. Even if someone else's observation hive is already set up and working, you can still be an ambassador for honey bees. You can work cooperatively with the caretaker of the observation hive and make posters or create handout literature to accompany the hive. If you spend time, however short, in the nature center, you can be a spokesperson for the honey bee, giving information about honey bees and their role in foods we eat.

Nature centers are also a very good place to educate about the differences between yellow jackets, bumble bees, carpenter bees, honey bees and the various wasps. All are beneficial in their own way. But their way, along with reasons for stinging, need to come to the attention of the non-beekeeping public.

Nature centers like to put a nice big gray paper bald-faced hornet's nest on display. Unfortunately many visitors simply say "look at the big bee's nest." You need to make sure that big gray ball is correctly labeled. Explain to the nature center staff that you are just trying to educate the public into the life and good work of the honey bee by not confusing bees with other stinging insects.

Honey bees need to be appreciated. And you, the beekeeper, need to see that they are. Become an ambassador for these wonderful and fascinating insects. **EC**

Ann Harman is a sideline beekeeper and international marketing consultant.

? DO YOU KNOW ?

This Is A Tough One

Clarence Collison

Mississippi State University

Having just returned from an excellent Eastern Apicultural Society meeting at Cornell University in which three new "Master Beekeepers" were certified and having just judged apiary products at the Kentucky State Fair, I've encountered several avenues of thought.

Inexperienced beekeepers as well as the general public often look to experienced beekeepers as experts in all aspects of the industry. Being able to handle all of these inquiries requires an individual to have a broad working knowledge in many different areas of apiculture. Beekeepers need to be keen observers and

good naturalists. A large part of this knowledge base is derived from personal experiences (learning from your own mistakes). In addition, beekeepers learn from reading a vast assortment of beekeeping literature, by attending meetings and short courses as well as sharing experiences and ideas with other beekeepers.

Please take a few minutes and answer the following questions to see how you are progressing on your knowledge base. The first nine questions are true and false.

Place a T in front of the statement if entirely true and F if any part of the statement is incorrect. (Each question is worth 1 point unless otherwise indicated).

1. ___ European honey bee races produce worker-size cells and drone-size cells that are typically 5.2-5.4 and 6.2-6.4 mm in diameter, respectively.
2. ___ Africanized honey bees typically build worker-size and drone-size cells that are smaller in diameter in comparison to European honey bee races.
3. ___ Worker and drone-size cells are hexagonal in shape since this design maximizes the number of cells per unit area.
4. ___ The warmest area within a hive is where comb-building is occurring.
5. ___ In areas where nosema disease is used as a biological control agent to control grasshoppers, there is a serious threat to honey bee colonies in the vicinity of the treatments.
6. ___ The best defense against wax moths in colonies of bees is to keep the colony strong and healthy.
7. ___ A honey source that has a high fructose-glucose ratio exhibits rapid granulation.
8. ___ The hemolymph (blood) of the honey bee is the main means by which heat is distributed around the bee's body.
9. ___ Invertase is produced by the worker's hypopharyngeal gland.

(Multiple Choice Questions, 1 Point Each)

10. ___ All of the following are considered to be fall floral sources except:
A. Goldenrod
B. Aster
C. Sourwood
D. Spanish Needles

E. Staghorn Sumac

11. ___ When foragers return to the hive with a load of nectar and have trouble finding house bees to unload them, they will perform the _____ dance.
A. Round
B. Tremble
C. Sickle
D. Waggle
E. Jerking (D-VAV)
12. ___ There are approximately _____ subspecies of *Apis mellifera* (European honey bee) in the world.
A. 26
B. 10
C. 40
D. 6
E. 50
13. Please rank *Varroa* mite reproductive success in the various types of brood cells (1=most successful, 3=least successful) (3 points)
___ Worker brood cell ___ Queen cell ___ Drone brood cell
14. If you were asked to judge chunk honey in a honey show, name the primary criteria you would use to judge the entries. (4 points)
15. How many days is the cell capped before emergence for each of the castes below? (3 points)
A. Drone ___
B. Queen ___
C. Worker ___
16. Define a drone comet. (1 point)
17. Describe the function of the following items. (2 points)
DeWill™ Sticky Board
Hogg Halfcomb Cassette®

Answers On Next Page

?Do You Know? Answers

1. **True** In European honey bee races, the worker cells are generally 5.2-5.4 mm in diameter, whereas, the drone cells are 6.2-6.4 mm. Cell size, however, can vary with both bee race and colony age.
2. **True** European honey bees typically produce worker- and drone-size cells that are larger in diameter than those produced by Africanized honey bees. The diameter of Africanized honey bee worker cells is 4.8-4.9 mm and drone cells are 6.0-6.3 mm. As a result, Africanized honey bees are slightly smaller than the European races.
3. **True** The hexagonal shape of worker- and drone-sized cells is common among cell-building social insects, and there is a sound architectural reason for this style. Round, octagonal, or pentagonal cell arrangements leave empty spaces between cells, and triangles or squares have a greater circumference than hexagons. Thus, the greatest number of cells per area can be arranged in comb using the hexagonal shape.
4. **True** The warmest part of the hive is where the bees are producing beeswax and building comb. Bees secreting wax cling together in festoons in the area in which combs are to be built. The temperature at which wax secretion is carried on varies from 95-97°F and is the highest in the hive. The brood area is normally maintained at 93-95°F.
5. **False** The various types of *Nosema* disease are host specific and do not affect other organisms. *Nosema apis* is the pathogen that causes nosema disease in honey bees. When nosema disease is used as a biological control agent to control grasshoppers, the causative agent is *Nosema locustae* and it does not pose any threat to honey bee colonies.
6. **True** The most effective way of controlling wax moth larvae in honey bee colonies, is maintaining strong, healthy colonies. Strong colonies will protect combs and supers throughout the warmer months when wax moth adults are flying and laying eggs. If there are not enough bees present to effectively patrol all of the combs, then wax moth larvae will become established in the unprotected combs.
7. **False** honeys that contain a high fructose-glucose ratio have a slow granulation rate or do not crystallize at all, in comparison to honeys with a low ratio. Since glucose is the sugar that crystallizes out of solution while all other sugars found in honey remain in solution, the greater the amount of glucose present, the faster it crystallizes.
8. **True** Hemolymph or blood of the honey bee has numerous functions and as in other insects is not contained within blood vessels but instead fills the entire body cavity. The various organs are thus surrounded by it and get all their requirements except oxygen, from the blood by direct diffusion. Waste products are also collected and are filtered from the blood by the Malpighian tubules. The blood also provides turgor support to the body through hydrostatic pressure and is also the main means by which heat is distributed around the bee's body.
9. **True** The hypopharyngeal glands in addition to producing some of the proteins, fats and vitamins in the food fed to larvae by nurse bees, they also secrete the enzyme invertase, which is important in the ripening of nectar into honey.
10. C) Sourwood
11. B) Tremble
12. A) 26
13. 1= drone brood cell
2= worker brood cell
3= queen cell
14. Freedom from impurities, wax particles and granulation
Quality, quantity and neatness of the comb honey
Moisture content of liquid honey

General appearance for market Flavor of liquid honey

15. Drone 14.5 days, Queen 7.5 days, Worker 12 days
16. During mating flights, a dense "swarm" of drones following a queen. The swarm is described as having the appearance of a whirlwind or a tail of a comet.
17. The **DeWill™ Sticky Board** is used in the sampling of honey bee colonies for *Varroa* mites. The sticky board with sticky surface up and covered with a screen cover is placed on the bottom board of a colony and left for a specified period of time. Then the board is removed and the number of mites adhering to the sticky surface are counted. It measures the natural drop rate of *Varroa* mites when used by itself, or may be used in conjunction with a control technique to survey a colony for mites or evaluate the efficacy of the control method. The **Hogg Halfcomb Cassettes®** are a relatively new type of plastic sections used in the production of section comb honey. Bees produce comb honey in a marketable plastic tray complete with lid. Each half-comb box has an embossed honeycomb pattern on the bottom coated with wax from which the bees construct their comb.

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

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

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

GLOBAL NEWS

OCTOBER, 2002 • ALL THE NEWS THAT FITS

New Zealand & Australia

BEES FROM OVERSEAS?

The Animal and Plant Health Inspection Service of the United States Department of Agriculture has published a proposed revision to the Bee Regulations in the Federal Register for review and comment.

The docket was published in the Federal Register, 19 August 2002. The Federal Register notice (Docket No. 98-109-1) is available for public comments through November 18, 2002.

Public hearings will be held regarding this proposed rule on the following dates and locations, consult the Federal Register notice for full details: 24 October 2002, Fresno, CA; 29 October 2002, Beltsville, MD.

The proposed regulations would combine the existing honey bee regulations (7 CFR 322) and the "pollinator regulations" (7 CFR 319.76) (the pollinator regulations cover the introduction of exotic bee diseases and parasites through the importation of bees other than honey bees, certain beekeeping byproducts, and used beekeeping equipment). The revision proposes to allow

importation of honey bees from Australia and honey bees and honeybee semen from New Zealand into the U.S. Under the proposed regulations importations from Canada would require an export certificate verifying that the bees were of Canadian origin. These revisions would modernize the language of the regulations and make them current with respect to international standards for trade in honey bees (OIE). Additionally, the Federal Register notice announces that revisions have been made to the New Zealand Honeybee Pest Risk Assessment that was published before *Varroa* was discovered in New Zealand.

Comments can be submitted online at: comments.aphis.usda.gov/pdf and txt copies can be downloaded at: www.aphis.usda.gov/ppd/rad/webrepor.html

Pest Risk Assessments for Honeybees from New Zealand and Australia can be found at: www.aphis.usda.gov/ppq/prd/honeybees/

BART SMITH MOVES ON



Bart Smith is retiring from his position as State Apiary Inspector at the MD Dept. of Ag. (MDA) on October 1. In 1975 he began his career with the MDA as a part-time regional apiary inspector.

In 1977, he began working full-time and has held the position of State Apiary Inspector from 1979 to the present.

In 1984, he was elected secretary of the AIA. Bart is not yet ready to really retire. He has accepted a position at the USDA Bee Research Lab in Beltsville. He starts October 7.

Jerry Fischer will be managing the apiary inspection program when Bart leaves. Jerry has worked for the MDA for 18 years.

Bart's last day will be September 20. After that time please contact Jerry regarding apiary inspection activities in MD at: Jerry E. Fischer, Sr., State Apiary Inspector, MD Dept. of Ag, 50 Harry S. Truman Parkway, Annapolis, MD 21401, 410.841.5920, jerelaf@juno.com

Bart plans on completing his term as AIA secretary up to the December meeting in Ontario, Canada. Before the meeting, AIA president Anette Phibbs and the nominating committee will be working on finding an individual to take over the job of AIA secretary.

Marketing Tip #38

PRICE IS A LOSING PROPOSITION

An Ohio grower came up with a novel idea to sell pumpkins that normally would have gone to waste. He sells nicely shaped pumpkins for full price and challenges customers to find weird-shaped pumpkins at 1/10th the price.

What the grower found was that customers would purchase one pumpkin for their porch and maybe five to 10 of the weird ones. Kids love the weird-shaped ones and use them for pumpkin carving contests, according to Jon Schallert, president of Schallert & Associates, Inc.

"We will remember his place next year and go back," said Schallert, a nationally recognized business consultant, speaker and magazine columnist. Schallert spoke on the topic "Turn Any Business into a Destination Business" at the recent Ohio Florist Association Short Course in Columbus, Ohio in July.

Schallert believes that farm marketers must be creative or they will not survive. Instead of selling customers a gallon of cider, sell them a program – one gallon every week shipped to them. Or, give them a creative memory by hitching a goat to a wagon to deliver purchases to cars.

The problem with commodities, according to

Schallert, is that you can buy them anywhere – at a Kroger or a Super WalMart. What makes a farm market stand out is the experience, the emotions visitors feel after a visit. Schallert said every employee of your farm market must buy into that your place is "one of a kind."

Schallert said after a visit to three New Hampshire operations that sell maple syrup he realized all three businesses were exactly the same. When that happens the only way to compete is by price, a losing proposition, he said.

As an inexpensive direct mail campaign one retail store uses postcards with a picture of the owner and her business. The postcards are given out free to customers with encouragement to send them to their friends.

Farm marketers and growers just getting into selling retail should think about all components of their business and any difference that sets the business apart from big box stores, according to Schallert.

"What's the emotion we want them to walk away with," is a question marketers must ask themselves, said Schallert. "Start with what makes you different than anybody else," Schallert said.

reprinted from Fruit Growers News, by Karen Gentry

SEE CUBAN BEES

Cuba Beekeeping Trip planned for December of 2002. About 20 beekeepers from the United States will travel to Cuba to learn about beekeeping there. You will meet Cuban beekeepers, attend conferences with Beekeeping Researchers, see native stingless honey bee, as well as get a rare opportunity for Americans to see

this beautiful island country. The trip will be about a week and cost about \$1500 per person. If interested contact for more information, Kevin Jester, jesterbee@eritter.net 870.531.2373, P.O. Box 87 West Ridge, AR 72391. Time is limited, so call before October 31, 2002.

Lorain County, Ohio BEE CULTURE'S COVERS FEATURED



The Lorain County Beekeepers, in NE OH, support a huge booth at the County Fair each year. This 200+ member group reports honey sales in excess of \$13,000, more than 90 entrants in the liquid honey portion of their show, face painting, extraction demos and more.

They sponsor essay contests for school kids, with winners

donating half their first harvest to a local food bank.

This year, to decorate the booth, this 83-year-old organization used enlarged copies of covers from *Gleanings In Bee Culture*, and *Bee Culture* magazine to highlight their tenure. It was, if we may say, an extraordinarily well done display.

Marketing Tip #104

LOCAL BETTER THAN ORGANIC

Consumers choose locally grown food for product freshness and to help support local small farmers. They're also more willing to pay a higher premium for "locally grown" than for "organic," according to a new University of Minnesota (U of M) analysis by economist Luanne Lohr.

Lohr says there's some evidence that consumers may seek more locally grown products due to concerns about food safety and agroterrorism threats. "People feel safer buying local food, especially meat and dairy products," she says.

Sales of organic food products have increased rapidly in recent years, although Lohr says there's some evidence that growth is slowing. Her analysis also discusses the relationships of

organic products to genetically modified organisms (GMOs), foreign standards, eco-labels and social goals.

GMOs are not permitted in certified organic products. However, Lohr says entry of "mainstream" farmers and food processors into the organic industry may add pressure to permit GMOs. "Field contamination by cross-pollination with GM varieties may undermine efforts to keep organics GM-free," she says.

"U.S. refusal to label and regulate GMOs in conventional agriculture is a barrier to organic trade with Europe and Japan," Lohr says. "Fear of contamination means loss of markets to countries that don't permit GMOs."

NC PERSON OF THE YEAR



Arlene Samford was Person Of The Year from NC Beekeepers. Brady Mullinax, picture with Arlene nominated her for this honor.

HARVEY YORK



Harvey York

Harvey F. York, Jr., 77, of Jesup, Ga., died Aug. 12, 2002, in Wayne Memorial Hospital in Jesup.

He was the owner and operator of York Bee Co., established by his father in 1924, an internationally known shipper of package bees and queen bees. He was a member and past president of the American Bee Breeders Association, and a member and former officer of the Southern States Beekeepers Federation, and a member of the American Beekeeping Federation and the Georgia Beekeepers Association. He was a contributing author to the 1975 edition of *The Hive and The Honey Bee*.

Mr. York was a close cooperater with Dr. G.H. (Bud) Cale in the commercial development and sales of the Dadant Starline and Midnite hybrid queen lines in the 1960s. Subsequently, he was a principle in Genetic Systems, which took over the hybrid lines from Dadant & Sons in 1976 and attempted to raise and sell instrumentally inseminated queens on a commercial basis.

The Wayne County native and life-long resident of Jesup was a former student of The Citadel, where he a

member of the first class called to service in World War II. He served with the U.S. Army's 86th (Blackhawk) Infantry Division and saw action in the European and Pacific Theaters of Operation.

He was a member of the Board of Directors and the Trust Department Committee of the American National Bank and Barnett Bank. He was a member and past president of the Wayne County Chamber of Commerce; member and past president of the Jesup Kiwanis Club; and Life Deacon and church treasurer for 36 years at Jesup First Baptist Church.

Survivors are his wife, Jean Branch York of Jesup; four daughters, Patricia J. York and Andrea Y. Warren, both of Jesup; Pamela Y. Finland of Savannah and Ellen Y. Wilkes of St. Simons Island; a sister, Melba Y. Bryan of Hinesville; and five grandchildren.

Funeral services were held Aug. 14, at Jesup First Baptist Church with Dr. Felix Haynes officiating. Burial was in the Jesup City Cemetery with military rites.

The York Bee Co. operation continues under the management of Patricia York.



In 1964 Harvey York was chairman of The American Honey Institute.

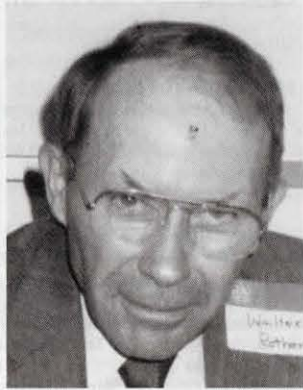
JOB OFFER

The Texas Ag Experiment Center, Texas A&M, is looking for a Post Doc to study honey bee genetics and almond pollination.

Submit letter of application with resume and three letters of

recommendation should be sent to Dr. Jose Amador, Center Director, TX Ag Experiment Station, 2415 East Hwy. 83, Weslaco, TX 78596.

ROTHENBUHLER



Walter C. Rothenbuhler, died August 14, 2002 after a long illness with Parkinson's Disease. Born May 4, 1920 in Monroe County, OH to Samuel and Ferne Rothenbuhler. He

graduated from high school in Woodsfield, OH and began college at The OH State University. He served in the U.S. Army Medical Department from 1942-1946, married Claribel Hall of Ashtabula County, OH in 1944 and finished his education at IA State University. Four children were born in Ames, IA, where the family lived until 1962. After earning BS, MS and Ph.D. at IA State he began his career there as an Assistant Professor in 1954, an expert in honey bee research. He was recruited by OH State and moved his research operations there in 1962,

the family home was in Worthington. He was internationally known for honey bee genetics, including breeding for disease resistance and pioneering research on behavior genetics. He was also an award-winning teacher and was proud of the courses he designed and taught in animal behavior and honey bee biology. Professor Rothenbuhler retired from OH State in 1985 and the Rothenbuhler Honey Bee Research Lab there was named in his honor in 1989. He trained 44 graduate students and published about 75 papers, he was an AAAS Fellow, an active member of many professional societies, including American Men

and Women of Science, and he served on the National Research Council Committee on the African Bee, 1971-72.

He is survived by Claire Rothenbuhler, his wife of 58 years; 4 children and their spouses.

Donations may be made to the Rothenbuhler Parkinson's Research Fund c/o OSU Medical Center Development, 1375 Perry St., Rm. 509B, Columbus, OH 43201, the Walter C. Rothenbuhler Travel Scholarship Fund, College of Biological Sciences, Ohio State University, 484 W. 12th Ave., Columbus, OH 43210 or to Northwest Christian Church, 1340 Fishinger Rd., Columbus, OH 43221, in his memory.

Avoiding The Tarriff, and Contaminated To Boot

CHINESE HONEY SEIZED

U.S. Customs Service & the Food & Drug Administration (FDA) in early September announced that they discovered bulk imports of Chinese honey contaminated with low levels of chloramphenicol (CAP), a potentially harmful antibiotic and unapproved food additive. The contaminated honey was detected during an investigation into a widespread scheme to evade payment of U.S. anti-dumping duties on bulk imports of Chinese honey.

The investigation has resulted in the detention of more than 50 containers of bulk Chinese honey at U.S. ports. In an effort to evade U.S. anti-dumping duties, this honey had allegedly been illegally transhipped through third-party countries on its way from China to America.

Some of the bulk honey in these containers has tested positive for chloramphenicol. Thus far, no illnesses have been reported in association with the imported honey.

As part of the investigation, Customs and FDA agents have executed search warrants on businesses and residences in Los Angeles, Newark, Tampa, Detroit and other locations. Australian Customs, Royal Malaysian Customs, and Royal Thai Customs have also executed warrants in Australia, Malaysia, and Thailand.

Additional enforcement activity is anticipated.

"This investigation should serve notice that U.S. Customs will not tolerate unfair trading practices, especially those that pose potential health risks to the American public," said U.S. Customs Commissioner Robert C. Bonner. "This case is an excellent example of cooperation between U.S. Customs, the FDA, as well as authorities in Australia, Thailand, and Malaysia."

"We will continue to work with our federal and international partners to ensure that products that cross our borders meet our high standards for food safety," said FDA Deputy Commissioner Dr. Lester M. Crawford. "The FDA will take whatever action is necessary to protect the public health from these kinds of activities."

The probe into this scheme began primarily as a dumping investigation. Dumping of a product occurs when merchandise manufactured outside of the United States is sold in the United States at a price that is below the cost of production, or below the price sold in the foreign home market. Foreign manufacturers and or/importers may dump products on the U.S. market in order to gain market share because of political or social concerns or to maximize profits/

minimize losses in production.

In Sept. 2000, several U.S. honey producers filed an unfair trade case alleging dumping of honey imports from China. In May 2001, the U.S. Commerce Department issued a notice of preliminary determination which required U.S. Customs to collect anti-dumping duties on imports of natural bees honey from certain Chinese companies. The duty rates increased between 34 and 184 percent.

The U.S. Customs Attaché in Bangkok, Thailand, subsequently received information that certain honey exports from China were allegedly being illegally transhipped through Thailand en route to the United States. The purpose of the alleged transshipment scheme was to circumvent payment of anti-dumping duties on Chinese honey imports to the United States.

In June 2002, U.S. Customs Attachés in Bangkok and Singapore launched an investigation and began working with their law enforcement counterparts in Australia, Malaysia, and Thailand. Officials from the Royal Thai Customs, Royal Malaysian Customs, and Australian Customs provided substantial assistance. Several domestic U.S. Customs offices joined the investigation, including those in Los Angeles, Newark,

Tampa, Houston, Detroit, and Seattle.

Soon, Customs agents found that U.S.-bound Chinese bulk honey was allegedly being transhipped through Australia, Mexico, Malaysia, Thailand, Vietnam, and other nations to evade U.S. anti-dumping duties. During the investigation, Customs officers in Los Angeles drew samples of bulk Chinese honey from several detained containers that had arrived at the local port. A laboratory analysis found that the honey samples contained chloramphenicol. Customs notified the FDA, which immediately joined the investigation given the health issues associated with chloramphenicol. Analysis by FDA laboratories confirmed the presence of chloramphenicol in the imported Chinese honey.

Since the discovery of chloramphenicol in the Chinese honey imports, Customs has been stopping all suspect bulk imports of honey for the FDA to test for the presence of chloramphenicol. The FDA has developed a method to confirm chloramphenicol levels in honey at one part per billion.

The FDA and Customs are continuing to coordinate their enforcement strategies and will be detaining or seizing any honey imports that contain chloramphenicol to ensure that they are not released for human or animal consumption in the United States.



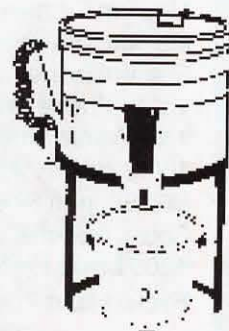
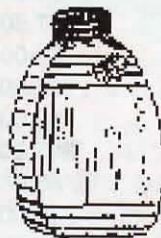
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