DEC 1998

Bee Culture

Bee Culture

THE MAGAZINE OF AMERICAN BEEKEEPING

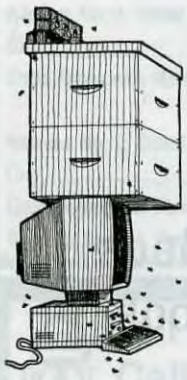
DECEMBER 1998 VOLUME 126 NUMBER 12

FEATURES

COVER
No, there's no bees in the photo. No beekeepers, honey or even a significant bee plant. Just a holiday scene, from us to you. Have a happy and a merry.
photo by Kim Flottum

1998 Year End Index

COLUMNS



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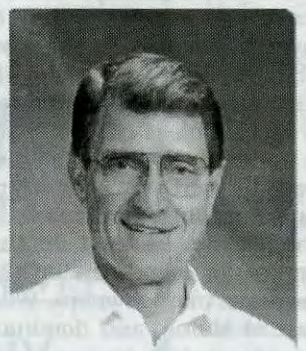
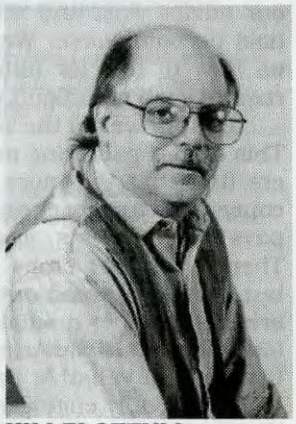


JOHN ROOT
Publisher



KIM FLOTTUM
Editor

Bee Culture is Printed on Recycled Paper

INNER COVER

A Look Back . . . And A Look Ahead.

Toward the middle of this issue Jim Tew spends some time looking back over 1998 from a beekeeping perspective. What worked, what didn't and why. And, probably more important, what should be done next year to make sure the right things happen again, and the wrong things don't. Good advice for any endeavor.

Reading his article got me thinking about looking back, and looking ahead, so I did just that, relative to the contents of this magazine. So bear with me a moment, and let's look back a year or so and mull over what has been, and, perhaps what it all means for what will be next year, and beyond.

Queens dominated the early part of the year, with *Bee Culture's* queen symposium at the ABF meeting leading the way. We discussed some of the problems beekeepers were talking about, some of the reasons the problems existed, and what could be done about them.

Bottom line...Queen producers seem to be doing things the way they have been doing them for many years, and it's not working in the world of fewer feral colonies, *Varroa* mites, other diseases, fewer available and even fewer viable drones, tracheal mite-infested queens and the mail system.

What can you do as a queen user to reduce some of these problems? Make sure the producer you buy from this year uses nosema controls, tracheal mite and *Varroa* mite controls, has more than enough drone colonies for mating, uses clean and new mating nucs, and, once mated, sends the queens though the mail the best possible way. To make sure, ask. Point blank. If a producer can't, or won't answer questions relating to these practices, look elsewhere. There are plenty who do these things, and will answer your questions.

What should you be doing to ensure that once a queen arrives she stays in top condition? First, remove the apistan strip that comes with the cage. If necessary, feed and water the queen, making sure the food and water are clean and pure. Then, use appropriate release techniques when introducing her into a strong, healthy colony. Make sure to maintain your colonies in a healthy manner, and replace brood combs once they are so black you can't see light through them. Keep the colony healthy with appropriate management and chemicals, and keep good records. All basic, fundamental aspects of good beekeeping, but they need to be restated again.

In March this year I discussed the problems associated with those bees, and those beekeepers found with bees that had mites resistant to apistan. The outcome, certainly, was not good, and our advice was, and still is, be on watch because this will (and has) become worse. We have information in the November issue on how to test for mites resistant to fluvalinate that does not require a lab or difficult tests. You can do this at home, and should.

In April we did the story on wild blueberry pollination in Maine. This crop is gathering more and more attention as blueberry growers find that the more bees the better, as far as production is concerned. And beekeepers are finding that this is one crop that pays what it costs, and then some. At least on the east coast. There are bigger crops - apples for instance - on the east coast, but they are spread out and have many owners. Wild blueberries are restricted to a small part of Maine, and dominated by a very few growers. It was an interesting story to cover, and gained attention to a valuable part of the business.

Genetically engineered crops - those with genes added to make them resistant to some insect pests, or tolerant of some herbicides - are becoming more and more popular. Soon, we are told, there will be few, if any soybeans that are not altered in this way. Other crops - cotton, corn, canola, potatoes - are joining the ranks, too. What this means for those interested in growing organic crops is one thing. But what will this man-made alteration do to the nectar these crops produce and the resulting honey? Even if there is no affect (or no significant affect), will the public consider honey a pure and wholesome food? Time will tell, but you read it here first. This month we have more on GMO crops, and the public's reaction in the U.K. Will it happen here?

In May we explored the new laws regarding pesticide use passed last year by congress. Labeled the Food Quality and Protection Act, it has put a significant crimp in getting new pesticides registered, and in keeping older pesticides on the market. This may seem a blessing to some beekeepers, but the newest item (Coumophos) to be considered for *Varroa* control is one of the pesticides under scrutiny. And it is, or was anyway, being considered for removal. Early tests with Coumophos have shown it to be very effective in *Varroa* control, and even the newest pest, the small hive

Continued on Page 42

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Bee Culture

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News You Can Use . . .

Genetically Modified Organisms

Ben Thomson

Recent debate about the release of genetically modified (GM) crops into the UK environment has been stirred up by none other than the Prince of Wales in an article he wrote for a national newspaper. He claims that scientists are invading territory that should remain the "province of God" alone. Furthermore, the public feels increasingly powerless to demonstrate their concerns about genetic technology. Without adequate labeling of products containing genetically modified ingredients, consumers have no choice and no power to reject the technology.

Consumer groups' apparent victory in the European Parliament, with the introduction of a law which requires the labeling of GM foods, has been short-lived. Loop-holes are now becoming apparent wherein only those foods containing detectable modified DNA or proteins will need labeling. Green and consumer groups are angry, because this will mean that 95-98% of the approximately 30,000 products potentially derived from GM crops will not require labeling.

Green groups have the strong backing of the public. ICM, a market research group, surveyed 500 adults for their views on GM foods. In response to the question: "Do you think crops that have been genetically modified should be kept separate?" 85% said yes, and only 5% said no. "Do you think foods that have been genetically modified should be clearly labeled?" prompted a 96% yes response and only 2% no. In addition, 95% of respondents said yes when asked "Should ingredients derived from GM foods be labeled?" Only 3% said no. A recent poll by another market research organization showed that 70% of British people wanted to ban GM food.

Not surprisingly, industry is concerned at the possibility of a public backlash against genetic engineering technology. Monsanto has launched a new media advertising campaign with the slogan "Food biotechnology is a matter of opinions. Monsanto believes you should hear all of them." The company also has a website to accompany their ad campaign at http://www.monsanto.co.uk/. Each advertisement bears telephone numbers for a number of groups such as Friends of the Earth who are opposed to GM foods. Their position on many of the developments discussed here can be found at www.foe.co.uk/camps/foodbio/genepress.html. Some of the green organizations named in the Monsanto ads have complained to the Advertising Standards Agency who deal with unfair advertising in the UK. Green groups claim that they do not have the funds to mount a campaign to counter such huge corporate advertising campaigns.

This frustration has seen some direct-action green groups engage in GM crop vandalism. Early in July, five women were arrested in Oxfordshire for damaging a test site for Monsanto crops. Such protests have recently become more organized. A key project is the "Genetix Snowball" which co-ordinates protests on the first and third Sundays of each month. At each event, a number of protesters turn up and dig up between 1 and 100 GM plants. More and more people are turning up to each event, so while the size of the damage can be considerable, the liability for each individual is minimized — although the offense of criminal damage can lead to imprisonment.

A spokesperson for Monsanto has said that such activities are "just plain vandalism." There is also the concern that any safety protocols put in place by the crop growers will become meaningless if plants are carried off-site. Activist Zoe Elford maintains that all transgenic plants are bagged up and left on site. Currently, the locations of all GM crop test sites are available from the government. This makes life for the protesters somewhat easier. However, Monsanto argues that making such information confidential will not stop the determined few who seek to damage GM crops. Monsanto insists that the most appropriate way of challenging GM technology is by engaging in a debate with the government, not by attacking the companies or research establishments which are doing the actual field testing.

However, any challenges to current government policy have been dealt a severe blow this month with the case of Guy Watson, an organic farmer from Devon in the southwest of England. Supported by the Friends of the Earth and the Soil Association, Watson failed to convince a court that it was necessary to seek a judicial review of GMO trials in the UK. He is concerned that cross-pollination of his organic sweet corn crop by GM maize would lose him his organic status and be financially disastrous for his business. The judge, saying Watson's case was "unarguable," ruled that the government was entitled to accept expert advice that the risk of genetic contamination from the transgenic maize strain was "likely to be zero." However, it has been reported that representatives of industry have stated that "those who want guarantees of totally GM-free food must compromise and accept some contamination."

Contamination of any degree is not acceptable to organic food growers who must meet European standards in order to sell their produce as "organic." These standards include the requirement that there is no GM material in the plants. The Soil Association is one of the organizations which grant organic status in the UK. They argue that it will become impossible to consider any crops as organic. The Guardian newspaper reports that Watson has said, "If the trials are successful and the seeds get on to the national seed list, genetically modified sweet corn will be grown throughout the south of England. Every July and August, the air will be saturated with GM pollen. It will be impossible to grow an organic crop."

The journal Nature (July 2, 1998) reports that the actual effects of cross-pollination are difficult to assess, because the probability of such events is so small. While Pete Riley of Friends of the Earth states that pollen can maintain its fertilizing ability for up to 80 hours after flowering, government experts say that the "vast majority" of pollen grains can only fertilize for up to half an hour. Furthermore, it has been internationally agreed that 99.9% seed purity can be achieved by maintaining a 200 meter buffer zone between crops. In the case of Mr. Watson, the distance between the organic and the GM crops is 2 kilometers. Other factors which make cross-pollination exceedingly unlikely include the low probability that the two corn crops will flower at the same time, and the need for the organic crop to be downwind of the GM corn in order to be pollinated by it.

In response to the case, the Supply Chain on Modified Agricultural Crops (Scimac) has suggested that dialogues be opened between organic farmers and growers of GM crops. Where field arrangements cannot be reached (bearing in mind that GM rapeseed can transfer pollinating material over 4 km), more agreeable solutions might be achieved by the use of "mule" crops that cannot propagate, and "terminator" technology which involves engineering crops so that their seeds will not germinate. There is, however, some resistance to this latter option, because it would require farmers to purchase new seed each year.

The UK government will have to respond promptly if confidence is to be maintained in the organic food industry. BC

Sources

This article was drawn from articles published in London and regional editions of The Daily Mail, The Guardian, and The Observer, during the period June 6 - July 11, 1998.

Ben Thomson
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KEEP IN TOUCH

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MAILBOX

Berlin Packaging

I am writing in response to a letter printed on Sept. 9, regarding Berlin Packaging's response to small businesses. The impression given was misleading at best. Berlin Packaging prides itself on supplying the market with high quality products along with professional and courteous service. Our goal is to be a low-cost source to our customers, resulting in a mutually-profitable relationship.

During the second quarter, a $250 minimum order was instituted, among the lowest in the industry. This dollar amount is not insurmountable to any small business. As a matter of fact, by ordering in this volume freight costs are lower than if smaller increments were shipped. Price discounts are also based on volume! As a company, when you buy from Berlin Packaging in lots of $250 you will pay a lower piece price, and have a lower freight cost than if you placed smaller orders! Buying from Berlin Packaging saves you money!

Berlin Packaging offers a number of services that were created to directly serve entrepreneurial businesses: stocking over 3000 items, providing same day shipping, and accepting credit cards over the telephone to specify a few. In order to provide the lowest possible price to our customers, Berlin is always looking at cost saving ideas. We have lowered prices on hundreds of items in our catalog this year alone!

I hope that the writer of the original letter sees our response, along with your other readers, and gives us a call to test our commitment to customer service and entrepreneurial spirit. Thank you.

Andrew T. Berlin, President
Berlin Packaging
111 North Canal Street, Suite 300
Chicago, IL 60606
email:aberlin@berlinpackaging.com

Another Good One

This month's *Bee Culture* was terrific. Also the new videos should be wonderful. I'll get them ordered for NE OK Beekeepers. We have another beginners' class starting Saturday. Too late for that one but for Spring it will be great. We are trying to put together some sort of association for advanced beekeepers and certification on mentors. Thanks a million.

Norm Adams

Work In America?

Is it possible to get a job with an American beekeeping company?

Seeds of great nectar carrier (approximately 1,000 pounds per acre) could be my share in that company. The name of the plant is *Lophantus Krylovii Lypski.* Besides this perennial (7-10 years at same place) plant contains essential oils with wonderful medical properties.

This essential oil became a component of special Ukrainian vodka, which was tasted by current American President and which received XXV Golden Prize for the quality in Paris '97.

I am 29 years old, high agricultural education, not married and in good health.

I would be glad to be a part of apicultural movement.

Valeriy Kolomiyets
5 FL., 47 Raskovoi Str.
Berdichev, Zhitamir region
261400 Ukraine

Timely Info

In the August issue of *Bee Culture* the article by Joe Traynor is very timely. I think his ideas are a worthy goal, but I see a problem. I believe, the majority of packers are looking for the lowest priced honey to fill their packing needs. If they don't change their thinking it will be difficult to implement what Joe is talking about.

Larry R. Pender
Oak View, CA

Great Back Cover

I was wondering how Wellmark got a deep super frame in a medium super box. Not that it can't be done, the artist apparently knows very little about bees, although the art work is good.

Bob Brinkman
Cincinnati, OH

Experience

Mark Winston seems to have forgotten that from early on students are taught very emphatically that you do not argue or disagree or express your own views if you expect to succeed in school. And that you don't go to college to learn anything, but to psyche out the teacher and get the grade so you can get out of there to learn what you need to know to do your job. Especially in college is this true. I have experience, I've been there.

Clyde Sayler

Marketing Honey

I am a hobby beekeeper. I use, or give away my honey to friends. However, if the bees continue to swarm, and my hive count goes up, I might not have enough friends. So I might have to market my honey. I happened to be at a Fall gathering of venders, several beekeepers selling honey. It seemed like they were not attracting many customers. This idea came to me while driving home. If they would have some apples cut in small pieces, toothpicks, small napkins, squirt bottle of honey – toothpick in apple, squirt honey over apple, yum yum good. Use an apple that is a little tart – Winesap, fugi, or braeburn, all good choices. For Fall outings, hayrides, where you are serving snacks, this is good, better than candy apples. The honey seems to keep the apples from turning brown.

Jack Sullivan
Chesterfield, IL

Continued on Next Page

MAILBOX

Needs List!

At the recent Honey Board meeting held in Milwaukee, a discussion revolved around the use of production research funds. If the proposed changes to the Honey Board Act are approved in referendum, new production research funds become available.

During the discussion, some proposed a 'top ten' list be developed at fall beekeeper meetings. This 'top ten' list would serve to prioritize how honey producers would "spend the money".

A priority for me is a new system for uncapping honey in the extracting room. I use a well known uncapper, and it is fine. There is always room for improvement.

The price of pure beeswax is low. Too low. By any measurement, the energy a hive exerts to produce a pound of wax is very inefficient when compared to the energy a hive exerts to produce a pound of honey. To maximize profit, I should be focused on maximizing honey production, and minimizing wax production. How can this be accomplished?

A research project, funded by production research funds, could examine methods of uncapping honey. Areas which might be explored include, but would not be limited to cutting, or flailing off the cell caps on a frame of honey.

How about using a rigid probe, or wire, or synthetic material to make an incision in the cap instead of a full capping removal? The incision would be just as deep, and the honey could be spun out just as efficiently, but cell structure, cell depth, and the inherent removal of too much wax might be minimized.

How about using laser beams, either horizontally or vertically? Within, or outside of the super?

For example, commercial tomato harvesters have for years been 'reading' tomatoes on the harvest belt for size, ripeness, density, and color right in the field; minimizing hand picking, labor intensive crews.

These are two examples. I am sure other methods have been envisioned by others.

The reason I am in favor of production research can be seen at our place, now that harvest is over. If I have 12,000 lbs. of capping wax, and the price of capping wax is $1.25 per pound; this wax will earn about $15,000.00. For discussions sake, let's assume the bees exerted eight pounds of honey production effort in building the 12,000 lbs. of wax. This totals 96,000 lbs. of honey. Let's use half that number to see if this would be a worthy production research project. 48,000 lbs. of honey at .60 per lb. would then earn $28,800.00. Even in this conservative formula, the enhanced earnings is almost 200% better than wax production.

If, during the fall meetings, a person leads a discussion on a 'top ten' list of production research expenditures; please participate. Opportunities to directly impact the earnings potential of our businesses seldom occur. Here is

MAILBOX

an opportunity.

This opportunity will cost a little money. In the above scenario, the assessment on the 48,000 lbs. of honey will be $360.00 to the producer. Seems like a good investment to me.

John Miller
Newcastle, CA

Greek Honey

I thought the attached which I received during a recent trip to Greece worthy of your wonderful magazine!

I am a subscriber with 14 hives. I have lots of pictures of Greek hives.

Has there ever been an article on beekeeping in Greece?

C.D.L. Perkins
Richmond, VA

The Grande Bretagne has conducted an extensive search throughout Greece to locate the finest honey, royal jelly and pollen. Today these products are available to you conveniently packed for travel. Our Gift Shop personnel will be happy to answer any questions and assist with your selection.

Fire Ants In CA

As a migratory beekeeper that has been sending bees to California for almond pollination, I'm concerned about the discovery of fire ants in California.

The possibility of them arriving on beehives from the gulf states is a valid concern. The fire ants in this area seem to establish a kind of symbiotic relationship with the hives here. I think it's a heat-sharing thing as they coexist when the ant nests are left untreated, building under or up against the hives. Each go their own way – the ants not entering the hive unless it is in a severely weakened or queenless state. Since we hand-pick each and every hive for pollination for strength this doesn't affect the California bound bees.

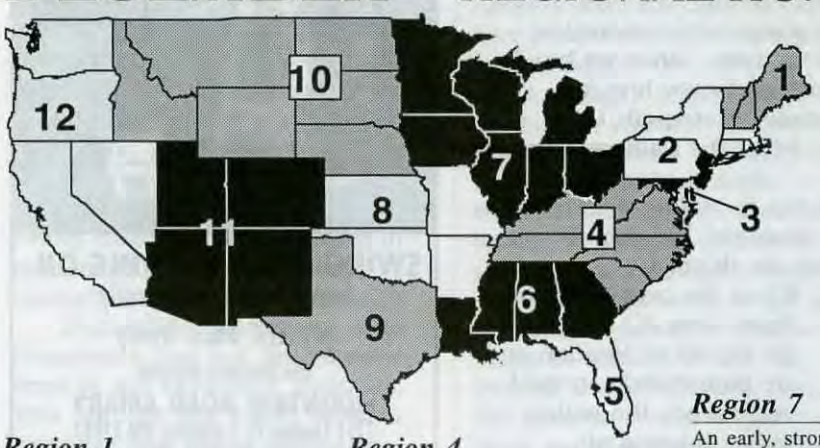
I'd like to outline a few preventative measures I've used before my bees are shipped.

1) When the bees arrive in Texas from SD (Oct) they are placed on location and are immediately sprayed underneath the pallets with a solution of carbolineum and diesel fuel (1 cup carbolineum to 2 gal of diesel fuel)
2) In mid to late December another application of the same solution is applied and Diazinon granules are sometimes applied.
3) The night before the bees are loaded on trucks for congregating, the pallets are picked up and moved over approximately two feet, onto a presprayed turf. This would allow any adhering ants to return the short distance back to their nests. The following night the pallets of bees are loaded and congregated onto a concrete slab.

We have here in SE Texas the advantage of a late Fall pollen and honey flow plus a January pollen flow that creates large clusters of young bees ready for the almond pollination season. Employing these preventative measures allows the almond growers to receive strong ant-free beehives from me.

B.C. Moehling
Wagner, SD

DECEMBER – REGIONAL HONEY PRICE REPORT



1998 Crop & Price Summary

Region 1

Early Spring weather unfavorable, and Summer not a lot better. Overall crop about average to a bit up. Demand, and prices at retail about even, wholesale steady to down at producer level. Bulk prices from packers down.

Region 2

Spring weather was about average, but some areas better than usual. Summer weather average to good this year, producing an average to above crop. Demand at retail up, but prices steady, same with wholesale. Bulk prices down.

Region 3

Spring weather about right, but a bit earlier and warmer. Summer weather not good, and a reduced crop resulted. Demand and price at retail steady, but up some at wholesale. Bulk prices down.

Region 4

Spring weather not the best generally, and Summer weather not either. Crop less than expected. Retail demand steady and prices steady. Wholesale demand unchanged to increasing, but prices steady to down. Bulk prices offered to producers down.

Region 5

All manner of strange things have come to Florida this year. An average Spring and less than average Summer flow hurt production a bit, and only stable to lower prices haven't helped. Then there's the hive beetle . . .

Region 6

Spring weather was marginally better than average, but Summer flow weather was worse than usual, resulting in a less-than-average crop. Retail and wholesale demand and prices remain stable, but bulk prices continue to fall.

Region 7

An early, strong Spring, followed by a good Summer, honey flow wise, resulted, strangely, in only a slightly above average crop. Retail demand up, retail prices steady, wholesale barely steady for price, and, of course, bulk price offers down.

Region 8

Spring and Summer weather in mid-America were average to somewhat less than ideal for honey production, and an only average crop resulted. Demand, and prices at the retail end are up, while wholesale prices steady. Bulk way down.

Region 9

The weather dominated the season – great Spring, and nothing after. Drought hurt much of the state and production was down. Demand and prices at both retail and wholesale remained steady throughout the year, bulk, down again.

Region 10

America's bread basket had a less than spectacular season, but not too bad, either. Spring and Summer weather were less than ideal, and so was the crop. Retail and wholesale the same as last year, but bulk way down.

Region 11

Mediocre Spring and good Summer weather helped produce a better than average, and expected crop. Retail demand steady, but prices down, and the same for wholesale. Bulk, well, way down but optimism prevails.

Region 12

A poor Spring and average Summer flow weather resulted in an average or so crop. It started out great, but petered out later. Demand and prices at retail increasing, and wholesale stable. Bulk down.

	Reporting Regions												Summary		History	
	1	2	3	4	5	6	7	8	9	10	11	12			Last	Last
Extracted honey sold bulk to Packers or Processors													**Range**	**Avg.**	**Month**	**Yr.**
Wholesale Bulk																
60# Light	55.84	61.33	58.00	67.00	75.00	49.00	47.20	56.24	54.00	56.24	62.70	57.40	36.00-75.00	57.72	61.70	67.91
60# Amber	54.74	60.80	75.00	62.40	69.00	50.33	44.71	60.40	54.00	55.40	56.80	52.40	35.00-75.00	56.21	57.57	63.88
55 gal. Light	0.74	0.75	0.78	0.68	0.70	0.68	0.68	0.70	0.80	0.64	0.73	0.71	0.60-1.50	0.68	0.70	0.85
55 gal. Amber	0.72	0.73	0.60	0.66	0.60	0.63	0.66	0.83	0.75	0.61	0.67	0.68	0.50-1.50	0.63	0.66	0.81
Wholesale - Case Lots																
1/2# 24's	28.06	28.09	29.51	31.46	22.40	27.92	29.55	29.51	30.00	29.51	27.17	26.20	22.40-37.20	28.94	31.50	30.08
1# 24's	41.19	42.75	43.20	43.78	37.00	31.25	43.04	39.92	48.00	42.00	41.15	43.78	20.50-54.00	42.33	44.47	43.44
2# 12's	38.07	37.09	42.60	42.47	34.60	38.30	38.59	40.20	42.00	36.00	38.53	36.70	29.40-52.58	39.02	40.56	39.93
12 oz. Plas. 24's	36.07	37.89	40.80	35.42	39.04	35.40	36.21	36.24	36.00	33.60	39.13	35.36	26.40-54.00	36.71	37.94	37.36
5# 6's	39.97	39.29	48.00	47.83	36.55	35.13	39.86	39.00	48.00	42.45	39.18	37.47	30.00-56.25	41.10	43.37	41.89
Retail Honey Prices																
1/2#	1.83	1.63	2.83	2.17	1.25	1.80	1.78	1.72	2.50	2.83	2.68	1.73	1.10-3.69	1.85	2.01	1.85
12 oz. Plastic	2.18	2.35	2.35	2.09	1.79	2.47	1.99	2.21	2.50	2.33	2.76	2.08	1.61-3.20	2.21	2.30	2.22
1 lb. Glass	2.69	2.69	2.60	2.89	2.00	2.62	2.41	2.60	4.00	2.49	3.35	2.81	1.92-4.99	2.72	2.84	2.61
2 lb. Glass	4.44	4.61	4.55	4.19	3.99	4.29	4.20	4.24	4.50	4.14	4.73	4.69	3.59-6.00	4.53	4.65	4.33
3 lb. Glass	6.12	7.07	6.75	6.92	5.25	6.18	6.04	6.57	6.00	5.69	6.57	5.57	4.00-9.00	6.27	6.66	5.99
4 lb. Glass	7.51	7.55	8.11	8.63	8.11	6.86	7.93	8.34	7.00	8.11	8.11	5.95	5.95-10.50	7.89	8.03	8.12
5 lb. Glass	9.01	10.10	9.80	9.87	9.74	8.20	8.26	10.58	9.00	7.70	9.38	8.08	6.00-14.00	9.21	9.49	9.11
1# Cream	3.26	3.33	3.62	3.82	3.62	2.40	2.68	3.13	5.50	3.62	3.87	3.07	2.04-5.50	3.32	3.35	3.24
1# Comb	4.11	4.61	3.50	4.19	4.55	4.00	3.74	3.65	5.00	4.55	5.25	4.33	1.95-7.49	4.21	4.17	4.01
Round Plastic	3.55	3.11	3.50	3.75	3.88	4.50	3.01	3.66	3.00	3.88	3.88	4.07	2.00-6.00	3.65	3.72	3.71
Wax (Light)	2.36	2.47	2.35	1.55	1.70	2.41	1.78	2.38	2.00	1.30	2.16	2.26	1.25-6.00	2.36	2.72	2.91
Wax (Dark)	2.12	2.81	2.13	1.40	1.40	2.24	1.44	1.85	1.50	1.20	1.80	1.89	0.90-6.50	2.09	2.44	2.41
Poll. Fee/Col.	37.07	40.33	30.00	35.00	30.00	37.33	36.86	39.50	20.00	39.32	50.00	35.00	20.00-60.00	37.96	37.39	35.96

THE WISE GUY

I believe there are two types of people in this world. One group gets things done, the other group complains. I believe that is very true in the beekeeping industry. A new "Honey Loan Program" is now in the works. The loan rate is 56 cents per pound, which is 85 percent of the average price for the last five years. That does not make the market value 56 cents per pound. The market value should start at 65 cents per pound.

It seems that some beekeepers are happy, some are unhappy; some don't care, and some just want to complain. I hear that the loan rate is too high or it's too low. Also one national organization is satisfied while another is unhappy. Some people in this business would never be happy no matter what they got. If these same people had been on the Titantic they would have complained about the music being played as it sank.

We need a more unified effort by this group. We don't need one group here – another one here – and another group here. We don't need groups being led by senior citizen wannabe commercial beekeepers. We don't need organizations in our business that are started because they can't get their way in another organization.

We need compromise in all of our organizations or we will continue to splinter. The loan rate is the latest thing to fight over. I can only wonder what will be the next thing we can fight about!

How do we solve this problem? Start with new leadership in the two national organizations so we have no carry-over from past differences. Turn the Honey Board into a producer-friendly group instead of a packer-importer friendly board. If we took 10 percent of the Honey Board's income and used it to keep beekeepers informed about issues such as the honey loan program, instead of how to make garlic-marshmallow-honey drop cookies. It makes me sick when I read the Honey Board news and there are recipes for cookies on half of one page. We need better communications, and it's up to us to solve the problem.

Be a part of the solution; don't be the problem. Bring the beekeeping business together.

Are You As Wise Or Wiser? Comments?
Write: Wise Guy, P.O. Box 706
Medina, OH 44258

Roger Morse

Research Review

"Pollinator behavior, and undertaker bees, among other things."

Honey bees tend to travel upwind, and as the wind speed increases so does their tendency to do so according to one recent study. One possible explanation according to these authors is that the bees have the advantage of traveling downwind when they are full. Odor may be a factor since obviously it comes only from the upwind flowers.

This study was done in an avocado grove. It was found that the bees that foraged close to the hive had a greater tendency to fly across rows than did bees foraging 10 to 15 rows away.

The behavior of foraging honey bees is not fully known and understood, but in general bees seem to follow logical patterns, at least insofar as we are concerned.

Ish-Am, G. and D. Eisokowitch. *Mobility of honey bees during foraging in avocado orchards.* Apidologie 29: 209-219. 1998.

Stinging Behavior

In worker honey bees the sting is barbed and remains in the victim after stinging. Bees that have stung die because of the physical damage done to their bodies as the sting is torn from it. However, most of these bees live for 18 to 114 hours after losing their sting according to research done nearly 50 years ago. A recent study shows that the bees that have lost their sting continue to participate in colony defense "by following and harassing potential predators."

The techniques used to study this activity were remarkably simple. Bees from the study hive were induced to sting a strip of leather anointed with alarm odor that was swung back and forth in front of a hive until it had been stung about 100 times. The leather strip was then removed and an observer stood in front of the hive to attract the attention of the angered bees. The observer then walked away, and while doing so collected the bees that followed in an insect net. These bees were later examined. The tests, which involved a number of colonies, showed that on average 28 percent of the bees that pursued the observer had lost their sting.

Examination of wing wear and other age-indicating factors showed that the bees that had lost their stings and chased an observer were younger than foragers and older than house bees. They were of the age of soldier and guard bees. We are seeing increased use of the term soldier bees, and they appear to be a well-defined caste. They are unemployed bees capable of doing a wide variety of tasks depending on what is needed. Harassing an enemy can obviously be an important part of colony defense.

Cunard, S. J. and M. D. Breed. *Post-stinging behavior of worker honey bees.* Annals of the Entomological Society of America 91: 754- 7. 1998.

Notes on Undertaker Bees

There is division of labor among the worker bees in honey bee colonies, based largely on age. A recent study points out that those bees called undertaker bees, for example, are more inclined to remove dead bees, handle dead bees, and remove debris from a hive than are other bees. However, these specialists do not stop doing other tasks; it is just that they are less likely to do them.

Undertaker bees are, like guards, more likely to remain in the lower regions of the hive, presumably because that is where they are more likely to encounter dead bees. Also, undertaker and guard bees start foraging at earlier ages. The data suggest that guards and undertakers "may be slightly developmentally advanced compared to food storers and wax workers."

The data gathered in this study "suggest that a significant proportion of workers participating in undertaking do so for only one day" and then move on to something else. This research asks the question "What is most important as regards how division of labor works." Insofar as honey bee colony success is concerned, it appears that flexibility in worker bee behavior is important. Whereas there is division of labor among workers, it is not a rigid affair, and bees are capable of doing a variety of tasks. BC

Trumbo, S. T., Z-Y Huang and G. E. Robinson. *Division of labor between undertaker specialists and other middle-aged workers in honey bee colonies.* Behavioral and Ecological Sociobiology 41: 151-163. 1997.

?DO YOU KNOW?

Honey

Clarence Collison
Mississippi State University

Handling, processing and marketing the remainder of your honey crop should be one of your top priorities this time of year. To keep honey in its original condition of high quality and delectable flavor and fragrance, the beekeeper and honey packer must be familiar with factors that govern honey quality. Several beekeeping and processing practices can reduce the quality of the final product. In addition to producing a high-quality product, the beekeeper may have to spend time developing new market outlets in the area. As you work with potential consumers, it is also important that you are very knowledgeable about the product you are trying to sell.

Take a few minutes and answer the following questions to determine how well you understand honey characteristics and the factors that affect honey quality.

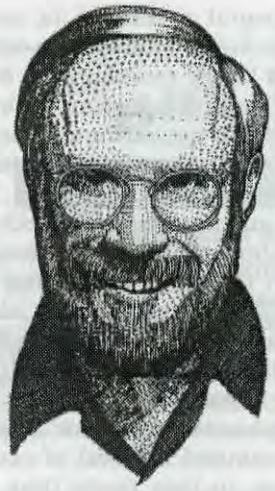
The first 12 questions are true and false. Place a T in front of the statement if entirely true and an F if any part of the statement is incorrect. (Each question is worth 1 point).

1. ___ Tupelo honey is high in fructose and low in glucose.
2. ___ Buckwheat honey is light amber in color.
3. ___ The average sugar composition of American honey is 38.4 percent fructose, 30.3 percent glucose and 14.8 percent sucrose.
4. ___ The primary reason for killing yeast cells in honey by heating is to delay granulation.
5. ___ The products of fermenting honey are: carbon dioxide, alcohol, acetic acid and water.
6. ___ The solids found in honey are primarily carbohydrates, largely simple sugars or monosaccharides.
7. ___ Invertase, the enzyme involved in the ripening of honey, originates from the plant's nectar supply.
8. ___ The nectar found in the bee's honey sac (stomach) is more dilute than the nectar as it was removed from the nectaries.
9. ___ Honeydew honey is richer in minerals than honey produced from nectaries.
10. ___ Dark-colored honeys are mineral rich in comparison to light-colored honeys.
11. ___ Low-moisture honeys granulate faster than high-moisture honeys.
12. ___ Honey packers normally blend two or more types of honey in order to market a product of uniform color and flavor.

Multiple Choice Questions (1 point each)

13. ___ The caloric value of honey varies slightly with honey type; however, the USDA reports a figure of ___ calories per pound of honey.
    A) 1,380
    B) 1,420
    C) 1,240
    D) 1,560
    E) 1,320
14. ___ The weight of honey varies slightly with the moisture content; one gallon of honey will weigh approximately ___ pounds.
    A) 11
    B) 13
    C) 10
    D) 12
    E) 14
15. ___ When baking with honey, oven temperatures should be lowered by ___ °F, since honey is more sensitive to heat than sugar.
    A) 15
    B) 75
    C) 25
    D) 35
    E) 50
16. What is a distinct advantage of using honey rather than sugar in the baking industry? (1 point)
17. How would you explain a situation in which an individuals honey granulates and ferments following heating at the recommended temperatures? (1 point)
18. The main problems encountered in packing honey are excessive moisture, pollen, wax and air. Describe what precautions you would take to minimize the quantities of these materials found in raw honey. (4 points)
19. Honey possesses three biological properties which either separately or together account for its antibiotic nature. Please explain how acidity, osmotic pressure and the glucose-oxidase system are involved in its antimicrobial properties. (3 points)
20. Please explain why oval glass jars are preferred to round glass jars for packing honey. (1 point)

ANSWERS ON PAGE 41



Mark Winston

Trade Talk

"Trade: The business of buying and selling commodities."

Beekeeping means many things to the diverse individuals practicing this craft around the world. For some, it's an enjoyable hobby, an excuse to do a bit of farming in a small patch of backyard garden. For others, it's a fascination with an elaborate and ever-interesting insect, an opportunity to observe nature. Still others find bees important to pollinate their crops, and even pay beekeepers for the privilege of having some colonies on their farms during bloom. Perhaps most significantly, however, beekeeping is about the business of producing honey, and we have been robbing, managing, and exploiting honey bees to obtain honey for sale since the first stirrings of the human commercial spirit.

The earliest cultures in Asia and Africa, where honey bees originated, exhibited beekeeping in some form. Often, particular families would hold the rights to trees or rock sites in which honey bees would nest, and these early beekeepers would harvest the honey and barter with their fellow villagers in return for meat, salt, fruit, baskets or other commodities. As time went on, beekeeping in log and woven hives developed, and more sophisticated trade with other villages and eventually regions was initiated, so that honey began to appear as a commodity in world commerce. Today, of course, millions upon millions of pounds of honey are shipped around the world, and the business of buying and selling honey has become an important component of world agricultural trade.

Trade is an enormously interesting phenomenon of human life, and every country and region has developed it's own peculiar approaches to buying and selling commodities. Trade in honey is no exception, and unique aspects of both honey production and culture around the world have resulted in a range of approaches to the business of selling honey on the international market. Here in Canada, we produce copious quantities of good-quality honey, and high yields coupled with the quality of our product have made it fairly easy to export bulk honey in barrels and get a good price for it. In New Zealand, honey production per hive is relatively low and production and shipping costs high, but the export-oriented, entrepreneurial New Zealanders have compensated by using every value-added trick in the book to increase the price and marketability of their produce. These beekeepers export bottled specialty honeys, and do extremely well in niche markets by commanding a premium price for unique and carefully crafted products. In China, they exploit their low production costs by exporting cheap, low-grade honey in large amounts, undercutting world prices, and moving their honey through the murkier areas of the world honey trade.

The United States also has a national feel to its attitudes about commerce in honey: American beekeepers whine about how they've been manipulated by packers, undermined by shady business practices from other countries, and sold down the river by the government dropping trade barriers. Perhaps there's some truth to some of these complaints, but hey, business is about beating the other guy in the marketplace. I admit to becoming weary of hearing some highly vocal American beekeepers who champion the entrepreneurial spirit in theory but in practice do little but complain when the free market doesn't go their way. Meanwhile, the rest of the world has gotten with the new program of world trade that many American beekeepers seem to be unaware of. That's right, the trade world has shifted under your feet, and as a group the American beekeeping industry has a long way to go to catch up to the realities of contemporary world honey markets.

A number of things have changed in recent years both in the United States and around the world that American beekeepers are only beginning to become aware of. Ten or 20 years ago, U.S beekeepers were comfortably cushioned by a government-run price support system that pretty much guaranteed beekeepers a decent living. On top of that, U.S. protectionist trade policies prevented other countries from dumping cheap honey into the United States, further insulating American beekeepers from world trade realities. Both of these things have changed; guaranteed minimal prices for honey no longer exist, and barriers to trade worldwide have dropped and continue to do so. Today, American beekeepers no longer are protected from the vagaries of the world market, and my own opinion is that this shift in trade realities is as significant as the *Varroa* mite for difficulties experienced today by U.S. beekeepers in earning their living.

Many of the concerns expressed by American beekeepers are real, but the prevalent attitude about trade issues among U.S. beekeep-

Continued on Next Page

"Packers are going to try to buy your honey at the lowest possible price and sell it at the highest price that consumers will pay; isn't that how capitalism works?"

ers seems to be one of expecting someone else to solve these problems. Sure, packers are going to try to buy your honey at the lowest possible price and sell it at the highest price that consumers will pay; isn't that how capitalism works? Yes, the Chinese are going to export honey at low prices and U.S. packers are going to buy it in preference to higher-priced American honey. It's no longer a national market out there, and you shouldn't be surprised to learn that you're competing in an international arena with different rules than in the olden days. And no one should be surprised that unscrupulous producers and packers are adulterating honey with cheap sweeteners; the inspection system to find and prosecute adulterators is weak, sporadic and largely ineffective.

There is one very positive aspect to the persistent complaining by U.S. beekeepers about these issues: We're finally beginning to see constructive debate that perhaps eventually will lead to a more positive approach to the honey business than we've seen in recent years. Indeed, there are a number of initiatives beginning to percolate that could significantly improve the economic situation for American beekeepers, but it's still debatable whether the constructive, forward-thinking component of the industry will win out over the whiners to establish a more positive and effective national attitude to trade and related commercial issues.

One positive step I'd like to see is for beekeepers to band together to sell their own honey on world markets. This would not be a new phenomenon; the impetus for honey co-ops to develop around the world has always been for beekeepers to take control over their own product, and new marketing coalitions among some American beekeepers would have the same origin. Perhaps a more conscious promotion of marketing cooperatives might encourage beekeepers to take a more active role in handling their own products worldwide rather than continuing to depend on packers who have their own commercial agendas. For example, I recently attended a U.S. state meeting at which I heard beekeepers lambaste packers for manipulating prices and buying cheap honey from overseas. My suggestion was that a group of these beekeepers get together and market their higher-grade honey to the lucrative European market themselves, rather than going through honey brokers or packers. Did it happen? I don't know, but I do know that this type of aggressive approach to trading honey would have gotten them a much better price than was being offered by U.S. packers.

Another constructive and long-overdue step in the United States is the recent legislation to establish a beekeeper-run system to test for adulteration by American producers and/or packers. Honey imported into the United States often is tested, and adulterated or residue-contaminated loads turned away, but there are few barriers to in-country adulteration with cheap sweeteners that may be partly responsible for recent decreases in honey prices experienced by U.S. beekeepers. There also are concerns in certain international circles about the quality of some exported American honey. And no, you didn't misread that comment: I have heard allegations overseas about residues and sweeteners in U.S. honey, and if anything, these concerns are increasing. A laboratory that tests widely and routinely for adulterated products would be a positive measure to maintain quality standards that will keep honey prices up where they should be, and re-establish the reputation of exported U.S. honey as a carefully and properly crafted product.

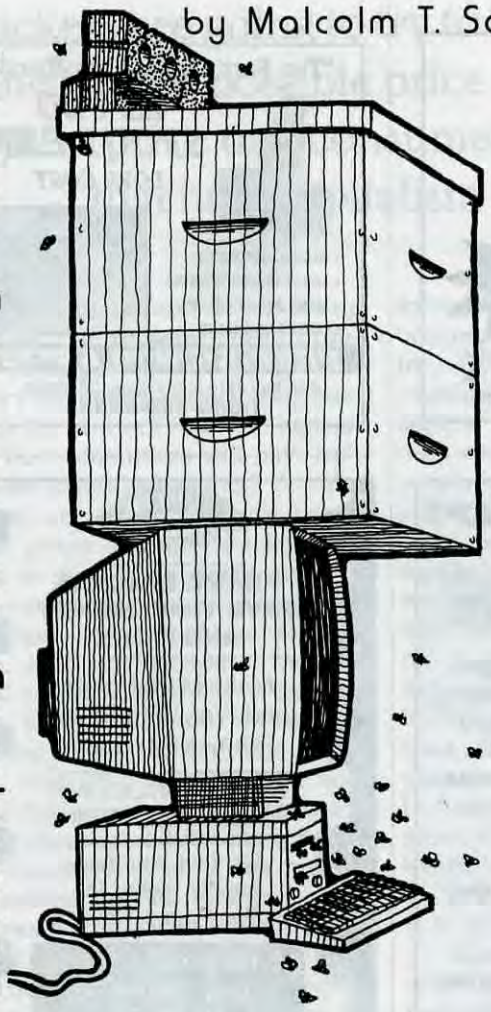
Increased participation by U.S. beekeepers and organizations at international meetings is another critical step to improve the effectiveness of honey marketing. A few forward-thinking American beekeepers have begun appearing on the international scene, and organizations such as the U.S. National Honey Board and the American Beekeeping Federation are paying increasing attention to what's happening on issues such as honey quality, changes in world demand for types and grades of honey, European rejection of honey that might come from bioengineered transgenic crops, and the continued removal of economic barriers to free trade that is the dominant factor for international trade in all agricultural commodities. Market awareness is the first step in astute trading, and we all need to get up to speed about what's happening around the world.

Most significantly, we need to stop focusing the industry mood on complaints about how we're being poorly treated by 1) packers, 2) the government, 3) the Chinese, 4) the bee press, and 5) anyone else. While it's important to be aware of problems, the U.S. honey trade agenda today is too focused on negative issues and not focused strongly enough on providing solutions. The ever-changing situation with world honey trading does provide challenges, but within those challenges are tremendous opportunities to improve the position of American honey producers in national and international markets, and for beekeepers to make a better living. After all, isn't that what buying and selling commodities has always been about in the end? BC

Mark Winston is a professor and researcher at Simon Fraser University, Burnaby, B.C. Canada. He is program director for Apimondia 1999.

Beekeeping In The Digital Age

by Malcolm T. Sanford



My Home Page

http://.../~MTSanford/Webcolumns/Index.htm

As Extension Specialist in Apiculture at the University of Florida, I publish a monthly beekeeping newsletter called *APIS—Apicultural Information and issues,* ISSN 0889-3764. It is available in paper free to Florida residents, however, there has been so much demand over the years from outside the state that I was forced to explore other means of publishing this resource. Electronic delivery began in early 1984 on what was then called BITNET (Because Its Time Network). Soon after that the Internet became the distribution mode of choice as BITNET, mostly an academic network, was phased out. Several years of issues distributed electronically came to be archived at various locations around the world. All have now been incorporated into the APIS World Wide Web site. Most Web sites have a formal place of origin or beginning called the "home page." The URL for the *APIS* home page is:

http://www.ifas.ufl.edu/~mts/apishtm/apis.htm

Again, if you were using a computer, you could point to and select or click with a mouse to immediately access the site. Notice that the domain for this URL is .edu, which means it is an educational site. For those not familiar with definitions like URL, domain or HTTP, earlier columns should be consulted either through back paper issues of *Bee Culture* or by accessing the following URL:

The APIS home page contains a background image of honey bees on a comb designed by my graphic artist wife, **Christy Sheffield Sanford**. By clicking on her name in bold face using a browser one can see her extensive resumé of electronic publication. The page also lists the following options**: Organization and History of Site**, **Indices of Available Issues**, **Topical Index**, **Letters From France**, **Related Web Sites**, and **Yearly Use Statistics** just below the main graphic that shows the title and ISSN number (0889-3764). Pointers from the home page guide readers to four most recent yearly summaries. At the bottom of the page, there is a form called a "**Guest Book**" that can be completed and electronically mailed to the author. Finally, the bottom bar of the browser displays a Java script dynamic tickertape that provides up-to-date information on what has recently been added to the site and when it was last updated.

The **Organization and History of Site** discusses the genesis of the newsletter and how the site is organized, as well other information about Florida's extension apiculture program. Besides the ability to read about the site's history, selecting the **indices** option makes 14 years (over 150 back issues) of this four-page newsletter available. Indices are formatted on the *APIS* site in several different ways. One shows them separately from the issues they refer or point to. However, they can also be seen alongside their corresponding issues in a browser configuration called "frames." In addition, four years of indices can also be seen side by side within their own frames, making it possible to see a "superindex" of 48 issues on one screen.

The **topical index** makes searching for information even more powerful. Here articles are grouped into one of nineteen generalized categories, including, **diseases and pests**, **processing and marketing honey**, **other hive products**, **tracheal** and **Varroa** mites, issues relating to **Florida beekeeping**, the **environment**, **pesticides**, **pollination** and the **Africanized honey bee** or AHB. Articles are listed chronologically from most recent to oldest in each topic, providing historical perspective.

Originally published as discrete paper issues, making them all electronically available from the home page has transformed this collection of newsletters into a single database of beekeeping information. A paper describing this metamorphosis can be read by entering the URL **http://www.ifas.ufl.edu/~mts/apishtm/papers/emweb.htm** into the browser window. It was presented by the author at the 1996 Cancun, México meeting of the *Sixth International Conference on Use of Computers in Agriculture.*

Besides the ability to select specific issues, there are many links that also point to other issues of the newsletter, and in some cases outside the *APIS* site. For example, the **January 1998** article on proposed organic rules by the National Organic Program has a link to the **May 1991** issue, which discusses the organic certification process in Florida at that time. Thus, one is transported across seven years of issues by simply selecting an appropriate link; the article can also be found by scanning the indices in other ways as described above. In the **February 1998** issue, a link is provided to a graphic that contains information on the kinds of transgenic plants that have been released during the 1990s, as published by the U.S. government's Animal and Plant Health Inspection Service at their site **<http://www.aphis.usda.gov/bbep/bp/images/nov975.gif>**

Ancillary items that are linked to the APIS home page include the author's **vita** and the full text of many of his recent papers. Thus visitors can read and print reports of the American Beekeeping Federation programs in **Austin, TX** (1995), **Portland, OR** (1996), and **Colorado Springs, CO** (1998) or the Eleventh Brazilian Apicultural Congress in **Teresina, Brasil** (1996), as originally published in *The Speedy Bee* beekeeping newspaper. Also available are articles published elsewhere, such as an accounts of the Fifth Ibero-American Apicultural Congress in **Mercedes, Uruguay**, originally printed in 1996 and 1997 editions of *Bee Biz*, the magazine for professional beekeepers.

The *APIS* site is being added to and improved every year. Issues now include the full URL of each link, enabling direct access from mail programs. In addition, full copies of the paper issue as printed can be printed using Adobe Acrobat® and one can scan the use statistics, which give an idea of how many times the site has been accessed (hit) during the year. Finally, the newsletter is available electronically through listserv technology. And can be subscribed to by sending the appropriate message to listserv@lists.ufl.edu. Thus, the newsletter continues its tradition of chronicling changes and challenges in apicultural information delivery. This year marks *APIS*' sixteenth year serving the beekeeping industry and continuing its tradition as a pioneer in electronic publishing. BC

Malcolm T. Sanford is the Extension specialist in Apiculture for the state of Florida. He publishes the electronic and traditional newsletter, APIS: http://www.ifas.ufl.edu/~mts/apishtm/apis.htm

CLUB CORNER

by Alan B. Wissinger

OUTREACH PROGRAM

A series of articles designed to provide ideas, guidance and a road map for regional beekeeping clubs. Prepared by members of The Back Yard Beekeepers Association (BYBA). Founded in 1993, the BYBA's membership consists of 150 hobbyist beekeepers from Fairfield and Litchfield Counties (Connecticut) and Westchester County (New York). www.fairfieldweb.com/byba

Our club's mission includes the following directive:

To educate and promote the benefits of beekeeping to the public.

To make that directive a reality, we decided to give some structure to our mission by assigning a committee to plan and oversee our OutReach program. The committee's first step should be to create a short explanation of its purpose. Here's an example:

The club's OutReach Committee will plan and execute a series of activities and events that collectively contribute toward educating the general public about the benefits of beekeeping.

Why reach out? When it comes right down to it, the key objectives of an OutReach program are as follows:

- Head off public fears about bees (as sensationalized by killer bee stories in the media)
- Prevent local ordinances against beekeeping
- Get more people interested in beekeeping
- Attract more beekeepers to your club (keep the hobby alive and growing)
- Help youngsters (and the public in general) understand the beneficial role that bees play in our environment and in our community

Public Relations vs. OutReach There's a bit of overlap between public relations efforts and a club's OutReach program. It's useful to define the distinctions carefully, as each activity serves a slightly different purpose.

Public Relations Program

Promotional activities and events that inform the public about the club, its members and its schedule of events

OutReach Program

Educational activities and events that teach the public about bees and the benefits of beekeeping

OutReach Activities There are a whole host of activities that fall under a club's OutReach efforts. Typically, each of these will deserve a chairperson and a committee to plan, oversee and implement. Here is a typical list of OutReach activities:

- Club exhibits at nature centers (This might include display cases, evening lectures or the installation of an observation hive.)
- Presentations to schools (Club members with children in the school system might approach teachers about a special presentation to the class or organizing a Springtime field trip to an actual bee yard.)
- Educational packets to be used by local school teachers (Offer a kit of visual aids, demo materials and a teacher's guide which allow a school to present basic facts about honey bees.)
- A bee club speakers bureau (The club can offer competent speakers to make presentations at other clubs, schools, scout meeting, nature centers, churches, temples, chambers of commerce, etc. We usually

charge $100-200 for this service, splitting the fee between the speaker and the club.)
- Scheduled seminars at a local university or high school (Our club does an annual "Beginning Beekeeping" course at the YMCA.)
- Weekend workshops (For members and also open to the public, these hands-on events are a wonderful way to familiarize both beekeepers and "wannabe" beekeepers with certain techniques and methods. We have done weekend workshops on "building a swarm box," "capturing a swarm," "hiving your bees" and "harvesting honey.")
- Bee booth at fairs, church events and farmers' markets (These displays introduce the benefits of honey bees and beekeeping to many members of the community.)
- It's a good idea to open your club's meetings to the public (We almost always have an interesting speaker at our general meetings, and so our monthly press releases include the following language: "*As always, the public is welcome to attend this meeting at no charge*")

Benefits of an OutReach Program

Creating new beekeepers and attracting new members. Recruiting new members for the club is one important objective, since the health of any organization is determined in part by its growth. Creating new beekeepers in the community is vital to the growth of this hobby and its acceptance in the region.

Dealing with sensationalism. The media has exposed the general public to many sensationalized stories about "killer bees." This is no joke, because public nervousness about bees could shut down hobby beekeepers in your community. Your OutReach program should provide interesting, factual information that will counteract the negative effects of this misinformation.

Information on mites. With the advent of the well-publicized mite problem, beekeeping has become much more of a challenge. Some of the uneducated public foster concerns that mites might be harmful to human health. Clubs can use OutReach efforts to educate the public about the reality of the mite problem (*They are not harmful to humans or anything other than bees, but they are a serious threat to the very beneficial honey bee*). An OutReach program can also introduce effective practices and methods to other hobby beekeepers, so that mite infestations do not spread out of control.

Supporting schoolteachers. Educators can play a special role in combating some of the nonsense printed in the newspapers and shown on television concerning "killer bees." Beekeeping enjoys a very long and interesting history in mankind's development. A good OutReach program will help educators teach this history. Your club can provide schools with educational materials and teaching aids to help spread the good word about bees and beekeeping.

Reaching out to lawmakers. A special effort should be made to inform local lawmakers about the agricultural and health benefits of beekeeping. In some communities, there are strong negative feelings about bees and beekeeping. Local ordinances have been passed against beekeeping. Much of this is a result of ignorance. It is important to head off negative feelings, both for the sake of the local ecology and for the legal protection of beekeepers.

Promoting your OutReach efforts The OutReach committee will want to work closely with those in charge of the club's PR efforts to assure that the community is kept aware of everything that is offered by your OutReach efforts. In addition to press releases and stories in the media, there are other activities to consider.
- You will need to develop a mailing list of local garden clubs, Kiwanis, Scouts, schools, local Chambers of Commerce, nature centers, radio and TV stations, other regional bee clubs, and so on. It's a big job to pull all this together, but it becomes an invaluable resource for the club.
- Create some attractive literature explaining the club's various outreach programs and their benefit to other organizations and the community. Send this literature to the above mailing lists, advising them of the resources available to their organization.

What does it cost? There are investments to be made in an OutReach program — investments in both time and resources. To pay for all this, your club may want to explore corporate underwriting for some of these activities. Here are the likely investments:
- Purchase of presentation equipment (slides, overhead transparencies, projector, film, video clips, teaching aids for educators)
- The creation of a standard speech (It's very helpful to develop a general presentation on bees and beekeep-

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OutReach Presentation Kit

- The following materials have become a part of the BYBA's OutReach presentation kit. These materials are available to any BYBA member making a presentation on honey bees.
- Hive stand, deep and shallow with frames and foundation. (We have put a decal of our club's logo on the side of the hive body.)
- Smoker, hive tool and veil.
- Slide presentation and/or overhead visual aids (We created a PowerPoint slide presentation on the basics of beekeeping. Contact www.fairfieldweb/byba if you'd like a copy.)
- Promotional brochures about our club. (We use these as a leave-behind to entice new members.)
- Color visuals (close-up photographs) of bees and beekeeping. (An excellent series is published by AEVAC, Inc., and produced in collaboration with California Academy of Sciences. Available from A.I Root Co.)
- A poster depicting "The Beekeeper's Year", and another illustrating the difference between honeybees and other stinging insects. Both posters are available from A.I. Root Co.
- Preserved samples of the three casts of honeybees, plus larvae and pupa. (Such displays are available from Carolina Biological Supply Company. Telephone 1-800-334-5551.)
- Glass- walled observation hive (available from A.I. Root Co.)
- Video on beekeeping (We use "An Introduction to Beekeeping", by BYBA member, Ed Weiss. Available from A.I. Root Co.)
- Honey bee coloring book for handout during presentations to younger school children. These can be purchased or created by a club member with a flair for drawing.

ing. This gives any club member the ability to deliver a decent presentation that is well-crafted, accurate and informative. The speech [or outline] should include an accompanying slide show or set of overheads.

- Investment in a demonstration hive (to use at shows, fairs, presentations, etc.)
- A booth for use at fairs, farmers' market, etc. (Investment might include signage, brochures, tables, tablecloths, cash box, product inventory, etc.)
- Literature which explains the club's OutReach program (This would be used in a mailing to the targeted audiences, at your booth, as a leave-behind at nature centers, and handed out at all presentations and public events.)
- Mailings (to inform the public about the elements and benefits of your OutReach program)

While the enjoyment of belonging to a bee club is found in the knowledge gained through interaction with other club members, the *sharing* of this knowledge through an outreach program adds an extra and vital dimension to the hobby. Good luck with your program! BC

Alan B. Wissinger is a semi-retired optical systems engineer. His career spanned 35 years with Perkin-Elmer and Hughes Electronics, designing and developing astronomical telescopes, including a major portion of the Hubble Space Telescope. He is listed in Who's Who in Science and Engineering. *As a counterpart to his professional duties, he started beekeeping about 25 years ago as a hobby. He and his wife Carolyn reside in Wilton, CT. You can reach Alan at abwiss@aol.com*

***FREE SLIDE SHOW**: The Back Yard Beekeepers Association has created a PowerPoint slide show that is used for the club's presentations on bees and beekeeping. These visual aids provide a basic introduction to the subject of beekeeping. The BYBA would be pleased to email you a free copy of this PowerPoint presentation. Contact us with your request via our web site: www.fairfieldweb.com/byba*

BLACK GOLD

Jim Evans

BLACK GOLD – that's what I call it. Other's might call it "Baker's Honey" or "Caramelized Honey." Jack and Virginia Robertson, owners of "Robertson's Honey" in Olympia, Washington, call it *COOKING HONEY*. So, that's what I'll call it, although it has a variety of other uses. Some people put it on waffles, pancakes or bagels. Others dribble it over strawberries. Still others use it in baking "the best baklava ever" or in breads or cookies or other recipes calling for honey or molasses. My favorite is waffles toasted as directed then coated with *Robertson's Cooking Honey* and microwaved on high for 15 seconds. It's one of those "Can't eat just one" food items.

What is *Robertson's Cooking Honey*? It's nothing other than "overheated" honey from drained wax cappings – the honey that thousands of beekeepers throw away because it's dark and reportedly "unfit for bees, beast or man." Well don't tell the Robertsons that, because they cannot make enough of their *Cooking Honey* to supply the demand for it by commercial bakers, homemakers or just plain honey lovers like me.

While other beekeepers may mistakenly overcook their cappings or end up with "blackened honey" from an overheated solar wax melter, the Robertson's purposely overheat their cappings for their "*Cooking Honey.*" The "overheating" does not adversely affect the wax or the honey that they obtain from their "meltdown." Different batches and blends of cappings produce consistently good-tasting honey of the same color, aroma and other prerequisites demanded by commercial bakers and cooks. It has about a 12 percent moisture content, so it's quite thick. It is also quite stable. Shelf life is about three years or more and granulation is negligible.

Where do the cappings come from? They come from frames of honey from bees in western Washington – honey that comes mainly from blackberry, fireweed and a variety of other local nectar-producing plants.

What's *Robertson's Cooking Honey* like? *Robertson's Cooking Honey* is as dark as "dark" molasses, but thicker than "dark" molasses. However, it does not smell like molasses, it tastes a lot better than molasses, and it's much cheaper than molasses.

How much Cooking Honey do they get? In their commercial processing, the Robertson's use only well-drained cappings to make their honey. From five gallons of well-drained cappings, they get only about two quarts of finished *Cooking Honey* and a tremendous amount of beeswax. They do not use cappings that have been extracted in a cappings spinner; extracted cappings yield virtually no *Cooking Honey* at all.

Why don't they use undrained cappings to make their *Cooking Honey*? The yield of *Cooking Honey* from "wet" cappings would be considerably more compared to the yield from drained cappings, in fact, over seven times more. However, the pure blackberry, fireweed or wildflower honey they get from draining "wet" cappings brings the Robertsons from $1 to $2 more per quart compared to the income from their *Cooking Honey*. Besides, the relatively low cost and low supply of their *Cooking Honey* plus all the fine attributes previously mentioned (taste, flavor, consistency, etc.) sustain a high demand for their product. Here's how they make their *Cooking Honey* on a commercial basis. I have also presented procedures for making small quantities of *Cooking Honey* for hobbyists with one or two hives and for those who cannot afford a several-thousand-dollar wax melter.

"The Robertsons sell the majority of their honey and wax products at their rural business located south of Littlerock, WA in Thurston County. They do not ship any of their products."

Robertson's Cooking Honey Commercial Preparation

Cut cappings off both sides of frames of honey directly into cappings baskets. Let honey drain out of the cappings naturally at room temperature (greater than 70°F) for one to two days. Filter the unprocessed honey through a metal or nylon screen. Process this honey as "pure honey." Remove drained cappings, placing them in five-gallon buckets for later processing. Drain other batches of cappings in the same manner, again storing drained cappings for later processing.

Place drained cappings into the tank of a thermostatically heat-controlled wax melter* with the heating element and a fan under the tank. Fill the tank until a desired capacity is attained. Drained cappings from different types of honey can be melted at the same time.

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Jack and Virginia Robertson sell a good part of their honey and wax products at The Olympia Farmers Market in downtown Olympia, Washington. Honey from wild blackberries, fireweed, and wildflowers make up the bulk of their pure honey sales. Their famous Cooking Honey *as well as other specialty honeys such as Cascade, bigleaf maple, raspberry, and others make up a good portion of their honey sales. However, they cannot make enough of their* Cooking Honey *to meet the local demand for it by bakers, cooks and the general public.*

Heat cappings at 300°F until the wax on top of the tank is starting to melt and bubble. The honey-wax mix does not have to be stirred. Reduce heat to 250°F-260°F, maintaining this temperature until all cappings have been processed. Additional drained cappings can be added to the heated mix as needed to continue processing. CAUTION: OVERHEATING CAN RESULT IN HONEY THAT IS THE CONSISTENCY OF TAFFY. Keep the drainpipe(s) open for a continuous outflow of honey and wax. Strain the hot mix through an 8-mesh metal screen to filter out large debris.

- In wax-melting units with a single drain, run filtered honey and wax into wax pans. Let cool to room temperature. The wax will be on the top and the cooked honey on the bottom of the pans. Remove the hardened wax and store the cooked honey in four-gallon or five-gallon plastic buckets until ready to liquefy.
- In wax-melting units with a separate honey drain and a separate wax drain, drain the cooked honey into plastic buckets and the melted wax into wax pans. Store the honey until ready to liquefy.

To continue processing the honey, pour all cooked honey into a heat controlled liquefying tank. Heat to 120°F for about 12 hours. Skim the liquefied honey and strain through three layers of medium mesh cheesecloth into a bottling tank. Let sit overnight and bottle warm honey in glass or plastic containers.

Small Quantity Preparation For A Hobbyist With Only Two Or Three Hives

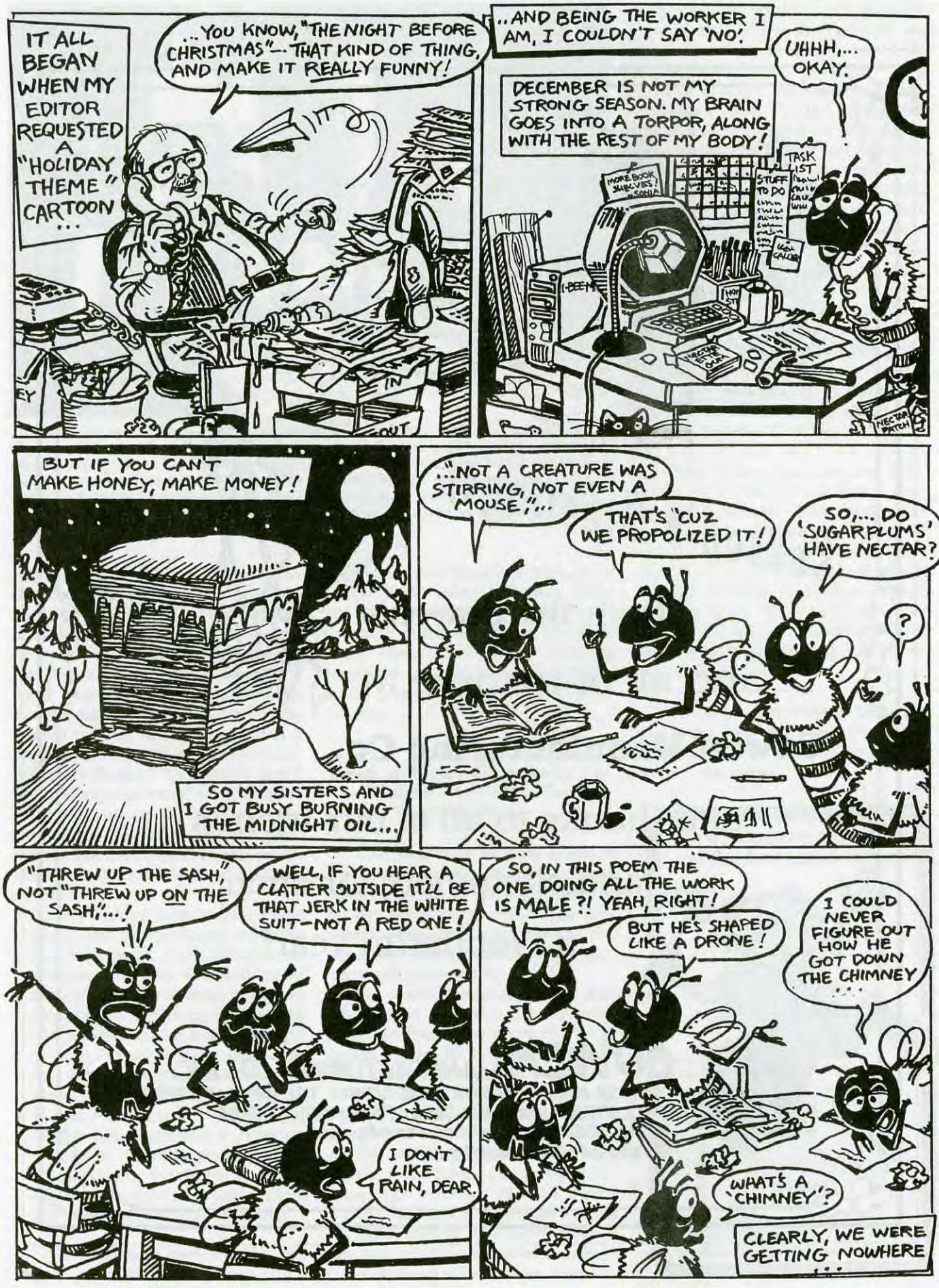
Cut cappings off both sides of frames of honey into a cappings tank. Let drain for six to 12 hours or do not drain at all. Filter and process the drained pure honey in the same way you filter and process your extracted pure honey.

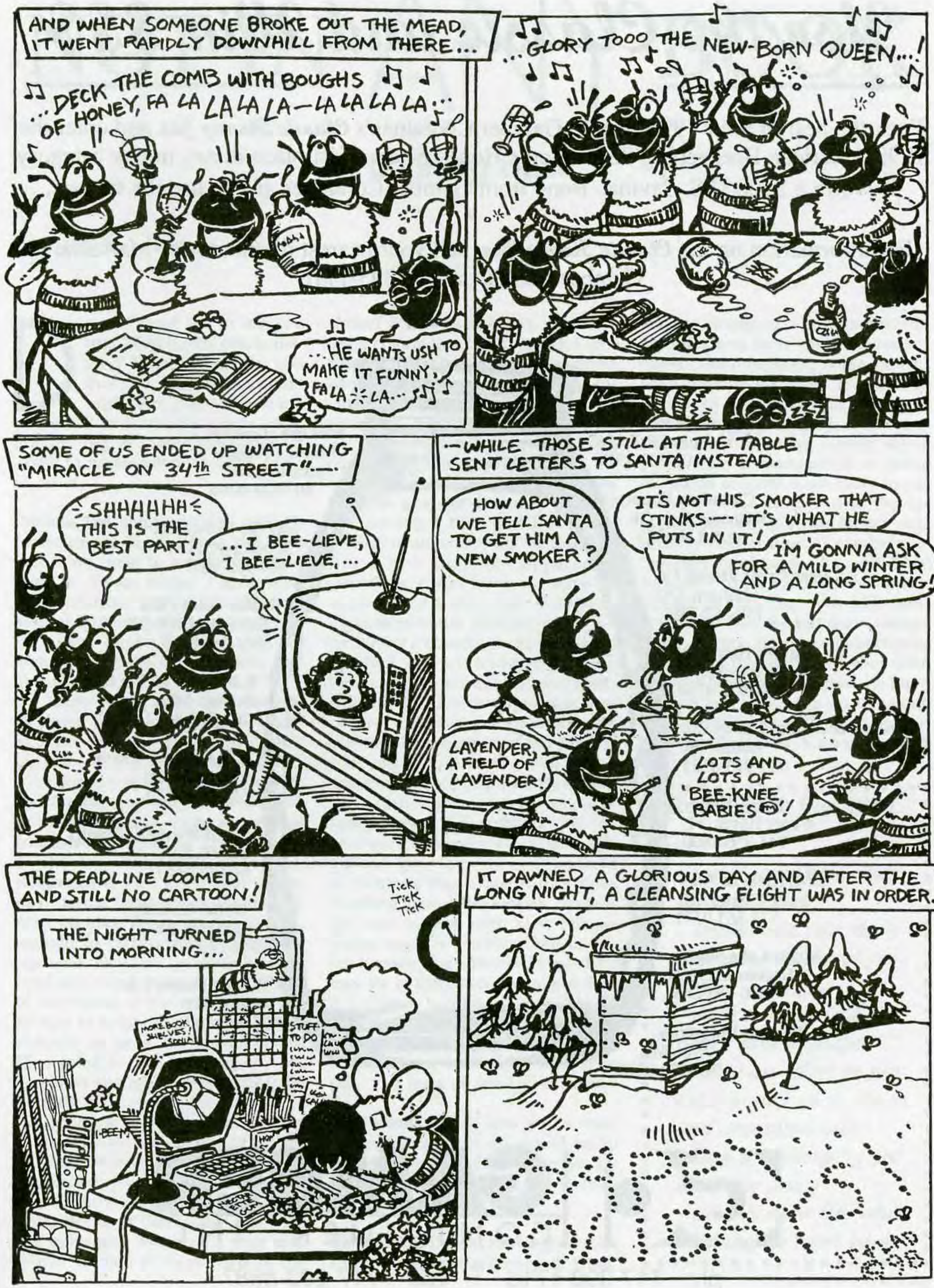
To make *Cooking Honey*, add undrained or partially drained cappings from your hives to a large kettle; do not fill it more than halfway. Bring cappings to a boil (about 220°F - 225°F). Boil for one minute, stirring occasionally. (Measure the temperature just below the surface of the melted cappings.) Remove kettle from heat. Let the honey-cappings mixture cool to about 135°F, then strain it through a metal or nylon screen to remove most of the wax, slumgum and other refuse. To remove all other refuse, immediately filter the warm honey through two layers of fine cheesecloth or three layers of medium-mesh cheesecloth.

Put filtered honey into a clean, stainless-steel kettle, filling the kettle about halfway or less. Heat to a steady 225°F for 30 minutes stirring occasionally. Stir vigorously when the honey begins to froth. CAUTION: HIGHER HEAT AND LONGER COOKING TIME CAN RESULT IN HONEY THAT IS THE CONSISTENCY OF TAFFY. Remove from heat. Skim off froth and save it for warm topping over ice cream or other uses. Bottle the honey while it is quite warm. Depending on how "wet" the cappings are to begin with, the yield per one gallon of cappings should be about 2-1/2 quarts or more of finished *Cooking Honey*.

*The Robertsons use an older model 40 F "Multi-Functional" Better Way Wax Melter from Honey Processors Ltd., Altoona, IA with a 65 gal. tank allowing continuous removal of a wax-honey mixture through a single drain pipe. Newer models have special filters and baffles letting the liquefied honey drain first then allowing the draining of filtered wax. BC

Jim Evans is a hobbyist beekeeper and writes a monthly article Honey Bee Management Tips, *for the Olympia Beekeepers Association.*


IT ALL BEGAN WHEN MY EDITOR REQUESTED A "HOLIDAY THEME" CARTOON ...
...YOU KNOW, "THE NIGHT BEFORE CHRISTMAS"--THAT KIND OF THING, AND MAKE IT REALLY FUNNY!
..AND BEING THE WORKER I AM, I COULDN'T SAY 'NO'.
UHHH,... OKAY.
DECEMBER IS NOT MY STRONG SEASON. MY BRAIN GOES INTO A TORPOR, ALONG WITH THE REST OF MY BODY!
TASK LIST
STUFF TO DO
IN
OUT
BUT IF YOU CAN'T MAKE HONEY, MAKE MONEY!
SO MY SISTERS AND I GOT BUSY BURNING THE MIDNIGHT OIL...
...NOT A CREATURE WAS STIRRING, NOT EVEN A MOUSE;"...
THAT'S 'CUZ WE PROPOLIZED IT!
SO,... DO 'SUGARPLUMS' HAVE NECTAR?
?
"THREW UP THE SASH," NOT "THREW UP ON THE SASH;"...!
WELL, IF YOU HEAR A CLATTER OUTSIDE IT'LL BE THAT JERK IN THE WHITE SUIT--NOT A RED ONE!
I DON'T LIKE RAIN, DEAR.
SO, IN THIS POEM THE ONE DOING ALL THE WORK IS MALE?! YEAH, RIGHT!
BUT HE'S SHAPED LIKE A DRONE!
I COULD NEVER FIGURE OUT HOW HE GOT DOWN THE CHIMNEY ...
WHAT'S A 'CHIMNEY'?
CLEARLY, WE WERE GETTING NOWHERE ...



AND WHEN SOMEONE BROKE OUT THE MEAD, IT WENT RAPIDLY DOWNHILL FROM THERE...
...DECK THE COMB WITH BOUGHS OF HONEY, FA LA LA LA LA—LA LA LA LA...
...HE WANTS USH TO MAKE IT FUNNY, FA LA LA...
...GLORY TOOO THE NEW-BORN QUEEN...!
SOME OF US ENDED UP WATCHING "MIRACLE ON 34th STREET".—
SHHHHHH THIS IS THE BEST PART!
...I BEE-LIEVE, I BEE-LIEVE,...
—WHILE THOSE STILL AT THE TABLE SENT LETTERS TO SANTA INSTEAD.
HOW ABOUT WE TELL SANTA TO GET HIM A NEW SMOKER?
IT'S NOT HIS SMOKER THAT STINKS— IT'S WHAT HE PUTS IN IT!
I'M GONNA ASK FOR A MILD WINTER AND A LONG SPRING!
LAVENDER, A FIELD OF LAVENDER!
LOTS AND LOTS OF 'BEE-KNEE BABIES'!
THE DEADLINE LOOMED AND STILL NO CARTOON!
Tick Tick Tick
THE NIGHT TURNED INTO MORNING...
MORE BOOK SHELVES!
STUFF TO DO
IT DAWNED A GLORIOUS DAY AND AFTER THE LONG NIGHT, A CLEANSING FLIGHT WAS IN ORDER.
HAPPY HOLIDAYS

NOT IN ANY BOOK

Looking Back

James E. Tew

Do you need me to tell you that 1998 is very nearly history? What worked for you this past year? What didn't work? Are you wiser or are you stuck in a rut? As a year ends, another begins. Some reflections on 1998, in preparation for 1999, seem in order.

Queens The comment was recently made to me (again) that the bees just don't seem to act the way they used to. To an extent, I agree with that comment and have said so in several articles during the past year. But that doesn't mean that we should roll back on our heels and give it up.

Some of you complained mightily about "poor" queens. Again, I can't explain what is happening with queens – if anything. But supersedure does seem widespread. How did you handle these queen problems?

If you successfully requeened troublesome colonies, give yourself a pat on the back. But wait. Requeening, as I have said in the past, is the "surgery" of the colony. After deciding the problem was great enough to rectify, you strategically replaced the queen, and the hive patient recovered. Now you must wait to determine if the new queen will be able to build the colony up strong enough to pass the winter. Is El Nino going to be a factor again? Did you leave enough honey? Forty to 60 pounds will usually be enough. Is the adult bee population around five to six pounds now – about 14 frames of bees? So even if you successfully requeened, you cannot assume you and the hive are home free. Now you must decide if the colony can pass the upcoming Winter. It's your call. Winter feeding in most parts of the United States is fruitless. Combining a colony this late is tricky – less than 50/50 in the north. But at times beekeeping is tricky anyway. You decide. If you had late-season queen problems, next year consider making the decision to requeen or to combine colonies earlier.

What if your requeening process was not good for whatever reason? Requeening a hive that has virgin queens is difficult if not impossible. Did a hive that was apparently queenless in fact have an unmated queen? That's your cue. Next year, implement better procedures for determining if queens are in the colony in which you are trying to install a new queen. If that was not your problem, how about your requeening procedure? Beehives are constantly on the alert for parasites of any kind. If you just drop a new queen into a desperate colony (figuratively speaking), rather than thank you profusely, they will inexplicably kill the new queen, thereby essentially killing the hive. Improve your concept of thinking like a bee rather than thinking like a beekeeper. Installing new queens with slow-release queen cages is common, but in difficult cases, the advanced procedure may be to introduce the queen into a nucleus colony having mostly young bees. Then introduce the nucleus colony into the parent colony. If you're not sure how to do this, you have all Winter to learn.

Resolution: A good new year's resolution for most of us would be to spend some time this Winter studying to become better queen managers.

***Varroa* Mites** Do you have a good mite control program implemented? If not, you are sitting on a hive time bomb. As mites and their control have become commonplace, some of you have become lax. Just a reminder for you to stay vigilant in your mite control programs. Many of you are still experimenting using fewer strips than recommended or using old strips or some such effort to cut corners. Don't do it. Put in the required number of strips for the requisite period of time. It can be surprisingly hard to do. You get busy with other things around the house, you go on vacation, your kids have activities – but the mites are always there waiting for a new opportunity to express themselves. If your mite control program seemed to have worked last year, plan on the same for the 1999 season. Though no program works forever, if it works, don't fix it.

Resolutions For 1999

I will –

- *spend some time studying this winter*
- *implement and maintain a mite control program*
- *work to become a better hive manager*
- *make an effort to process honey in a clean and organized way*
- *keep a beekeeping calendar or dairy*
- *always have fire when planning to work bees*

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LOOKING ... Cont. From Pg. 31

For those of you who did get behind with your mite control program, what's the plan now? Will the mite-infected colony pass the Winter? Neither you nor I know. Can you put strips in now? Probably not. You would be better off to eat your mistake and put strips in next Spring as the season progresses. How about other control programs such as aromatic oils or food grade mineral oil? These plans are not scientifically proven and in fact, may not be legal, but many of you are interested in using them as your control program. Until we get good information from ongoing studies that result in specific recommendations, beekeepers using materials other than Apistan are on their own. We simply don't know enough at this time to make recommendations for controlling *Varroa* mites other than using fluvalinate strips. If you did not get good control this past season, reconsider traditional control procedures. New materials are being tested and show promise, but that cannot be translated into a current recommendation.

Tracheal Mites Tracheal mites are routinely overshadowed by *Varroa* mites. They probably should be. Even so, tracheal mites are easily controlled by the consistent use of grease patties. Many of you still believe that the treated colony must quickly consume the patty, but that is not so. The treatment is nothing more than bees coming in physical contact with the oil in the patty. The control is external. The sugar in the patty is intended to lure the bees to the patty so they will "nibble" on it – not gulp it down. If you had symptoms of tracheal mites this past season, spend some time this Winter preparing to put (and keep) grease patties on your colonies. It's simple to do and can be a real help.

Resolution: A second resolution **MUST** be to implement and maintain a mite control program for both mites.

Disease Control Mites tend to take all of our disease control energy, but all the other common bee diseases are out still there. Now, having said that, the primary disease for which you should be alert is American foulbrood (AFB). If you own one of the two percent or so of all the hives in the United States that come down with American foulbrood each year, I know you were not bored this past season. It's a pain. You had to learn your state's regulations concerning AFB treatment. You had to decide whether or not to destroy the hive. You had to decide how exposed your other colonies were – and you're still nervous. If it returns again this coming season, is it still the old infection or is it a new one? There's no easy answer to that one. What are your plans for dealing with the problem? I would suggest that you begin with a prophylactic treatment with Terramycin and continue to teach yourself to identify the malady – or at least make the acquaintance of someone who can. Work closely with your inspector. Don't ignore AFB. Just because your hives have never had American foulbrood does not mean they never will. Be watchful.

Hive Management Did you get those deeps reversed last Spring? Are your hives sitting directly on the ground? Did you scrape propolis and burr comb off the frames? How about cleaning the bottomboards? The list goes on and on. Though most common managerial procedures are not absolutely required, if your goal is to be the best beekeeper you can, they need to be done. For instance, if you requeened in the Fall of 1997, but did not reverse brood chambers during the 1998 Spring, crowding normally resulted, and I'm betting you had swarming occur. When a swarm leaves a hive, so does your honey crop.

Swarms are a common loophole in management schemes – even for accomplished beekeepers. Swarms are, at once, both exciting and troublesome. Swarms often build up quickly and become a contributing hive in your apiary. However, by biological design, swarms are headed by old queens. Requeening a new swarm is recommended. Most beekeepers feel that they get all the swarms that issue from their colonies, but I suspect that many swarms get away. No doubt some of you have watched a swarm leave from a branch too high to retrieve. Who amongst you did not have swarm boxes prepared and had to rush through the process in order to hive a swarm?

Eliminating swarming will be nearly impossible, but providing young queens at least every two years and providing ample space for the colony **BEFORE** it needs it will greatly reduce swarming. What has your plan been? If you follow all recommendations closely and produce strong, productive colonies, without some kind of swarm prevention, it will have been for nothing if honey production was your goal. If frequent requeening is too much of a problem for you, at least provide ample storage space for the colony. Even if it doesn't swarm, a crowded colony will not produce the maximum honey crop. Don't forget to implement a mite control program on the new swarm. You can safely assume that a new swarm has enough mites to make a new start within the new colony.

Resolution: We all should work to become better hive managers – managing both biological factors and diseases – as much as possible.

Honey Production Okay, so you've got good queens and you supered up in time (those are big assumptions), and now it's time to process the crop. Honey processing can be akin to navigating a mine field. If you have not yet flooded the floor with a runaway honey spill, just wait. You will. Two things are for sure in beekeeping: Sooner or later you will get stung, and sooner or later you will spill honey.

Did anyone try the old, "I will put all the frames in this super the next time I am out here!"? That justification nearly guarantees a mess. Spacing wrong in the supers? Too narrow is nearly as bad as too wide. Isn't honey heavy and help is nowhere in sight? Working with honey solicits the "little red hen" syndrome. Most people seem to like to eat honey, but finding someone to help gather honey can be a real chore. Anyone sling comb out of the frame in the extractor? That event usually goes all the way back to improper frame construction, which reflects poorly on your management procedures. Filtering is the perpetual problem for small honey processors. It seems as though the fitters constantly clog or rip – plus changing them requires getting honey up to your elbows. But with all these potential problems, the ultimate event is to find a queen within one of the many supers sitting on your extracting room floor. Rare is the beekeeper who can conclusively determine from which hive she came. What could be changed to prevent the extracting process from being potentially chaotic?

First, let your extracting process grow as your colony numbers grow.

Second, keep all honey processing equipment compatible in size and output. For example, don't put a 10-frame radial on top of a one-gallon sump tank.

Third, attach the extractor to something that is as firm as an oak tree. An out-of-balance extractor can cause real excitement.

Fourth, set the system up correctly. Cobbling up fittings, or drain lines, or filter bags is asking for trouble.

Resolution: Make an effort to process honey in a clean and organized way. Don't risk sticky, messy problems.

Wintering Now that Winter is here, are you and your colonies ready? All those things you were going to do should have been done by now. Got the Winter stores all correctly positioned? Did you put in the entrance reducers before the mice moved in? Got the inner covers reversed and upper ventilation holes in place? Just yesterday, I was getting calls from beekeepers who were quizzing me on ways to open colonies when the weather was cold in order to perform colony manipulations. At some point, one must just admit that specific tasks did not get done.

So, What's Your Point? The best you can do is all you can. For most of us, beekeeping is intended to be something we enjoy, not something about which we feel guilty. But we can certainly learn from our experiences. Part of the challenge of keeping bees is that we can do everything as right as possible and still have bad luck. Less often, we can do nearly nothing and still have things go well.

What many of us do wrong is not plan far enough in advance. For instance, how many of you have placed your order for next season's packages? A calendar helps greatly – especially the following year. When did your packages arrive? When did you pick up your first and last swarm? When did you take off honey? Keep a calendar. It's a good idea.

Resolution: We should all keep beekeeping calendars or a beekeeping diary.

My Last Point As a parting note, always pick up matches whenever they are offered. If they are not offered, buy them – in large numbers. Matches can be the Achilles' heel of a hive manipulation trip. Some of our greatest sting stories have come about due to a beekeeper's inability to light a smoker. "No matches, but this won't take but a minute. I'll just do it without the smoker."

Resolution: Always have fire when planning to work bees.

Well, I would like to keep going on this theme, but I am currently extracting last Spring's honey crop (Oh, I'm just kidding). I hope you had a good year. We should all work to make new mistakes rather than continually making all the old ones. BC

James E. Tew is State Specialist in Agriculture, The Ohio State University at Wooster, OH Tew.1@osu.edu

Tornado In My Beeyard

Scott Holisky

May 15 started out hot and humid, just the fixins' for a good summer time storm. Little was I to know that by the end of the day I would experience yet another adventure in the fun of keeping bees.

Around 4:40 PM straight-line winds lead the way for an F1 tornado, this ripped through the northern suburbs of St.Paul, centered directly over my beeyard. While not a monster, it did what a small tornado does best.

My first indication of trouble was that the road to the bee yard was blocked, and I mean blocked. Not being without a second route I thought I'd just follow the deer trails that pass by my hives. About ten feet into the woods I found the top cover of a hive. This was not a good sign, as my hives were still hundreds of feet away. The rest of the journey I collected various hive parts, or should I say "pieces of hive components".

By the time I reached the yard, some 20 minutes later, it was, well, a true mess. Nothing stood. Nothing. Boxes lay upon boxes, bees lay clustered or drowned. To make matters worse those left alive were being rained on. Luckily a surplus of roofing material from a business a half mile away was scattered everywhere; it made good temporary shelter for the survivors.

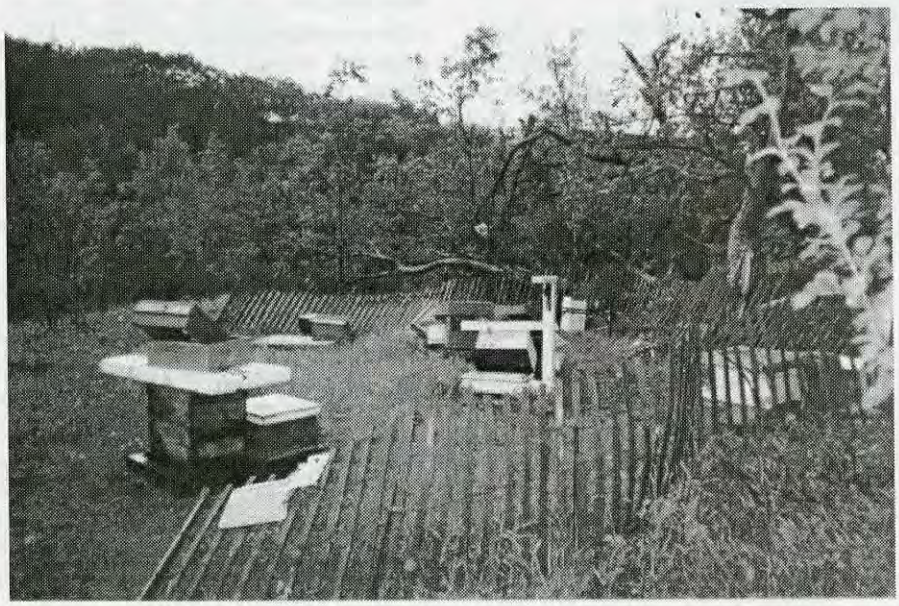
Back to the bee yard, this time with the whole suit, smoker going and ready to put the mess back together. I estimated around 40 pounds of bees on the ground. Pushed to their limit, those that were dry and still able to fly did. So much for confirming that wet bee suits don't work. As for how they managed to get inside the suit, it's still a mystery.

Boxes, frames, who lives where – in the end it mattered less and less. I did get them stacked up, letting the bees' sort out the rest. With such a mess all you can attempt to do is supply the basics: brood nest on bottom, supers on top. Not knowing where the queen may have ended up, I removed all the excluders. (I should have separated the boxes with newspaper, but that's hindsight.)

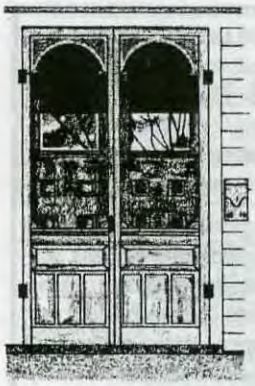
It took almost a week before they started to settle down enough so that you could walk in the yard without being followed. With the huge numbers of bees suddenly united, I guess the first order of business was "raising queens", and what fine cells they created. No swarming, but a definite break in the brood cycle.

Perhaps the bonus is that the yard put up honey like no other year. It seems I couldn't put enough empty supers on. While I'm sure the overall number of bees took a drastic hit, the effect seems almost inconsequential. My scale hive was the heaviest it's ever been. Meanwhile I keep wondering how I could duplicate this type of management? BC

Scott Holisky is a small scale beekeeper, still picking up the pieces from around his home in Vadnais Heights, MN.



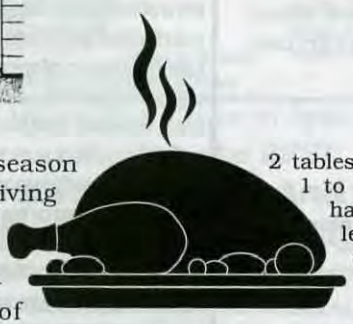
After his discovery of the tornado, Scott did manage to put scraps of Styrofoam (which blew in from another buidling) over some of the boxes.



Ann Harman

Home Harmony

From "Leftovers" To "Cuisine"



The holiday season between Thanksgiving and about the second week in January produces a superabundance of food – and along with that, a superabundance of leftovers. Since you do not want to be discovering a lonely sweet potato or a smidgen of peas languishing in the back of the fridge along about Easter, perhaps we can find something useful to do with those leftovers.

One thing to remember is never call anything served at the table "leftovers." Everyone might know in the depths of their minds that what is being served is "leftovers," but it is better to give them some elegant term such as "Chef's Special" or "Presentations from the Kitchen." Since these items are being served following holiday times, be certain the table has a holiday theme for a centerpiece; candles (beeswax, of course) must be lit, and perhaps there is still a glass or two of wine left to convert the meal from "leftovers" to "cuisine."

HAM & SALAD PLATE, BLACK FOREST STYLE

In some parts of the country the weather is cold and wet, and in other parts the sun shines and the air is warm. But these temperature extremes should really not affect what you are serving. A cold salad may be appropriate as a dinner in one part of the country but as a simple lunch in a colder part. Or you can have a salad made with warm meat or with cold. For example, in this recipe the ham can be warm or cold.

1 8 oz. can julienne beets, well-drained
1/4 teaspoon caraway seeds
3 medium carrots, shredded
2 tablespoons chopped fresh parsley
1 to 1-1/2 pounds sliced baked ham, warm or cold
lettuce
dilled cucumbers
sharp German-style mustard
sweet-sour dressing

Sweet-Sour Dressing

2 tablespoons white wine vinegar
2 teaspoons coarse-grained German or Dijon-style mustard
1/2 teaspoon honey
1/4 teaspoon salt
pinch white pepper
1/3 cup salad oil

Combine all ingredients except oil and mix well. Then add oil gradually, whisking until well-combined. Makes 1/2 cup.

For the salad: In one bowl lightly mix beets, caraway seeds and about 1/3 of the dressing.. In another bowl lightly mix carrots, parsley and remaining dressing. Cover both bowls and refrigerate for 1 to 3 hours to blend flavors. To serve: Arrange ham slices on each of 4 plates lined with lettuce leaves. To each plate add a serving of each of the 3 salads: beets, carrots and cucumbers. Accompany with mustard.

DILLED CUCUMBERS

1 tablespoon honey
2 tablespoons white vinegar
1/2 teaspoon salt
1/4 teaspoon dried dill weed
1 medium cucumber, peeled, sliced thin

Combine ingredients, cover and refrigerate for 1 to 3 hours to blend flavors

The Complete Book Of Salads
ed. by Ortho

HAM SALAD WITH HONEY MUSTARD DRESSING

Here is a ham salad that is a bit different but will help use up the leftover ham. If you have not used florence fennel before, you need to become acquainted with this delicious vegetable.

1 pound ham, cubed
8 ounces eating apples, peeled, cored, diced
2 hard-boiled eggs, sliced
8 ounces cooked new potatoes, chopped
1 bulb florence fennel, chopped
fresh chopped parsley
mixed salad greens

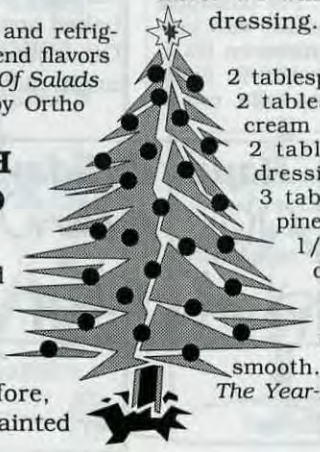
Dressing:
3 tablespoons white wine vinegar
2 tablespoons whole-grain mustard
2 tablespoons honey
3/4 cup olive oil
salt and pepper

To make the dressing, shake all the ingredients together. Put the ham, apple, eggs, potatoes, fennel and parsley in a dish on a bed of salad greens. Pour the dressing over and serve.

The Honey Cookbook
Charlotte Popescul

CURRY CREAM SALAD DRESSING

A turkey salad can be made easily with leftovers. A few spoons of cooked peas, perhaps a few green beans, a bit of celery, some onion, lettuce that you were going to use for sandwiches, and whatever else you find in the depths of the refrigerator can be combined with diced turkey. To give this salad a different flavor we will use a curry-flavored dressing.



2 tablespoons mayonnaise
2 tablespoons yogurt or sour cream
2 tablespoons Italian salad dressing
3 tablespoons unsweetened pineapple or apple juice
1/2 teaspoon curry powder, or to taste
1/2 teaspoon honey

Combine and stir until smooth.

The Year-Round Turkey Cookbook
Barbara Gibbons

Continued on Next Page

HOME ... Continued on Next Page

TURKEY CABBAGE SALAD

Although leftover turkey recipes are useful during the holiday season, you might consider using these recipes at other times of the year. Turkey salads make a good Summertime dish.

1/2 large head cabbage, finely sliced
2 cups cooked turkey, chopped
1 package Top Ramen noodles, uncooked
2 tablespoons almonds

Combine the sliced cabbage with the turkey, noodles and almonds. Add the following dressing and keep in the refrigerator for at least 12 hours before serving. It's worth the wait!

Dressing:
1/2 cup oil
2 tablespoons honey
1/4 cup vinegar
1/2 cup green onions
2 tablespoons sesame seeds
salt, pepper to taste

Joy With Honey
Doris Mech

SWEET POTATO DELIGHT

Sweet potatoes are popular during the holiday season, but sometimes we find some left after a hearty meal. Even if you have added some spices or other flavorings to your cooked sweet potatoes, they can still be used in this next recipe.

2 cups sweet potatoes, cooked and mashed
1 tablespoon butter or margarine
1 tablespoon honey
1/2 teaspoon grated orange peel
1/8 teaspoon salt
4 pineapple slices
coconut

Mix sweet potatoes, butter, honey, orange peel and salt. Chill. Put pineapple slices in baking dish and dot with butter. Microwave 1-1/2 minutes on HIGH or bake 10 minutes at 350°F. Form sweet potato mixture into balls, roll in coconut, and place on pineapple. Microwave 2 minutes on HIGH or bake 10 minutes at 350°F. Yield: 4 servings.

Cooking With Sweet Potatoes
Sweet Potato Council of the U.S. Inc.

SQUASH ROLLS

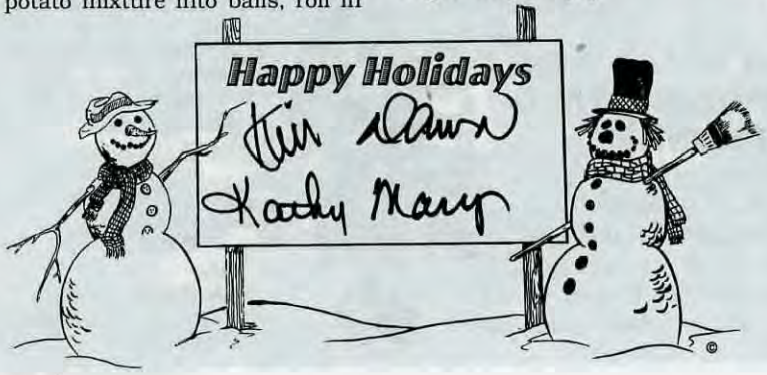
Many of the salads will be better with a good, homemade bread. It is just possible that you have some leftover Winter squash. You can use pumpkin if you wish.

1 cup milk
1/4 cup honey
4 tablespoons butter or oil
2 teaspoons salt
1 cup Winter squash or pumpkin
1-1/2 tablespoons dry yeast
1/4 cup warm water
1/2 teaspoon honey
2 eggs
1 teaspoon grated orange peel
6-1/2 cups (approximately) white flour

In a saucepan scald the milk. Add 1/4 cup honey, butter, salt and squash, stirring to mix well. Let sit until lukewarm. In a large bowl dissolve the yeast in the warm water with the 1/2 teaspoon honey. When bubbly add the milk-squash mixture, eggs, orange peel and 2-1/2 cups flour. Beat with an electric mixer 2 minutes. Gradually add more flour to make a dough that pulls away from the sides of the bowl and is stiff enough to knead. Turn out on a floured board and knead until smooth and elastic. Put dough into a buttered bowl; turn to coat all sides. Cover and let rise until doubled in bulk. Punch dough down, turn out on a floured board, and knead a little to remove air bubbles. Cut into pieces about the size of eggs, cover, and let rest 10 to 15 minutes. Form into rolls or make balls and put them into greased muffin tins. Brush tops with melted butter and let rise until not quite doubled in size. Bake at 375° for 15 minutes or until done. These freeze nicely. Makes about 24 rolls.

The Garden Way Bread Book

Do not plan on serving Santa's reindeer any leftovers. Only freshly baked honey cookies are acceptable. Otherwise your Christmas stocking might stay empty.



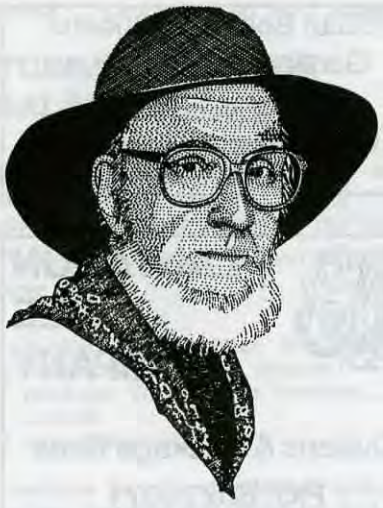
Chris Kimball, who sent us this recipe, is a subscriber to *Bee Culture*, a hobby beekeeper, and the Editor of *Cook's Illustrated* magazine, a periodical specializing in well chosen recipes, and excellent instructions. Enjoy.

HONEY CAKE

I am always looking for recipes that use lots of this ingredient so I researched honey cakes. Versions of this recipe are common in many cultures including Eastern Europe. Some recipes for honey cake use quite lot of spices which I felt competed unfavorably with the subtle flavor of the honey itself. However, I did like the addition of strong coffee and a bit of scotch didn't hurt either. This cake is designed to stand nicely on its own to be served with coffee or tea as an afternoon snack. I have increased the amount of butter, eggs, and honey to make this a full-flavored, sturdy cake; lighter versions seemed a bit too delicate. By the way, if you don't particularly enjoy the flavor of honey, I do not recommend this cake.

2-1/2 cups cake flour
1/2 teaspoon salt
1 teaspoon baking powder
1/2 teaspoon baking soda
16 tablespoons (2 sticks) unsalted butter, softened but still firm
1/4 brown sugar
1/4 cup granulated sugar
3 eggs, room temperature
3/4 cup honey
1/4 cup strong brewed coffee
2 teaspoons lemon zest, finely chopped
1 tablespoon scotch of bourbon (optional)
2/3 cups raisins (optional)

1. Heat oven to 350° and adjust oven rack to the middle position. Grease and flour a 9 x 9-inch baking pan or a deep 9-inch cake or springform pan. Brew a small amount of strong coffee or mix 1/4 cup boiling water with 2 teaspoons instant coffee or espresso.
2. Sift the first 4 ingredients (flour through baking soda) onto a piece of waxed paper. Add the butter to a large mixing bowl and beat with an electric mixer for 1 minute or until very light colored. Add the sugar and beat for 3 minutes on high speed until the mixture is light and fluffy. Scrape down sides of bowl 2 or 3 times as you work. Add eggs one at a time, beating for 20 seconds after each addition. Continue beating until mixture is smooth. Add the next 4 ingredients (honey through scotch) and beat to combine.
3. Add the flour mixture and beat on lowest speed to mix or combine with a large rubber spatula. Do not overmix. Stir in the optional raisins.
4. Pour batter into the prepared pan and bake for about 30 minutes or until the center of the cake springs back and a cake teste or straw inserted into the center comes out clean. Cool on a rack for at least 30 minutes. Cut into squares and serve plain or with a dusting of confectioner's sugar. Serves 8 to 10.



Richard Taylor

Bee Talk

"Dark honey has been too long maligned."

It's been a good year for honey around here. A friend of mine told me that he not only got a good big crop, but that it was almost all light honey, even the late honey, which is usually dark.

This same friend, a year or two ago, sold all his buckwheat honey for 65 cents a pound, and then had to turn around and buy buckwheat honey from other beekeepers at a dollar a pound to satisfy the demand for it at his stall in the farmers' market.

This, together with some reading I've been doing about maple syrup, got me to thinking about the connection, or lack of it, between the color of honey and its quality. I think beekeepers are to a large extent victims of a foolish fad, and one that has persisted for about as long as I have been keeping bees, which is a very long time indeed.

To see this, let's take a look at the history of maple syrup or, to be precise, maple sugar. I have recently been reading Noel Perrin's wonderful book, First Person Plural (David R. Godine Pub., 1978), where I found the astonishing facts about maple sugar that I shall here set forth. A hundred or so years ago maple sugar was competitive with cane sugar, and sold for about the same price – nine cents a pound, compared with seven cents for cane sugar. And it was all sold as sugar, not syrup, simply because there was no good way to pack syrup. Tin cans had not been invented. The sugar was usually shipped in boxes or barrels. Maple sugar producers commonly sold their product by the ton, and even a 30-pound package was considered small. (I checked an outlet here this morning, and learned that their small packs are one, four and eight ounces, the first of these costing 99 cents.)

But what astounded me in this account is that cane sugar was thought to set the standard at which maple sugar should aim. That is, maple sugar was graded according to how closely it approached the pure white of cane sugar, *and*, by the degree to which the maple flavor was eliminated from it, the very lightest, and least flavored, being graded "fancy." The aim, in fact, was to produce a maple sugar that was as white and pure as the sugar of the West Indies!

All this got me thinking about beekeepers, and their constant striving for light honey, even honey that is, as they sometimes put it, "water white." I have seen such honey, and it looks exactly like corn syrup, and is apt to be just as devoid of distinctive flavor.

Why should this be thought to be a high standard? I suspect it is due at least in part to the association of whiteness with purity, which is without any relevance to the color of honey.

The very first honey my bees made this year was indeed light. It is comb honey, but if extracted and bottled it would probably approach the "water white" standard. And it is so very mild that it has almost no flavor at all on my hot cereal. I much prefer the granulated honey saved from an earlier year, very dark and full of delicious flavor.

A couple of the beekeepers I know make a specialty of creamed honey, made from the late goldenrod and aster harvest, which is never light and always of a distinctive, strong flavor – and utterly delicious. It is also very easy to make, since these honeys granulate fast, and the Autumn temperatures are just right for granulation. I can hardly imagine anyone putting this honey on cereals and biscuits and then ever wanting the light, mild, or "water white" honey again.

And indeed, are we not a little crazy to uphold *water* as somehow setting a standard for honey? As off the track as the Vermont maple producers of the last century who somehow had the ideal of tasteless and colorless cane sugar as their standard?

I have sometimes had beekeepers, usually from the region of the Carolinas, sometimes from Indiana, send me snow-white comb honey with the question, what is it? It is of an utterly foul, sickening taste. I believe it is from the red bud tree, which blooms very early – too early, fortunately, to get into the beekeeper's harvest, although it sometimes does. And on the other end of the spectrum we have buckwheat honey, one of the darkest there is – it can be almost as black as coal sometimes. And there are people who will go to enormous lengths to get it, I being one of these. It is unusual, and tastes like no other honey, and there are, in fact, some people who really do not care for it. Enormous quantities were once produced around here, when buckwheat was grown for chicken feed. Now it is hard to come by, although as recently as 20 years ago I could always count on a crop from one of my apiaries.

When people think of honey they usually think of clover honey, which is more often than not from alfalfa, at least around here. This is, of course, a light honey, which looks nice in a jar, and is bland in flavor – the kind of honey that no one would

be likely to object to, but at the same time, utterly undistinctive. I have, in fact, seen people who did not know that there even are different kinds of honey; they assumed that all honey is like what you find in the supermarket.

I sell a lot of honey at my honey stand, and most of my customers – maybe two-thirds – pick the jars of light honey. I think that is because they don't know much about honey, and this is what looks familiar to them. The dark honey always comes late in the season, and I stick a little label on these jars, identifying the contents as "wildflower" or "fallflower." That is fair enough, because the chief sources are uncultivated ones – goldenrod, aster and so on. And it is these dark honeys, with rich flavor, that inspire my customers to come back for more. I often get notes, from distant places, asking whether I can ship it to them, for they declare they have never tasted honey so good, and are under the erroneous impression that it cannot be found anyplace else.

Well, the lesson to be learned from all this is obvious. Beekeepers should expunge the expression "water white" from their vocabulary and promote their honey, not by color, but by nectar source and flower. BC

Richard Taylor is a philosopher and lifelong beekeeper in the Finger Lakes region of New York.

?Do You Know? Answers

1. **True** Tupelo honey is of good quality and when not mixed with other floral sources, will not granulate. This property is because tupelo honey is high in fructose and low in glucose.
2. **False** Honey from buckwheat is very dark (dark amber) and has a strong flavor.
3. **False** The average composition of American honey is 38.4 percent fructose, 30.3 percent glucose and 1.3 percent sucrose. The specific composition will vary with environment and floral sources. Averages for U. S. honeys from the six major geographic areas show small but notably significant differences among the regions.
4. **False** The primary reason for heating honey to kill the yeast cells is to prevent fermentation. Heating honey to 145°F for 30 minutes, or its equivalent, will destroy honey yeasts and thus prevent fermentation.
5. **True** Fermentation of honey is caused by the action of sugar-tolerant yeasts upon the glucose and fructose, producing alcohol and carbon dioxide. The alcohol may then be converted into acetic acid in the presence of oxygen and into water.
6. **True** More than 95 percent of the solids of honey are carbohydrate in nature, largely simple sugars or monosaccharides.
7. **False** The enzyme responsible for most of the chemical changes that take place when nectar is ripened to honey is invertase (sucrase). The bees produce and add the invertase to the nectar. Invertase is not all used up in the ripening of honey when first stored. This enzyme can and does continue to split any sucrose left not yet inverted into glucose and fructose, until the honey is fully ripe.
8. **True** The raw sugar-containing materials (nectar, honeydew) are carried into the hive by the foraging bee in her honey sac. The raw material is already mixed with saliva, and received its first dilution when it was ingested by the forager, so the contents of the honey sac generally have a lower sugar concentration than the original raw material.
9. **True** The average composition of honeydew in comparison to honey indicates that honeydew is richer in mineral content.
10. **True** In general, dark honeys are richer in minerals than are light-colored honeys. The ash content (minerals) of honey averages about 0.17 percent of its weight, so honey is not a mineral-rich food.
11. **False** Low-moisture honeys normally granulate slower than high-moisture honeys.
12. **True** Most honey packed by commercial honey packers are made up of two or more honey types and colors blended together so that the consumer can purchase a product with a uniform flavor or color.
13. A) 1,380 calories
14. D) 12 pounds
15. C) 25°F
16. Using honey in the baking industry gives the final product a desirable moist texture and improved keeping qualities.
17. It is possible that some particulate matter that does not dissolve with heat remains in the honey and was not filtered out; the honey was exposed to the air following heating and became recontaminated with yeast cells.
18. These precautions will minimize the following materials in raw honey:
    Moisture – Extract only fully capped combs. Reduce the moisture content of honey before it is extracted by placing supers in an enclosed area with warm, moving, dry air.
    Pollen – Keep brood combs out of honey supers.
    Wax – Strain honey immediately after extracting.
    Air – Honey normally picks up a large quantity of air during the extraction process. Warming honey supers prior to extraction will reduce the incorporation of air. Honey should not be allowed to fall great distances into a tank or container. Where possible the honey pump should be located below the supply of honey. The best way to remove air is to keep honey in a settling tank following extraction and skim the foam off before packing.
19. Acidity – Honey is an acid medium with an average pH of 3.9. This degree of acidity will prevent the establishment or growth of many bacterial species.
    Osmotic pressure – Honey normally contains less than 18.6 percent water and will readily absorb moisture from the atmosphere surrounding it or from any microscopic organism that enters the honey.
    Glucose-oxidase system – A small portion of the glucose in honey is attacked by the enzyme glucose oxidase and converted into gluconic acid and hydrogen peroxide. The hydrogen peroxide acts like a disinfectant and protects diluted honey against attack by molds, fungi and bacteria.
20. Oval glass jars are preferred over round glass jars for packing honey since the oval shape allows more light to pass through the honey, enhancing its appearance.

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.

INNER ... Cont. From Pg. 6

beetle has succumbed to it. Pressure from both the White House and many, many farm groups has forced the EPA to slow down a bit in its headlong push to save the planet and all of us on it from the perils of pesticides, so we may see this newest weapon against *Varroa* available soon. Regardless, *Bee Culture* was at the very first meeting with the EPA, urging them to ease up on this particular chemical since our industry had no where else to turn. Ironically, a reader recently wrote to decline renewing his subscription because he didn't find enough information about *Varroa* resistant to apistan in our magazine. Somewhat careful reading would have uncovered that it was published here in early spring, when confirmation (and not speculation) had been made. Then in early summer we not only talked about it, but *did* something about it. I hope he finds out in time.

In the June issue we inserted a free booklet on the biology and control of *Varroa* published by the American Association of Professional Apiculturists, and discussed coumophos in more detail. We also added a story on the effects on mite and disease control that using foundation with small cell size could have. Results from late this fall seem to indicate that early observations on control of both mites and diseases seemed correct, and that this may, indeed, be promising.

In July we gave out the free "Be Careful" poster to be used with the public on identifying insects that weren't honey bees, and announced the post office's decision to back off on raising the price of special handling postage for package bees this year. We also called for action by the industry because the post office will again visit this revenue maker, and if we don't have good data, they will, again, make some up. This time we may not be so lucky. Has the package industry done anything along these lines? Is there a program in place by that part of our industry to ward off another attack? Ask this spring when ordering, because in two years this will come again. And *you* will be paying the hefty price increase.

The Small Hive Beetle arrived in the news in July, and was published in August. Probably here for awhile already, it has shown itself to be a pest of major importance. First it was terrible, then it was reduced to just an inconvenience, then it was moved back to the bad news section this fall. Controls are on the way, if needed, and management techniques are being developed that seem to handle it. Time will tell here, too, but vigilance is most important.

The cover of our September issue - Uncle Al's U-Pick Honey Farm - seemed to hit the funny bone of most of our readers. Concocted by a couple of artists from California, (and with a tiny bit of input from the editor), this skewed look at what could be, but never will be relative to the public's perception of the production, harvest and marketing of honey hit a nerve that most of us in agriculture have to deal with. Basically, they (the public) don't have a clue. It was fun to take a humorous shot at the uninformed and to reinforce the belief that we need to do more, and even more in the area of public education about bees, honey, pollination, and beekeeping in general.

We also gave you, in September, the USDA's rules and regulations on how to arrive at the grading that some honey packers use. Do you produce USDA Grade A honey? You can. And should. We tell you how.

Late this fall we introduced several new regular features. Tom Sanford's "Beekeeping In The Digital Age" not only debuted on these pages, but is now on our web page as well. His articles, and the many links he provides introduce a whole new world of beekeeping information. Check out his web connection if you can.

"The Wise Guy" started recently also, and, although still unidentified, offers insights seldom found in industry publications. He is an opinionated rascal, but has some good ideas we think. And our "Club Corner" has already given you dozens of ideas on how to improve your organization, and will continue to do so into next year. It's a wonder what this group has done, and continues to do. You will do well to read this if you are at all interested in making your club better. Or, at least read it to see if they're running things as good as you are.

The Loan Program returned, and though still not complete and ready to use (it's supposed to be up and running this month), knowing it exists has helped some beekeepers already, and may, or may not continue to help others. Only a year long, some will take full advantage of it, some will ignore it, while others will complain that it is too high, or too low, or too something. Oh well.

Finally, some of our regulars have had memorable events this year. Mark Winston's book "From Where I Sit" was published by Cornell University Press. A collection of columns originally appearing in this magazine, we are pleased that another publisher has become aware of their value and offered them to a wider audience. Congratulations Mark.

Dick Bonney has not had the best of years and is still dealing with some health problems. We hope for a speedy and safe recovery as his input and wisdom are missed. Clarence Collison, too, has had a less than perfect year, and as this is being written is undergoing tests to see about possible surgery down the road. For you, too, Clarence, God speed and get well soon. Richard Taylor, long a favorite on these pages has decided to reduce his input a bit starting this past fall. Not too much he assures us, and not all at once, but other things in his life are also important, and he has pulled back some. We already miss his regular contributions (although he's here this month).

Well, that was the year that was. And like the rest of life, it's always something. I hope you stick around for another year. It's gonna be a heck of a ride, and you don't want to miss even a moment of it.

•

We have been looking at things associations can, and should be doing to better serve their members, and to better touch the public about what we as the beekeeping industry do. Already the BackYard Beekeepers are making a regular contribution in that light. Look closely at the author's bio's at the end of the articles and note that this is a group of people who are professionals in their other lives, and are lending their expertise to their group.

There is no doubt that government resources available to the beekeeping industry are shrinking. There are wonderful exceptions, but on the whole Extension, Inspection and University level research positions are declining in number and strength. Industry is picking up some of the slack in that regard by funding researchers with small, and

Continued on Page 47

DECEMBER, 1998 • ALL THE NEWS THAT FITS

Downsized Again
IBRA RESTRUCTURES

IBRA's services are very much in demand and in order to maintain these activities by the same methods and in the same manner it has been necessary to draw upon reserves at an unsustainable rate. Therefore the Council has decided upon a radical restructuring so that the Association and the invaluable services it provides can go on into the new millennium.

Sadly this has meant reductions in staffing. It is distressing to have to lose able and experienced staff but the alternative of having to close IBRA is totally unacceptable given the continuing level of member support.

IBRA will continue to produce its leading apicultural journals: *Bee World* recognized and admired worldwide for the broad content and geographical spread of its articles and *Journal of Apicultural Research* which is appreciated by scientists for its technical excellence. Articles in both these journals, under the able editorship of Dr. Pamela Munn and Dr. Tom Rinderer are peer reviewed so enabling IBRA to maintain frequent and effective contact with the leading apicultural scientists in government and institutional organizations throughout the world as well as those working in related fields in industry and elsewhere.

Other services at present provided by IBRA will also continue making increasing use of computer databases and the dissemination of scientific information in a modified form more suited to electronic media. This will include a modified electronic version of *apicultural Abstracts* which is already available on diskette. Hard copy will be available for those that need it although this will be in the form of laser printed in-house productions so saving a great deal on printing and external publishing costs.

A commitment has been made to continue the production of new IBRA publications including conference proceedings already at the printers. While the next conference on Tropical Apiculture is scheduled to take place in Chiang Mai, Thailand in March 2000.

The Eva Crane Library will be maintained again by using alternative methods. It will continue to make visitors welcome.

The restructuring is radical but IBRA believes that its members will continue to communicate with staff and make all the normal requests associated with membership. For its part IBRA will endeavor to meet those needs and if it cannot do so then it will clearly respond with a reason.

Plans are already being made for a 50th Jubilee AGM on October 2, 1999 and topics for other conferences and events to disseminate bee related information are being planned.

For more information contact The Director, IBRA, 18 North Road, Cardiff CF1 3DY, UK (+44) 1222 372409, FAX (+44) 1222 665522, email: ibra@cardiff.ac.uk

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Will You Be
MISSING MESQUITE

Two South American insects found by U.S. scientists have been released in Australia to combat mesquite, considered a pest in that country.

In the western U.S., native mesquite plants fix soil nitrogen, grace gardens and provide nectar for honey bees. But too much mesquite on rangeland can mean that other, more nutritious forage plants get crowded out. Mesquite costs the U.S. grazing industry an estimated $250 to $500 million annually.

South America is home to 31 mesquite species, kept largely in check by a variety of natural organisms including insects. Scientists with USDA's Agricultural Research Service have searched in Argentina, Paraguay and Brazil, looking for natural biocontrols that might be suitable for the U.S. A seed-eating insect, for example, might control mesquite's spread without harming existing mesquite plants.

The scientists, based at ARS' South American Biological Control Laboratory in Buenos Aires, Argentina, haven't yet found potential mesquite biocontrols for the U.S. But they found a few insects that could benefit other nations.

Australia's Commonwealth Scientific and Industrial Research organization (CSIRO) has evaluated two of these insects – the leaf-tier moth (an Evippespecies) and a psyllid (Prosopidopsylla flava). Both feed on leaves of mature mesquite plants.

After 15 months of quarantine study in Australia, the leaf-tier moth has been released there. CSIRO scientists had to be sure the insect was safe for wild native plants and farmers' crops. The psyllid has also proven safe and will be released later.

The cooperation is the latest in a history of shared research. In Brisbane, Australia, ARS maintains a laboratory in cooperation with CSIRO. The lab's main mission: finding potential biocontrols for the melaleuca tree. This Australian native has become a pest in the Florida Everglades. There, in 1997, ARS scientists test-released Australian weevils that eat the tree's leaves.

Watch Out Sioux Bee
BEEKEEPER CO-OP POSSIBLE?

In an attempt to stimulate a new wave of rural economic development, the U.S. Department of Agriculture is allocating $200 million to support the creation of cooperatives during 1999, Agriculture Secretary Dan Glickman announced (October 29). This action doubles the amount of money for co-op development which USDA set aside from its Business and Industry (B&I) Guaranteed Loan fund during 1998. Glickman said, "USDA will be backing loans for a wide variety of rural cooperatives, including farmer-owned co-ops that process raw crops into value-added products and consumer-owned co-ops that provide services such as day care and credit." Cooperatives in rural areas may use the guaranteed loans to invest in machinery and equipment, real estate or for working capital. Family farmers can use loan guarantees to help pay for stock in a start-up cooperative that processes their agricultural commodity into a value-added product.

NZ Biosecurity Act

GETTING RID OF AFB

The National Beekeepers' Assn. has taken responsibility for the control of American foulbrood (AFB) under a new national pest management strategy in New Zealand.

Biosecurity Minister John Luxton said the strategy given formal effect under the Biosecurity Act and will provide the legal mechanism for the control of American foulbrood. The strategy replaces the previous control program implemented under the Apiaries Act 1969.

Under the strategy, prepared by the association after consultation with beekeepers and other interested parties, there are incentives for beekeepers to take responsibility for identifying and destroying the disease in their own hives, with the long term goal of eliminating AFB from New Zealand.

"I am very pleased to see a small industry group like the National Beekeepers' Association using provisions under the Biosecurity Act to take responsibility for managing a disease of concern to them, and putting into effect a strategy that suits their needs," Luxton said.

The strategy will remain in force until Sept. 30, 2008, but will be reviewed after five years to ensure it stays on target to meet its objectives.

Y2K DOWN ON THE FARM

Agriculture Secretary Dan Glickman announced on October 15 that farmers and rural businesses looking for information or help with the Year 2000 (or "Y2K") problem can start with their local county extension office. Glickman said, "USDA is trying to help farmers and people in rural communities learn about the Y2K program. We want them to act now by checking their own systems and those of their suppliers." USDA distributed packets of Y2K information to 3,150 county extension offices in early October. The packets contain fact sheets, brochures and other information about the Year 2000 problem useful for farmers and other rural business managers.

More and More and More GE Plants

BETTER BREADS

Tomorrow's wheat plants might yield designer flours for making delicious, wholesome new breads, pastas and other appetizing foods. To produce these innovative flours, scientists with the Agricultural Research Service are using genetic engineering techniques to rebuild key flour genes.

The genes cue wheat plants to make proteins called high-molecular-weight glutenins. In one gene rebuilding experiment, increasing the length of some glutenin genes increased the time required to properly mix the dough. That's a boon to bakers, because increased dough-mixing time is a key indicator of dough strength. Dough strength is an asset because it leads to high-quality yeast-raised breads.

Strong doughs trap tiny bubbles of carbon dioxide gas formed naturally by yeast during mixing and rising. Bubbles enable doughs to rise, helping form high, light, finely-textured loaves.

Research geneticist Olin D. Anderson led the wheat genetic engineering experiments in his lab at the ARS Western Regional Research Center, Albany, CA. ARS has patented some of the research and is seeking business partners to commercialize the technology. ARS is the chief research agency of the U.S. Department of Agriculture.

Fluvalinate Resistance Marches On

BAYER APPLIES FOR SECTION 18

Florida, and perhaps other states have filed for a Section 18 use permit for the Bayer Chemical Company's Bee Strip, said to effectively control both *Varroa* mite and the Small Hive Beetle. Not yet approved by EPA for either limited or general use, the new strip has been extensively tested in the U.S. by USDA and University researchers. Results have been dramatic, however, wax and honey residue data are still being examined.

Bayer spokesman would not speculate at press time on the outcome of the EPA's decision, but did say that because of the FQPA (see *Bee Culture*, May, 1998 or see www.airoot.com/beeculture/98May/98May1.html) new pesticide regulations were not obtained as easily as in the past.

Meanwhile, Formic Acid Gel, licensed to BetterBee in NY, continues to move through the regulatory system, with strong promise of being available this Spring.

By early December several more states had documented cases of findings of *Varroa* mites resistant to, or tolerant of, fluvalinate, the only registered control for *Varroa*.

SUGAR BEETS - HEALTHIER SUGAR

Dutch scientists have developed a new sugar beet that produces fructan, a low calorie sweetener and a healthier alternative to sucrose. Reporting in the September issue of Nature Biotechnology, researchers at the Center for Plant Breeding and Reproduction Research at Wageningen describe how they developed "fructan beets" by inserting a single gene from Jerusalem artichoke that encodes an enzyme for converting sucrose to fructan. The new beet has the potential to replace more expensive fermentation methods of producing low molecular weight fructans, which are nearly as sweet as regular sugar but indigestible by humans.

BIOLOGICAL SCIENCE TECHNICIAN

USDA, ARS is seeking applications for a full time Biological Technician in support of honey bee research at the Kika de la Garza Subtropical Agricultural Research Center, Weslaco, TX. Candidates with at least one year of commercial beekeeping experience, a demonstrated understanding of honey bee biology, and the scientific method will be given preference. Must be a U.S. citizen. Salary commensurate with experience. For application information contact: Tommy Stanford, USDA, ARS, Kika de la Garza SARC, 2301 S. International Blvd., Weslaco, TX 78596, (956) 565-2606 or e-mail at sarcjob@rsru2.tamu.edu. Applications must be received by December 28, 1998. ARS is an equal opportunity employer.

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BOOKS & NEWSLETTERS

AN EYEWITNESS ACCOUNT of Early American Beekeeping by A.I. Root. The pioneers of beekeeping as close your bookshelf. Cat. No. X1, $3.69 postpaid. The A.I. Root Co., 1-800-289-7668. (TF)

PERIODICALS

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RURAL HERITAGE – bi-monthly magazine in support of farming and logging with horses, mules, and oxen. Subscription includes THE EVENER Workhorse, Mule & Oxen Directory; $22 for 6 issues; sample $6. Rural Heritage, 281-B Dean Ridge Lane, Gainesboro, TN 38562. (931) 268-0655.

THE SCOTTISH BEEKEEPER. Magazine of The Scottish Beekeepers' Assoc. Rates from D.B.N. Blair, 44 Dalhousie Rd., Kilbarchan, Renfrewshire, PA 10 2AT, Scotland, U.K. Sample $1.

IBRA: INFORMATION At Your FINGERTIPS. IBRA is *the* information service for beekeepers, extension workers and scientists. Contact: IBRA, 18 North Road, Cardiff CF1 3DY, UK. Phone +44 1222 372409. Fax +44 1222 665522.

SCOTTISH BEE JOURNAL. Monthly magazine. Sample copy from Robert NH Skilling, FRSA, 34 Rennie St., Kilmarnock, Scotland. $4. per annum.

BEE CRAFT – Monthly journal of British Bkprs Assn. Sub. including postage is £13.68 surface mail to L. Connor, P.O. 817, Cheshire, CT 06410.

THE AMERICAN BEEKEEPING FED has many benefits to offer its members. Contact the American Beekeeping Federation, P.O. Box 1038, Jesup, GA 31598, ph. (912) 427-4233, fax (912) 427-8447 or email <info@abfnet.org>.

IRISH BEEKEEPING. Read The Irish Beekeeper Published monthly. Sub. $15/year, post free. Seamns Reddy, 8 Tower View Park, Kildare.

THE AUSTRALASIAN BEEKEEPER. Published by Pender Beekeeping Supplies Pty. Ltd. Send to: The Australasian Beekeeper, PMB 19, Maitland NSW 2320, Australia. Sub. $US27 per annum, Surface Mail (in advance). Payment by Bank Draft.

BRITISH BEE JOUR. Monthly single copies 33p + postage. $15/yr. U.S. Annual subscription postpaid. Subagent: 46 Queen St., Geddington, NR Kettering, Northants, NN14 1AZ, Eng.

Bee interested. Read the AMER. BEE JOUR. New editorial emphasis on practical down-to-earth material, including question & answer section. For information write: AMERICAN BEE JOUR., Hamilton, IL 62341.

THE AUSTRALIAN BEE JOUR. Monthly, SeaMail $35 (Aus.), AirMail $50 (Aus.). Write to: Victorian Apiarists' Association Inc., Editor, Eileen McDonald, R.S.D. McKenzies Hill, Castlemaine, Victoria, 3450 Australia.

THE NEW ZEALAND BEEKEEPER. National Beekeeper's Assn of NZ. Write for rates & indicate airmail or surface. NZ Bkpr, Farming House, 211-213 Market St. S, P.O. Box 307, Hastings, NZ.

SOUTH AFRICAN BEE JOUR. The official organization of the S.A. Fed of Bee-Farmers' Assns. Samples available on receipt of donation. P.O. Box 41 Modderfontein, 1645, South Africa.

INNER ... Cont. From Pg. 42

sometimes large grants so studies can be continued to solve our immediate problems. Minnesota's Dr. Marla Spivak is one good example where money from a variety of industry sources is helping her research. There are other examples certainly, but the message is that industry is doing what it can to help itself. But it comes down to a simple solution. It is your industry, these are *your* problems, and *you* will need to solve them.

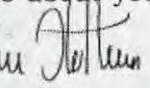
Most of us are not in a position to write Marla a check large enough to buy expensive equipment, pay a techs salary, or purchase a plane ticket for her to attend a meeting (well, some of you are, but most of us aren't). But, when we combine forces, when several of us get together, we do have enough. We, as a group can make a difference. We can buy that ticket, or that machine, or whatever we want. But the key word here is "group".

Beekeeping associations are one of the answers to the problems we have. An association can make a difference. An association can not only help its members, but help the wider membership of the beekeeping community. I'm not talking about thousands of dollars here, although some associations are capable of that amount. And it's true that some have no resources to spare. But all associations have resources of some kind, if not financial. And, if used wisely, can do much good.

But giving money to a university researcher, if one even exists in your state, may not be the answer. There are other ways to help. Who answers the 'bee' questions down at the county extension office? Who gathers, and then distributes the local swarm list? Who is the contact person when the local school wants a speaker on honey bees for the third grade class? Who mans the booth at the county, regional or state fairs? And who makes the arrangements in the first place? Who arranges the speakers at the monthly meetings so members are encouraged to come, then educated when they get there? Who sends out the meeting notices to the local newspapers? Who arrives early and helps set up chairs? Who brings the coffee and cookies for the social at meeting's end? Who writes local or state legislators about the problems with bees, and encourages support for something or other at the state level? Who represents your association's position at the state or regional level? Who even attends state or regional meetings to bring back what is happening on a larger scale than just your county? Who....who...who...?

The answer, if you haven't figured it out by now is...you. You are the key to the success of local, state, regional and national associations. Your $5.00 or $10.00 makes the difference. Your time makes the difference. Your efforts make the difference. Your contributions and donations and 'I care' attitude make the difference. You, and your "Associations" can buy expensive machines, pay salaries and solve problems. But you already knew that, didn't you?

So until 1999, keep you smoker lit (or at least handy), your hive tool sharp and your wits about you. Happy Holidays.



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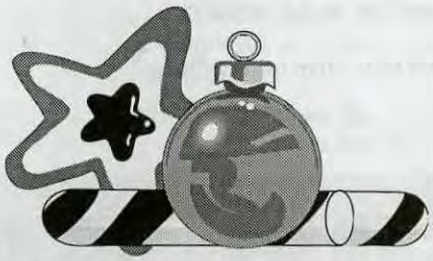

Tequila Honey

Ed Hughes

I was complaining to Kurt, my rancher friend, about selling honey.

"When I go into the store," I said, "everybody's honey looks just like my honey, even though I know mine's better."

As usual, he was ready to help.

"What you need is something distinctive. What do you call your honey?"

I reached into the back of my pickup, pulled a bottle out, and walked back to where he was repairing the wire gate that I had run through the day before. I showed him the bottle and explained that we had named it after my wife: Bobbalee's Bodacious Ambrosia.

"It's a wonder you sell *any* honey with a name like that."

"I thought it was a nice distinctive name."

"It is," he said, "but it doesn't say 'honey' on it. How are people going to know what it is if it doesn't say 'honey'?"

I admitted he had a point.

"Change the name to 'Bobbalee's Golden Honey'. I like it because it has the word 'honey' in it. Then, too, it kind of sounds like the movie *Ulee's Gold*. Naturally you couldn't call it 'Ulee's Gold' because that would be illegal, but people might think she was related somehow with a name ending in a –lee."

"You think so?"

"Sure. His sister or something like that. Next, get a different bottle. What's this bottle supposed to look like anyway? It's not a bear."

"It's supposed to be a bee. If you lay it on its side, it looks more like a bee."

"What it looks like is a giant June bug."

"So, I should put everything into bear bottles?"

"No. Everybody uses bear bottles. What you need is something that shows off the color of the honey." He paused a minute and looked up at the nearly cloudless sky.

"What I see," he said, pointing up to the heavens and drawing it out with his fencing pliers, "is flat glass, front and back, narrow sides, with faceted edges to catch the light. It holds maybe a pint or two of honey. The label is small and curved, and is pasted right at the top of the bottle. Underneath the brand name 'Bobbalee's Golden Honey' are the words 'No. 1 Reserve.' I like the sound of 'No. 1 Reserve,' don't you? The cork is sealed with a coating of red wax, and the nutritional information is in a small booklet with gold fringe attached to the neck of the bottle, so as not to detract from the glory of the bottle itself."

"Wow," I said, staring up at the same spot of clear sky.

"In the bottom of the bottle, on the bottom," he said, pointing to a small fluffy cloud on the horizon, "is a chunk of real honeycomb. Not very big, but big enough to make a prize for the first one to get to the bottom of the bottle."

"Huh," I said, "that reminds me of something."

"Yeah," he said, "it reminds me of something, too, but I can't think what it is." We both looked at the busted wire gate, trying to think.

"Sorry about the gate," I said. "It was dark, and I could have sworn it was open."

"You should be sorry. It's things like this that drive nondrinking men like me to the bottle. Ah, yes," he added suddenly, looking back up at the sky, "now I know what it reminds me of. It's a bottle of tequila with an agave worm in the bottom."

"Kurt, I don't know if I should be putting honey into tequila bottles."

"There's where you're wrong. It took our two powerful brains to remember that it was a tequila bottle, and most of my friends around here do all their shopping with just one low-powered brain running on the dim setting. They'll pay 10 times the price and gobble it up to get to the bottom piece of honeycomb."

"You could be right."

"Am I ever wrong?"

And he probably isn't.