Bee Culture

SEPTEMBER 1993

Septem

COLUMNS

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FEATURES

Cover

To borrow a phrase, no beekeeper stands so tall as when stooping to teach a child the wonderful, awesome, mystic world of nature, especially when using the honey bee.

One author this month takes that philosophy into the classroom, teaching teachers the skills and basics needed to share that wisdom.

And Barbara Morris captures the spirit in metal, for all, for ages. Take a minute, or an hour and invest in the future. Teach a child what you know, and what you love.

INNER·COVER

A Mixed Time

A mixed time we have.

The celebration of National Honey Month has been, if not cancelled certainly subdued. Those who have suffered floods and drought haven't yet recovered, nor soon will I'm afraid.

Among the fatalities was a computer disc with our promised Honey Month story neatly and completely composed within. It was recovered, eventually, and, weather permitting, will appear next month. This set back, however, pales in comparison to the chaos the Iowa flood brought to the author and his family. It is, in fact, an insignificant loss when considering the affected homes and businesses and crops and lives. Fortune, such as it is has smiled little this year.

And out of that same cruel sky came another weather related event – this in the D.C. area. A bold, bright bolt of lightening issued from a representative of the Big Shoulders city and struck the heart of the honey loan program – causing instant (though perhaps not permanent) death. The eleventh hour amendment gutted the programs funding which, if not reinstated means an abrupt end to the seasonal balancing act that keeps this industry on an even keel. And, perhaps more importantly, keeps us competitive with the rest of the world's honey producers.

Those that know feel there's a chance the funding may be reinstated. A noble pursuit, with definite windmill overtones, but I wish them Godspeed when congress reconvenes this month.

In the meantime, for those affected and even those who only sell honey as a sideline, I strongly recommend that a review of marketing basics is in order. Two articles recently published on these pages are certainly appropriate. Developing a marketing plan for your business, (July, 1993) and dealing with conventional lenders (May, 1993) are skills that should be requisite for *every* business – especially now.

The more things change, it seems, the more they stay the same. And friends, the times they are a changin'.

•

I was privileged to spend a week in early August attending the annual EAS extravaganza, this year held in Maine. From my perspective there are few better ways to spend that much time and I commend those who devoted their efforts and energy to make it work. Well done!

But there are hundreds, probably thousands of ordinary people who volunteer their services to put on those regular monthly meetings, annual meetings and more that most of us attend, at least once in awhile.

They, too, do good work. And unfortunately it usually goes unnoticed and too often unappreciated. The next time you attend one of those large or small gatherings think of the people who make it happen, and keep making it happen on a regular basis. Then give them a pat on the back and a kind word. We need them, and we need their efforts and energy.

Well Done!

Kim Flottum

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COMING SOON

Over the next several months *Bee Culture* will be exploring several aspects of the craft, the art and the business of keeping bees.

But the single unifying thread will be a focus on basics, a return to the fundamentals, the why and the how and the when.

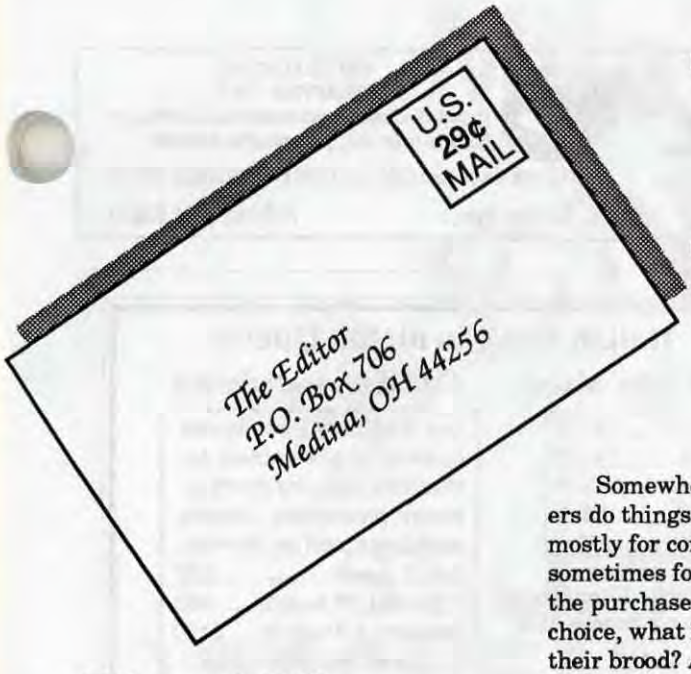
These basics, however, will apply to all levels of skill and experience. For instance:

What about wax moths? With legal controls all but gone, what's a beekeeper to do? Controlling this pest in supers in storage is absolutely required in many parts of the U.S. But with para now unavailable how can that be done? We'll explore the options, later this year.

In nearly every state American foulbrood is on the rise. Why? Fewer inspectors, less dramatic control procedures being used, and inattention to the details by individual beekeepers. What to do? Though simple, really, we'll examine foulbrood, in detail this fall – so you're ready next spring.

Even with these types of subjects featured however, we'll still have business profiles, indepth looks at commercial and sideline operations, marketing and promotion how-to's, our regular feature writers and lots and lots of extras.

There is always lots to read, lots to learn and lots to enjoy in *Bee Culture*, The Magazine of American Beekeeping.



MAILBOX

■ Loosestrife!!

I read with great interest your article concerning loosestrife in the July issue. We own a 15-acre sphagnum bog in eastern Connecticut and a gentleman who was my mentor as a young man nearly convinced me to sow it throughout the property. I never got around to it and I sometimes felt remorseful that I had not. Looking at the "beautiful" expanses of it in marshland in Massachusetts and to a lesser extent in Connecticut I was sure I had made a mistake, until I read *Bee Culture*. No honey crop is worth eliminating native fauna for. As usual *Bee Culture* is at the forefront of informing readers.

Pete Popinchalk
Norwich, CT

■ What Do I Need?

Thank you for the courtesy copy of *Bee Culture* you recently sent. Of course I ordered my new subscription – how could anyone interested in beekeeping restrain from doing so? Until my subscription starts I am borrowing my neighbor's copy.

I am considering purchasing a quantity of hive and super equipment. From the mounds of literature that I have read it seems to boil down to this:

Purchase 9-5/8" hive bodies and 6-5/8" honey supers

OR

Purchase 6-5/8" honey supers (with two used as a hive body for brood).

Somewhere I read that beekeepers do things for many reasons, mostly for comfort or economics but sometimes for bees. When it comes to the purchase of these items and choice, what is best for the bees and their brood? Anxiously waiting your reply.

Tom Bertrand
Ogdensburg, NY

Editor's Note: As far as the bees are concerned, either choice you make will work. They generally seem not to care, and research has shown little, if any difference in brood production between the two systems.

The real difference is how much can you lift; or, do you want all your supers the same size; or, how much can you invest; or .

The decision is yours. The bees don't really mind. Keep them healthy, give them a profitable location and out of harm's way and they will do fine – in one box or two.

We encourage letters to the Editor on any conceivable subject – previous articles, opinions, observations, information, speculation, comment or criticism.

Two-way communication is essential to make the magazine as good as you want it to be. And, if you've information to share, the more people that see it the better.

Share your thoughts, ideas or comments with over 12,000 readers. Bee Heard!

■ Good Start!

I really enjoy your magazine and it gets better each issue. I've only been a beekeeper for four years and the information I've gained from Ed Weiss's book and your magazine has gotten me from one to three hives and 75 lbs. of honey last year!

I've also been a member of the American Mead Association for about three years and just ordered and received a mead making kit and have five gallons of mead fermenting now. As a guide, I purchased a book *Making Mead* by Roger A. Morse, and it has become a wonderful resource book for me.

Yes, what a surprise, it's the same Dr. Roger Morse who writes on bee research for your magazine, from Cornell. I noticed that you plan to do August's issue on Mead and I'm looking forward to it. Keep up the good work.

Henry Bolanos
E. Norwalk, CT

■ Miticur Recalled

Hoechst-Roussel Agri-Vet Company is instructing all beekeepers to stop using Miticur® (amitraz) insecticide strips packaged in bags of 30 strips as a precautionary measure.

Hoechst-Roussel had requested in January of this year that beekeepers stop using Miticur® strips packaged in bags of 300 strips. This request was made in response to reports of possible adverse reactions in bees following application of Miticur.

Hoechst-Roussel is taking the additional precautionary measure of asking beekeepers not to use strips from bags of 30 strips because the company's investigations have not identified the cause of the reactions which allegedly resulted from the 300-strip packages.

A letter from Hoechst-Roussel and a reimbursement form for unopened packages of 30 were sent to all beekeepers who are listed as

Continued on Next Page

MAILBOX

having bought Miticur insecticide in 30-strip packages.

"Since our investigations have not identified the cause of the reactions allegedly resulting from the 300-strip packages, we have determined in an excess of caution to also instruct all beekeepers not to use Miticur® strips packaged in bags of 30 strips per bag packages," H. Newton Williams, Vice President and General Manager of Hoechst-Roussel's Animal health Business Unit, wrote.

Beekeepers with unopened 30-strip packages of Miticur or unused strips from 30-strip packages were instructed to fill out the reimbursement form and attach a legible copy of the original invoice. Forms must have been submitted no later than August 30, 1993. All other strips must be disposed of according to instructions in the label.

Hoechst-Roussel asks that beekeepers who may have purchased Miticur® on behalf of other apiaries advise those apiaries of this latest precautionary measure from Hoechst-Roussel.

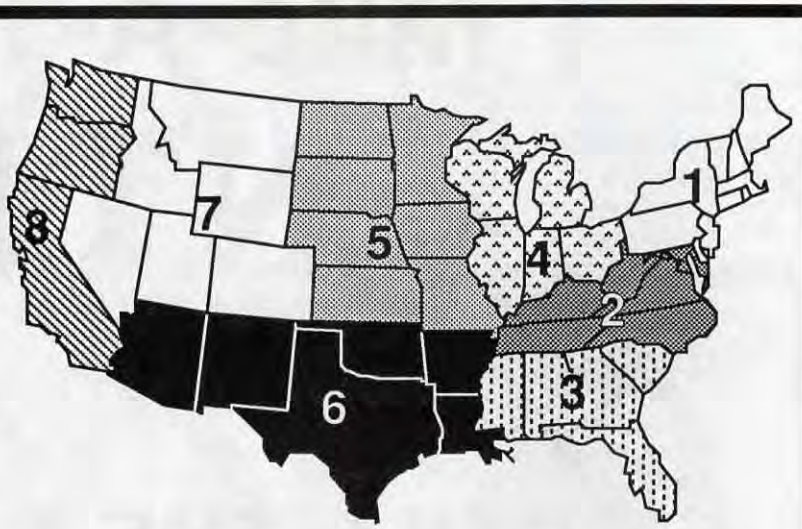
Beekeepers who have any questions about Miticur packaged in 30-strip bags may call Hoechst-Roussel at 1-800-723-6516. Inquiries about Miticur strips from packages of 300's should be directed to NOR-AM Chemical Company at (302) 892-3000.

Hoechst-Roussel Agri-Vet Company is part of the Life Sciences Group of Hoechst Celanese Corporation of Somerville, NJ, a wholly owned subsidiary of Hoechst AG of Frankfurt, Germany.

Andrea Stine
Hoechst Celanese Corporation

SEPTEMBER Honey Report

September 1, 1993



REPORT FEATURES

Prices shown are averages from many reporters living in a region, and reflect that region's general price structure. The Range Column lists highest and lowest prices received across all regions, from all reporters.

	Reporting Regions								Summary		History	
	1	2	3	4	5	6	7	8			Last	Last
Extracted honey sold bulk to Packers or Processors									Range	Avg.	Month	Yr.
Wholesale Bulk												
60 #Light	47.72	46.65	42.96	36.27	45.30	40.43	44.77	40.87	30.60-58.00	42.14	43.76	45.18
60 # Amber	44.64	40.72	38.51	32.33	41.21	38.72	41.21	38.57	26.70-58.00	39.66	40.47	41.47
55 gal. Light	.664	.611	.543	.553	.563	.550	.593	.603	.48-.75	.604	.536	.574
55 gal. Amber	.606	.525	.505	.519	.532	.510	.558	.542	.445-.73	.549	.508	.537
Wholesale – Case Lots												
1/2 # 24's	21.37	23.20	20.21	18.49	17.31	20.65	20.37	18.40	16.32-24.00	19.96	21.18	19.87
1 # 24's	31.37	31.42	28.83	25.58	31.18	30.45	31.09	28.00	16.75-38.40	30.29	29.39	30.08
2 # 12's	28.49	29.47	28.19	27.40	27.89	26.82	28.94	30.22	24.00-36.00	28.43	27.32	28.37
12 oz. Bears 24's	29.24	27.77	26.40	26.45	28.23	25.10	27.85	22.74	21.00-35.00	26.40	25.94	26.58
5 # 6's	33.44	29.85	29.35	31.24	29.84	29.35	31.13	28.35	27.00-38.00	30.90	28.61	31.07
Retail Honey Prices												
1/2 #	1.22	1.42	1.12	1.05	.95	1.11	1.25	1.07	.94-1.79	1.15	1.16	1.19
12 oz. Plastic	1.65	1.76	1.65	1.54	1.53	1.43	1.62	1.54	1.24-2.09	1.59	1.54	1.52
1 #	1.73	1.98	1.82	1.78	1.75	1.60	1.83	1.69	1.39-2.50	1.77	1.73	1.76
2 #	3.25	3.30	3.08	2.84	2.86	2.90	3.17	3.48	2.69-3.85	3.10	3.05	3.04
3 #	4.74	4.39	4.27	4.38	3.73	3.97	4.32	4.36	3.50-5.55	4.23	4.24	4.21
4 #	6.34	5.49	5.41	5.66	5.51	5.03	5.66	4.98	4.50-7.40	5.45	5.28	5.17
5 #	7.82	6.70	6.16	6.63	6.62	5.93	6.87	5.90	5.50-8.75	6.83	6.41	6.48
1 # Cream	2.49	2.88	2.26	1.88	2.05	2.49	2.55	1.85	1.69-4.00	2.29	2.21	2.15
1 # Comb	3.40	2.83	2.70	3.22	3.49	3.14	3.03	3.30	2.00-4.00	3.22	2.93	2.52
Round Plastic	2.38	2.45	2.79	3.07	3.11	3.45	3.43	2.60	2.00-4.75	2.86	2.67	2.33
Wax (Light)	2.25	1.44	1.47	1.60	1.58	2.06	2.00	1.30	1.25-3.50	1.80	1.69	1.46
Wax (Dark)	1.43	1.21	1.30	1.33	1.41	1.58	1.41	1.18	1.00-2.00	1.36	1.29	1.26
Poll. Fee/Col.	33.63	29.00	31.70	31.60	30.22	26.00	30.00	30.00	22.00-40.00	30.68	28.20	28.87

MARKET SHARE

If you're in a mind, take a look at honey prices for the last few months. Whether ours, the USDA's, or anyone who buys honey in a fairly big way. The Chinese connection is taking its toll. Bulk honey prices are being slowly eroded by the opportunity to buy less expensive imports that sell for the same as any other honey that can be put in a jar, a pail or tote.

We need to figure this out, soon.

Region 1

Demand appropriate for the weather, but beginning to pick up with what new crop is available. Prices stable to dropping a bit in some categories. Imported honey making inroads everywhere. Production/colony average to low. Fall crop could be low.

Region 2

Demand strong for local honey, which is generally high quality this year. Prices generally reflect that. Imports apparent, but not strong yet. Production/colony unusually high (lots of sunshine this year), and mostly white. Dark honey scarce.

Region 3

Prices and demand steady - but strong. Excellent early crops helped supply, and sales, and average to strong later crops keep it coming. Mite problems decreasing some, but be careful. Production/colony average to high.

Region 4

Prices doing well as fall season demand begins to pick up. Supply of local honey very short in some areas, especially in eastern sections. Mite losses extreme and only average crop hasn't helped.

Region 5

Prices actually stable, where the demand exists. Actually, cool weather helped some areas, and late summer sun will help a crop, in some areas. But avg. production/colony will approach record lows, generally, and prices aren't far behind.

Region 6

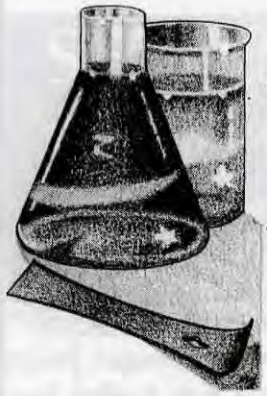
Prices and demand typical, to a bit slower due to even more heat than normal some days. Production average, but AHB hysteria building steam in some good locations. Outlook not exciting when imports are considered, and loan program gone.

Region 7

Probably the overall best region for a crop this year. Production, production/colony and demand all increasing some to fill low areas elsewhere, some to new markets. Prices doing well to increasing.

Region 8

Demand surprisingly strong (or are beekeepers the only ones surprised?). Prices steady, but they tend to higher here anyway. production/colony average to up a bit. Imports a mixed blessing - filling holes locals can't.



RESEARCH REVIEW

roger morse cornell university ithaca ny

New Data on Pollen Collection

Honey bees collect only two foods: nectar and pollen. Nectar is made into honey and is the bee's source of carbohydrate while pollen supplies protein and the small amount of fat they need. While honey bees collect large quantities of nectar and store as much honey as they can in order to survive long periods of cold, drought or wet, they do not store as much pollen. It appears bees may need fresh pollen but the concern over obtaining sufficient nectar for winter may override pollen foraging.

Some recent experiments ask how bees know when more pollen is needed. There is no boss, or group of bosses, in a bee hive. The paper below asks "how, then, does the colony acquire the necessary information to organize its work force? And, how do individuals acquire information about specific colony needs, and thus know what tasks need be performed?"

In a series of experiments designed to answer these questions, some honey bee colonies were deprived of pollen. Other experiments gave them a surplus. Following these additions or subtractions, observations were made on the behavior of the pollen foragers.

The bees were deprived of pollen by using a vertical observation hive with three frames. The queen was confined to the upper two frames and these were soon filled with brood and a small amount of honey. Under these circumstances the bees were forced to store the pollen in the bottom-most frame. This frame, with freshly collected pollen, was removed each evening and the colony given an empty frame. This deprived the bees of the pollen collected during that day. In another experiment, a frame with a large supply of pollen was substituted, thus giving the bees even more pollen than they had collected that day.

When pollen was removed there were more pollen collectors the next day but when pollen was added there were fewer. How do bees know when pollen is or is not needed? This is apparently learned by the foragers having contact with young house bees, especially those about eight days old. It is bees of this young age that produce royal jelly and have the greatest need for pollen.

This was demonstrated by dividing the hive with one or two screens. The two screens were a short distance apart. The foragers were on one side of the hive and the young bees and the stored pollen on the other side. When there was a single screen the bees could have contact with one another but with the double screen there was no food exchange. In other words, when there was a single screen the bees got information about whether or not pollen was needed; with a double screen they did not. The double screen experiment also ruled out the possibility that the odor of the pollen in the hive might be a controlling force.

Conclusion

The experiments performed in this research show that foragers obtain information about pollen needs quickly, usually overnight. They do not need to inspect or have direct contact with the stored pollen. Pollen odor does not provide a clue. The information can be passed through a single screen but it cannot be passed through a double screen because the bees' mouthparts do not contact one another.

The best explanation is that food exchange between the nurse bees, who need the pollen the most, and the foragers "provides an automatic and reliable cue concerning the colony's need for additional pollen." The system is simple and to the point. It does not require any formal chain of command. Current data suggests the information comes by way of royal jelly that we know house bees pass on to foragers and which appears to be an important part of their diet. "The result is that thousands of individuals, independently responding to local cues and acting accordingly, permit the colony to achieve a finely-tuned response."

Postscript

This paper supports others who have come to much the same conclusion in regard to nectar foraging. No doubt individual bees may respond a little differently to various cues. However, the *average* response on the part of workers receiving the information is accurate and in the best interest of the colony. It is in this manner that many honey bee behaviors, especially foraging, are governed.

References:

Camazine, S. *The regulation of pollen foraging by honey bees: how foragers assess the colony's need for pollen.* Behavioral Ecology and Sociobiology 32: 265-272. 1993.

?DO YOU KNOW?

Harvesting, Handling & Processing

clarence collison

With the beekeeping season rapidly coming to a close in the more northern areas of North America, harvesting, handling and processing the honey crop and preparation of the colonies for winter become the primary concerns for the beekeeper. In order to produce a high quality product, it is also important for the beekeeper to be familiar with the basic characteristics of honey and understand what conditions can reduce its quality. Please take a few minutes and answer the following questions to see how well you understand these important topics.

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

1. ___ The production of comb honey requires the application of more skill in the management of bees than does the production of extracted honey.
2. ___ Honey is a product of floral nectaries and honeydew a secretion of extrafloral nectaries.
3. ___ Honeydew is considered to be a good source of food for colonies during the winter.
4. ___ Numerous species of sugar tolerant yeasts are commonly found in honey and are responsible for causing the fermentation of honey.
5. ___ Fume boards are used to treat colonies infested with tracheal mites.
6. ___ Terramycin is less stable in sugar syrup than it is when mixed in confectioners (powdered) sugar.
7. ___ Honey processed with the use of extractors and honey pumps granulates faster than comb honey of the same origin.
8. ___ HMF (Hydroxymethylfurfural) levels in honey are increased with heating.
9. ___ Hogg half-comb cassettes are used in the production of chunk honey.

Multiple Choice Questions (1 point each).

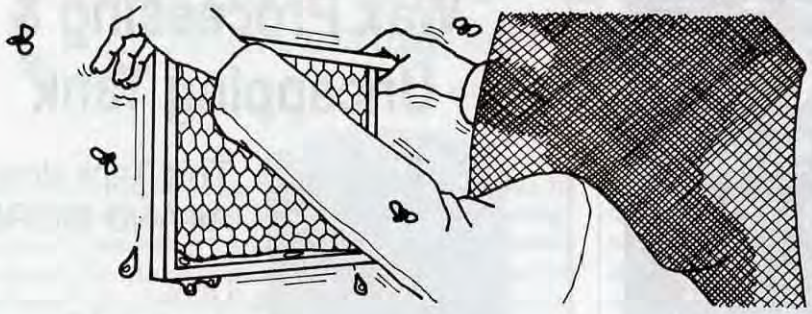
10. ___ A standard comb honey super will hold ____ basswood sections.
    A. 16
    B. 24
    C. 32
    D. 20
    E. 28
11. ___ Sugars make up on the average ___% of the solids found in honey.
    A. 88
    B. 98
    C. 100
    D. 90
    E. 94
12. Name four different techniques used to remove bees from honey supers. (4 points)
13. What are 2 advantages of producing section comb honey over liquid extracted honey? (2 points).
14. Honey in storage naturally undergoes a deterioration process that results in changes in color and flavor qualities as well as chemical composition. What can the beekeeper do to reduce or stop this deterioration process? (1 point)
15. Explain why the wax particles incorporated into the honey during the extraction process should be removed immediately following extraction. (1 point).
16. Why is cheesecloth not recommended for the straining of honey?
    (1 point).
17 What is the most efficient way of removing air from honey after it has been extracted from the comb? (1 point).
18. A prominent problem with most honey extractors is vibration. What can the beekeeper do to reduce or eliminate this problem? (1 point).

Please explain why the following conditions should be considered in the production of section comb honey. (3 points).

19. The colony should be level.
20. All upper entrances should be closed.
21. Turn comb honey supers end for end.

ANSWERS ON PAGE 511

N·E·C·T·A·R



PROMOTING HONEY

tom sanford

For some reason a myth about honey persists, namely that it sells itself. As a consequence, the per capita honey consumption in this country is very low, about one pound per person.

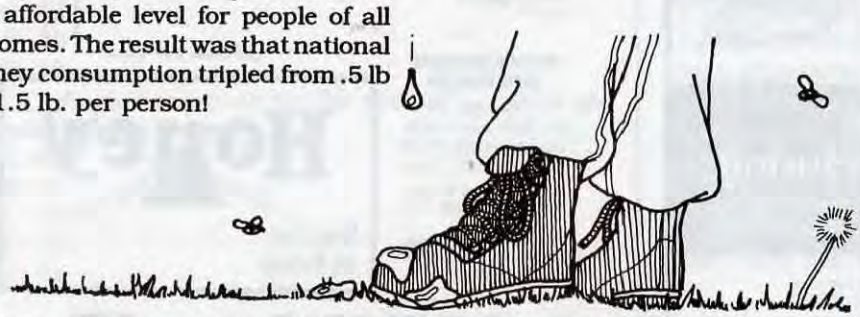
How about doubling consumption? A pipe dream? There's precedent; consider the Argentine Miracle.[1] In 1965, that major south American producer was faced with a non-existent honey export market. The response was a huge national promotional effort funded by beekeepers, each donating the equivalent of a kilogram (2.2 lbs.) per colony to the effort.

Honey was advertised extensively on radio, television, bumper stickers, billboards and in newspapers and magazines. A swarm of human honey queens (promoters) chosen from all regions of the country was sent out to stimulate interest. In addition, an innovative packaging idea, marketing the sweet in small plastic bags, brought the product's price down to an affordable level for people of all incomes. The result was that national honey consumption tripled from .5 lb to 1.5 lb. per person!

We live in the "Information Age"; communication sells products. And there's plenty to tell about one of humankind's oldest sweeteners. Just pick up one of the numerous cookbooks on honey or read about honey's long and impressive history in your nearest encyclopedia. Now tailor that information to the audience. Talk about the constituents of honey, the uses of honey, where it comes from, predominant (don't claim a pure source unless there is no doubt!) nectar sources, or how the bees make honey from nectar. Most of this is fascinating stuff to the uninformed.

Exhibits are another way to recruit consumers. These attract a good deal of attention at mall shows, fairs, carnivals or other public gatherings. However, they must be well designed to be effective. It is important that an exhibit focuses on a single idea, attracts attention, tells a story and is concise enough to be seen at a glance. Use short sentences summarizing the main points only. Finally, be sure the size and type of lettering is adequate so as to be visible from a distance. Information that can't be seen has no chance of being processed.

The U.S. honey industry is supporting a country-wide promotional campaign through the National Honey Board, set up under the auspices of the Honey Research, Promotion and Consumer Information Act. The Honey Board has pursued some innovative marketing techniques through retailer contests, coupon giveaways and cooperative advertising. Still, this is not enough, and the Honey Board cannot be expected to advertise individual products. It will continue to be up to the beekeeper to promote honey in a particular market place.



ON·MY·BOOTS

References

[1]Werthein, I. *The Argentine Miracle*, American Bee Journal, Vol. 106: pp. 166-167, May, 1966.

SEALING WAX

elaine white

Add a distinctive touch to everything you do this year – Add a personalized beeswax seal.

In 950 AD, seals on letters and documents were accepted as a sign of authenticity just as signatures are accepted today. Seals are a sign of tradition, signifying dignity and prestige. Today seals are used as a fun, decorative touch to personal letters. Sealing wax adheres to wood, paper, glass and metal. It can be used to create air-tight and tamper-proof seals for food products.

Colored Sealing Wax
Ounces by weight:
1/2 ounce beeswax
3 ounces blonde shellac
Dry artists' pigment or fresco colors

Melt the beeswax in a microwave. Add the shellac flakes and microwave, stirring every 30 seconds until the mixture is melted (about 2-1/2 minutes total time). Stir in the dry pigment. Judge the amount of pigment to add by the color of the wax. Pour this into molds and let it cool.

Metallic Sealing Wax
Ounces by weight:
1/2 ounce beeswax
4 ounces blonde shellac
1/4 ounce bronze powder

Warning: Bronze powder is metal. Never put it in a microwave.

Melt the beeswax in a microwave. Add the shellac flakes and microwave, stirring every 30 seconds until the mixture is melted (about 2-1/2 minutes total time). Stir in the bronze powder. Pour this into molds and let it cool.

Scented Sealing Wax
Sealing wax is normally odorless when melted. Add 1/4 to 1/2 ounce Peru balsam to either formula when the shellac is added. Peru balsam provides a delightful aroma to melted wax. This balsam is sold by herb suppliers such as "Penn Herb"

GENERAL DIRECTIONS

Ingredients in these formulas are measured by weight. Postage or food scales are convenient to weigh such small amounts. The containers and stirring utensils used to make these formulas are difficult to clean so use items that can be discarded.

Ingredients and supplies: Bronze powder is made from flaked particles of brass, copper and aluminum. The powder is available in the natural metal colors, plus gold and silver. Stir the powder into the melted mixture just before molding the sealing wax. Artist's dry pigments, fresco colors and bronze powders are sold by artist's suppliers such as Daniel Smith and by wood-finishing suppliers such as Woodworker's Supply.

Shellac is available in different grades (colors). Blonde shellac is almost clear and allows the pigment in the formula to show through properly. If a dark pigment is used it can be combined with the less expensive orange or garnet shellac. Beeswax, bronze powder, and shellac are sold by wood-finishing suppliers such as Woodworker's Supply.

Check your yellow pages for stationery stores. Most of

Continued on Next Page

SEALING WAX ... Cont. From Pg. 489

them sell metal seals designed to imprint sealing wax. Initials are a popular seal. Coins, crests of rings and other metal objects can imprint sealing wax.

Molding: Sealing wax can be molded as a candle, with a wick, but a self-contained wick is not essential since sealing wax can be melted over a flame, such as a cigarette lighter. Several sheets of aluminum foil can be used as a mold. Shape the foil into a mold about 1/4-inch wide and six inches long. Lubricate the mold with cooking oil.

Applying Sealing Wax: Work over a level surface that won't be damaged if melted sealing wax falls on it. Light the wick of the sealing wax and hold it downward, at an angle. Put 10 to 15 drops of wax on the surface to be impressed. Extinguish the flame. Wait a few seconds for the wax to cool. Moisten your metal seal, lightly press it into the soft wax and lift it. If the wax cooled too quickly to get a good impression, simply repeat the process. Dropping hot sealing wax onto the failed impression heats the entire mass and it can then be imprinted again. If wax stuck to the metal seal, the wax was too hot. Repeat the process and allow more time for the wax to cool before impressing it. To make the raised design stand out even more, go over it with a colored marker.

CORKS

This formula makes corks waterproof, gas- and air-tight and easily cut or drilled.
Parts by weight:
7 parts beeswax
2 parts petroleum jelly

Melt the ingredients to 180°F and immerse the dry corks. Place a weight over the corks to hold them under the wax for at least five minutes or until bubbles stop rising. Wear thick rubber gloves to remove the corks from the wax. Wipe them with paper towels to remove excess wax and place them on a rack to cool.

Corks Option II: (To obtain an air-tight seal) Insert an untreated cork into the neck of a bottle. Dip the cork and one to two inches of the bottle neck several times into the melted mixture.

Using a seal will personalize gifts and letters

TAMPER-PROOF SEALS

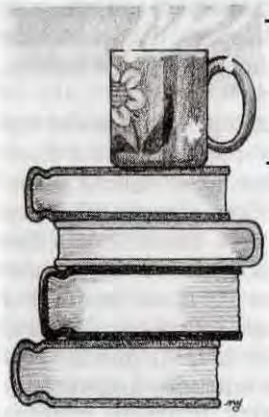
To make a container tamper-proof, wrap a label, ribbon or strip of paper vertically around the cap (lid). Tack this into place with glue or rubber cement. Apply sealing wax to fabric, glass, paper, wood or metal and imprint it as desired. Sealing wax works best if the items to be imprinted are room temperature or warmer.

SUPPLIERS

Daniel Smith (Penn Herb)
4130 First Ave. South
Seattle, WA 98134-2302

Woodworker's Supply
1108 N. Glenn Rd.
Casper, WY 82601

Penn Herb Company Ltd.
603 N. 2nd Street
Philadelphia, PA 19123-3098



Winter Prep

richard bonney

"Two really small things can cause really big problems this winter."

We all know that beekeepers are different. Some would say strange. Not you or me, perhaps, but certainly some of the others. But aside from that, we are also different in our approach to our craft. We tend to look back more than some. For instance, do farmers read about the old methods of raising cows or producing eggs to the same extent and with the same interest that many beekeepers display as they read about the old methods of keeping bees and producing honey? I doubt it. Interesting as these other facets of agriculture may be to their practitioners, something is different. Perhaps it is because beekeeping has changed so little in spite of the many advances and changes that have taken place. The problems, the successes, the pleasures of beekeeping are largely the same. We have new knowledge, and some better equipment, but a beekeeper of one hundred years ago, with minor adjustment, would feel at home today in a modern beekeeping operation. I don't think we can say the same about a dairy farmer or a poultry raiser.

What does all of this have to do with wintering bees? Well, some of the old accounts of wintering techniques are especially interesting. Those of C. C. Miller are a good example. Dr. Miller was active as a commercial beekeeper about a century ago. He wintered his bees indoors, standard practice for many beekeepers of the time. Indoors usually meant in the cellar. Over the years, Dr. Miller kept anywhere from a few dozen to hundreds of colonies. Each fall, all of those hives where carried into the cellar. Each spring they were carried out. Hard work, and even with the protection of being indoors, many colonies did not survive. It was not unusual to have a report such as this one from Dr. Miller – "When the bees were ready to begin the harvest of 1881, there were 67 colonies left out of the 162 that had been put in the cellar the previous fall." Of course, there were winters when all or most of the bees came through in good shape, but generally speaking, indoor wintering was not successful.

As time passed, beekeepers came to understand better the needs of their bees, and for the most part indoor wintering became a thing of the past. The realization came that with adequate preparation and protection, bees usually had no great difficulty wintering outdoors, on their permanent stand. Moving even short distances in the fall could stress the colony, bringing on major problems.

Today most of us do keep our bees in a permanent location, moving them only rarely. Winter preparations take other forms. Some of these methods were being used even when indoor wintering was in its heyday. Double-walled hives, wooden enclosures of various kinds, and tar paper wrapping are just a few of these, and anything that has been tried in the past is probably still being tried or practiced today, somewhere. Wrapping with tar paper or similar material continues to be a fairly common practice in some areas with severe winters, and with the advent of plastics, another whole class of winter enclosure has come along.

A metal mouse guard in place. The holes are 3/8" in diameter – small enough to keep out a mouse, plenty large enough for the bees to pass through. Remove it once or twice during the winter and scrape out any dead bees that may accumulate behind it.

Continued on Next Page

The insulation board in place, on top of the inner cover. Note the two spacer sticks which keep the outer cover from closing down tightly.

WINTER PREP ... Cont. From Pg. 491

Indoor wintering is making something of a comeback, although in a new and improved form. Today, with the recognition of the bees' needs for ventilation, constant temperatures, and the benefits of not being disturbed by sound (actually, vibrations) or light, indoor wintering can be expensive to set up because of the need for a controlled, metered environment in an undisturbed location. Part of the payback is in the much smaller amount of honey needed to carry the colony through the winter. However, few of us will ever winter our bees indoors for lack of an adequate facility. The expense, even with the payback, would not be warranted for small numbers of hives.

I have been very satisfied over the years with my own method of wintering outdoors. It is one that requires only two simple pieces of equipment, and it is easy to make the preparations. Of course, it does require that the bees themselves be ready for winter. *No wintering method can compensate if the colony does not have adequate stores, or is not basically healthy, or does not have a good queen.* We will assume that your colony does have all of those attributes. What next?

Our first and earliest concern as we prepare for winter is mice. I suppose there are some locations where mice are not a problem, but a reasonable assumption is that there are so-called field mice (not the common house mouse) living in the vicinity of your hive – they are ubiquitous. In the Northeast and throughout a large part of the rest of the country, deer mice and white-footed mice are the common species. In locations where those species don't exist, others do. If you don't use a mouse guard, it is almost guaranteed that one of these mice will eventually find its way into your hive.

Usually, the mouse does not bother the bees. It makes its nest and lives quietly until spring. It does bother the beekeeper, though. The mouse will chew a hole perhaps four to five inches in diameter in the comb of two or three frames. It will then bring in leaves, grass, and any other handy material to construct the actual nest. Once it is complete, the mouse has a very cozy place to spend the winter.

A standard question is – why don't the bees keep the mice out? Because the mice wait until late in the season when the nights are cool and the bees are in a cluster. They do their work in the night and keep away during the day while the bees are active.

Some beekeepers depend on their wooden entrance reducer to keep out mice. Sometimes it works, but often it doesn't. I have seen several entrance reducers with the opening gnawed large enough to accommodate a mouse. For that matter, I have seen hive bodies with holes gnawed in them, at a corner where the wood has been weakened or stressed through poor construction or by hive tool action.

So, the first piece of equipment is a metal guard. I use a guard manufactured for the purpose, but you can also make your own. A piece of sheet metal cut to the shape of an entrance reducer, or a piece of 1/4" wire mesh bent to shape – either will do. Put it in place and check the rest of the lower hive for weak points where a mouse might start gnawing. If you find a weak spot, staple a piece of thin metal over it – from a tin or aluminum can, for instance. Do this early. Mice plan ahead. We should, too.

The other piece of equipment I use is an insulating board. It is approximately 16" by 19 3/4" by 1/2" thick, made from material sold as insulation board, building board or wall board. It is a lightweight material similar to that used for ceiling tiles, and sometimes used for bulletin boards. It is not as dense as homosote. This building board comes in 4' by 8' sheets, a little more than you may need, but perhaps you can share it with other beekeepers. With judicious cutting, one sheet will make sixteen hive insulators.

This insulating board goes on top of the inner cover and under the outer cover. The inner cover should be inverted, with the rim down, and have a conventional oval center hole. The board in this position serves at least three purposes. It is an insulating layer to help control condensation of moisture in the hive. It provides an indirect upper entrance and ventilation port, and it is absorbent, wicking moisture from the hive.

With conventionally placed inner and outer covers, there is an air space between the two, created by the rim of the outer cover. This space in itself provides a certain amount of insulation but at some point the air in the space chills, coming to or near the temperature of the outside air. Then the inner cover itself becomes chilled, and its underside becomes cool enough so that moisture from the warmer air inside the hive will condense on that underside. From there it can drip back on the bees. With the inner cover inverted and the insulation board in place, there is no airspace. The underside of the inner cover does not chill and so moisture does not condense there.

Another feature of the insulation board is a groove cut in its underside, about 1/4" deep by 3/4" wide, starting in the middle and ending at the front edge. I use a dado blade on my table saw to cut this groove. The purpose of the groove is twofold. First, it is a passageway for the bees, leading from the hole in the middle of the inner cover to the exterior of the hive. This passageway serves as an upper entrance, with the bees exiting under the overhang of the outer cover.

Its second purpose is as a ventilation port. Normal life goes on in the confinement of the hive at varying levels all through the winter, and two products of the bees' life processes are given off – moisture, and carbon dioxide (CO_2). Without proper ventilation, both of these can build up to unacceptable levels in the hive, affecting the bees' comfort and ability to survive. With the upper entrance now in place, the hive is automatically, but gently, ventilated. Air moves in through the conventional lower entrance, up through the hive, and out

through the passageway in the insulation board. Moisture and CO_2 are removed.

There is more to this board, though. In a sense it is a stabilizer. Depending on the exact time of winter, the outside temperatures, and the levels of brood rearing, more or less moisture may be given off by the colony at different times. Being absorbent, the board will wick up some of that moisture when there is an excess. Notice in the illustration that the outer cover is propped up slightly in the front. Because the outer cover does not fit down tightly over the insulation board, the moisture can evaporate out at the top and into the surrounding air. Further, because the cover does not fit tightly, a weight should be placed on top. A couple of bricks or something of similar weight will hold everything together during those winter winds.

There are alternatives to the insulation board as described. Some beekeepers accomplish much the same thing using a shallow super or a hive top feeder filled with insulation material – fiber glass, straw, hay, leaves, or whatever may be handy. This will work but there are a couple of problems with organic materials, such as leaves and hay. They absorb and hold the moisture to a greater degree than the insulation board or fiber glass. The moisture does not evaporate out the top as readily. Then the bees must live with this damp mass in their attic. That is a little like one of us going around in a damp overcoat – a certain amount of protection, perhaps, but not the best. If you use any of these materials, ventilate well from the top of the super. Better yet, don't use organic matter.

Proper preparation, especially with the small things, means a better chance next spring.

All of this has presupposed that your colony is in good condition for the winter – plenty of stores, good health, a reasonable population, and a relatively young, prolific queen. No wintering scheme can compensate for deficiencies in these requisites. It is a little late now, in September, to do much about colony population or the queen, but it is not too late to feed or medicate. Don't leave these things to chance. It is devastating to find a colony dead in the spring from starvation or some other problem that could have been corrected in the fall. The time to feed, of course, is after the fall flow is over (if you in fact have a fall flow), and the supers are off. Don't wait too long, though. Do it while the bees still have flying weather. They don't need to fly in order to take feed, but flying weather ensures that they can move out of their cluster to process and store that feed. A jar of cold syrup over an immobilized cluster is of little value.

Preparing bees properly for winter makes you feel doubly good. First when you complete the job and can stand back and anticipate the winter with confidence, and second, when you look at that thriving colony in the spring. Q

"BEE" Creative Curriculum

peter popinchalk

What is it about honey bees that touches a chord of fascination in us? Is it the threat of the sting, or the taste of the candy that they provide us? Is it the wonderment at what exactly it is that goes on in the inner sanctum of the hive?

As beekeepers, we are privileged to have contact with a body of lore that gives us a view of the web of life and where we fit as humans in the greater scheme of the natural world. The curiosity that arises when the word "bee" is mentioned is an effective teaching tool. The sight of my mother wearing a veil and overcoat, with gloves taped at her sleeves, and carrying a billowing smoker was a childhood memory I will never forget. My next question was "How does that work?" Beekeeping piqued my curiosity and, more than any other farm experience, coalesced my understanding of how things worked around me.

Good science teachers recognize tactics that grab their students' attention and hold it while concepts are being taught. Speaking from the perspective of someone who has taught at the sixth grade level, beekeeping can be correlated to many aspects of the science curriculum.

Insect Reproduction

Take insect reproduction as an example. Butterflies or grasshoppers are often used to show the stages of development from an egg to adult. When the life cycle of a honey bee is considered, very specific calculations can be made for workers, drones and queens, down to the half and even quarter-day to emergence. Add to that the facts that a queen can lay 2,000 eggs a day at the height of the season, or that workers only live about six weeks in the summer but there can be 30 - 50,000 of them, and the lesson on insect reproduction becomes more meaningful. The hive itself reproduces on a grander scale through the spectacle of the swarm. In essence, the real individual is the unit and a civics lesson follows regarding the social structure of the hive with its guards, foragers, water carriers, pollen collectors, propolis gatherers, nurses, queen and drones. This interconnected unit of life can survive only as a whole, not as individuals.

> "Good Teachers recognize tactics that grab students' attention."

Plant Reproduction

Plant reproduction is interwoven with beekeeping in much the same way. The wider view of plant pollination and how it is accomplished can be clearly demonstrated by observation of honey bees. Here also, cycles in nature can be identified and their importance conveyed to children. If all plants bloomed at once, there would be severe competition for pollinators. Besides teaching the mechanics of pollination, one can show students how most plants have some type of flower and the way they bloom in a staggered succession throughout the growing season assures their success. In Eastern Connecticut, the season begins with skunk cabbage, pussywillow and maple trees in March and ends with goldenrod and wild aster in October. Here is an opportunity to introduce children to native species of plants and to create awareness of problems with development and habitat destruction.

Environmental Awareness

Beekeepers are naturalists and biologists by virtue of their trade. They may not have been formally trained in the use of the appropriate jargon, but they are keenly aware of life processes around them. Most beekeepers probably can't tell you that a food web is "a chain of organisms existing in the natural community in which each link in the chain feeds on the one below and is eaten by the one above, with plants, bacteria and scavenging forms on the bottom and the largest carnivores on the top." But they can tell you that bees in the U.S. are affected by two types of parasitic mites, various fungus spores and bacteria, that they are eaten by spiders, dragonflies and other insects, several species of birds, skunks and bears, not to mention human confis-

cation of the products they produce. It is also a perfect example of a Pyramid of Energy, another concept taught at the elementary level.

In my experience as a teacher in a sixth-grade classroom, I was surprised by the lack of knowledge concerning local species of plants and animals and the pressures put on these resources by human activity. While students were well versed on problems with the clearcutting of the South American rain forest or the extinction of exotic species, they could not identify jack-in-the-pulpit, lady's slipper, a creeping jenny or princess pine, or discuss species decline on a local level due to insecticide applications or wetlands filling. Bees can help here!

Field Trips

A spring field trip can show students the way another law of nature works succession. This is defined as the slow, orderly progression of changes in species composition of a community during development of vegetation in any area. It runs the gamut from weeds, which are the scabs of the earth and are the first to cover disturbed soils, to grassy fields, to ecotones which are the zones between fields and forests and, finally, the climax communities which encompass a definite group of plant and animal species, in our region, deciduous hardwood forests.

Dozens of plant species can be identified during an outing and the individual importance of each can be noted, not only as nectar or pollen sources for bees, but also as food sources for birds, insects, animals and humans that live there.

> "Bees challenge, teach and surprise us. Become acquainted with them."

Another tack one may take is a discussion of the chemical threat to our environment. An examination of Rachel Carson's book, *Silent Spring*, can make students aware of the havoc wrought by indiscriminate application of DDT to control gypsy moth and mosquito populations. These dangers are not as obvious now but are still very real. It's a great lesson to trek through the pesticide aisle of any department store or garden center and see the great variety of toxic substances that are routinely applied to home lawns and gardens in the name of pest control, often with little understanding of environmental hazards.

Beekeepers see the insidious effect of these treatments when they experience a bee-kill. The lesson flows that the laws of diffusion and entropy in nature dictate that things will move from high concentration to lesser concentration throughout a medium. It can be likened to the stocking of a lake with trout. Although they are dumped in at one point, over a period of time, they will disperse nearly equally throughout the medium of the water. In other words, spray it here but eventually you will eat some of it later. The classic example of this is DDT which can be found to this day in the tissue of animals as far removed as the arctic circle. Animals at the top of the food chain, such as polar bears, killer whales and humans, tend to concentrate these long-lived toxics.

Class Dismissed

Beekeeping is a gift that gives us insight into the world around us. Bees challenge us, they teach us, they surprise us with their beauty each time we observe them. Nature tells us much about who we are and how we came to be this way. In a time when we are surrounded by the trappings of modern living, they provide us with a tool for keeping in touch with our real roots, that is, as part of the living earth. Our children stand to gain much by becoming acquainted with them.

WINTERING YOUR BEES

steve taber

Wintering bees is a strange term to me. You don't winter dogs, cats or people or anything else except bees. The term means to do what you have to so your colonies will survive from the fall of the year until the spring. What you do depends on the climate where you live, and more accurately – where the bees live.

For instance, in the southern tier of states bees are pretty active November through March. Being active means they will consume a lot of honey – 60 to 70 pounds. In places like New York and Wisconsin, where it is much colder during that same period bees will also consume 60 or 70 pounds. But they will consume less if you provide some protection, like insulation. Weather-proofed cardboard wrapped around and on top will cut consumption by 10 to 20 pounds. That's a cheap investment.

I never kept bees in Wyoming, but I have heard the temperature can drop from 70°F to 0°F in 24 hours. That's hard on bees. If they don't have some insulation to slow the shock of the swiftly dropping temperature, many will be caught away from the cluster and will freeze.

For those in the really cold parts of the U.S., where temperatures plummet well below 0°F and stay for awhile, I strongly suggest doing what Dr. C.C. Miller did when he kept bees in Illinois – put them in a cellar.

Of course a well-insulated building will do. What you need in one of these cellars or insulated buildings is a stable temperature, from 35° to 45°F. When bees are in such an environment, and in the dark, they consume a fraction of the honey they would if they were outside. Of course, ventilation is critical and difficult, but it can be done.

In Sweden, where the bees don't fly from mid-October until mid-April and the temperature rarely gets colder than 20° or warmer than 32°F, most beekeepers insulate their hives.

In the Canadian prairie provinces of Alberta, Saskatchewan and Manitoba where it really gets cold, they have developed a wintering method that is quite different. Four colonies are placed close together, then wrapped in an insulating fiberglass blanket. The whole is then covered with a piece of plywood with upper entrances provided to all four colonies. Dr. Don Peer, who developed this wintering technique says that there is so much heat produced inside the hives the bees don't cluster at all.

"Wintering has seldom been the subject of scientific investigation."

When hives are insulated against the outside cold two good things happen. Less honey is consumed, and the bees can move from emptied honey combs to full ones.

Unfortunately, wintering has rarely been the subject of scientific investigation. Almost all our knowledge on the subject comes from observations by good beekeepers.

However, Charles Owens, a coworker of mine at the U.S. Department of Agriculture, recorded millions of temperatures of bees "wintering" in Wisconsin and "summering" in Arizona. He installed thermocouples every inch east to west, north to south and vertically in several hives, and for a number of years recorded the temperatures 24 hours a day for weeks at a time.

He found that if the outside temperature was 0°F or colder for any length of time, the temperature inside the hive would be almost the same. Only when a thermocouple was next to or inside the cluster was there an instant rise over the surrounding hive temperature. So, in a one-inch distance the temperature would go from 0° to 34° and then to 80°F. This publication is probably available free by writing Dr. E. Erickson, USDA Bee Lab, 2000 E. Allen Rd., Tucson, AZ 85719. Ask for the "The Thermology of the Beehive" by C. Owens which was published about 1970.

The Cluster As the temperature inside the hive begins to drop, the bees move closer together. When the outside temperature is 80°F, they might cover 30 or 40 combs. At 50°F, this drops to 15 combs. As the temperature continues to decline to 30°F, they will reduce their occupancy to eight or 10 combs.

Some books say the bees form a cluster at 60°, but I have never seen a cluster at that temperature. To observe clustering open a colony when the outside temperature is close to freezing. Remove any supers not occupied by bees and smoke them heavily. The first thing you will notice

is that the bees stick their abdomen tips in the air, exposing their sting. To examine the center of the ball of bees, loosen each end of the center frame with your hive tool and get as much space as possible to make comb removal easy. Then remove the comb.

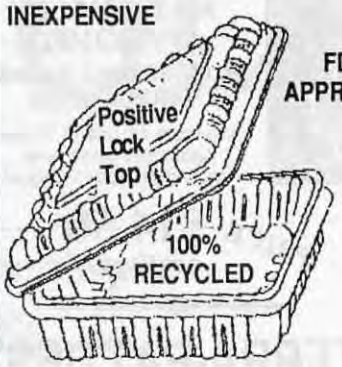
You will see at the periphery a bunch of bees about an inch thick packed very tightly and so cold they can't fly. Inside this one-inch rim the bees are well distributed and some will immediately fly at you trying to sting. If this is done in late January you will also see sealed brood as most queens begin laying eggs about the first of the year. If you continue to keep looking you might see a few adult drones.

Opening a hive like this in winter, when it is very cold really doesn't damage the colony. But it does kill a few bees and the disturbance causes the bees to generate more heat inside the cluster and consume more honey.

Bees cannot cluster on full combs of honey; they will all freeze and die. The combs in the center of the bottom brood nest should be one-half to two-thirds empty. Boxes above this nest should be completely full of honey. Always expect that bees will need more stores of honey than usual. Dr. C.L. Farrar, in Wisconsin, would leave 90 pounds of honey on each hive, which consisted of three full-depth bodies. One standard full-depth Langstroth frame will hold 10 pounds of honey.

During winter the bees need to be able to move to combs containing honey. In fact, the whole cluster will slowly move from the bottom center to the south and west top corner. Frequently bees will starve to death with honey in the hive because they can't get to it. *Full-depth Langstroth combs prevent bees from moving laterally unless they have holes in them.* Combs made of plastic or with plastic foundation should have two or three holes, about half an inch wide, drilled in the middle of the comb. These holes give the bees a chance to move to honey on the outside combs.

A couple of last thoughts. Bees will winter as well or better on sugar syrup than honey. In Northern states, feeding them sugar syrup in the fall with the recommended dosage of fumagillon reduces nosema and increases your honey production. Also, a fall treatment to combat mites and foulbrood is the best way to have live healthy bees in the spring. With these precautions taken, you will be free to attend winter bee meetings and cluster with some good bee books. ◊



MEET . . . . . BOB COLE

dewey caron

Meet This North Carolina Master Beekeeper Who Is Also A Great Salesman

You're in western North Carolina, sitting on the deck with Bob and Susan Cole to watch the shadows lengthen along Elk Creek as darkness descends down the mountain. Bob is a gracious host and sits with you but he seldom has time to partake of the pleasure alone. Bob Cole is a beekeeper.

He has always kept bees. Even while overseas in the Army, Bob used leave time to visit European beekeepers. His family was the largest apple grower in Henderson County. He liked the apple business and the honey bees that they rented to pollinate the blossoms every spring, but an allergy to organophosphate pesticides denied him a future as an apple grower.

After leaving the farm Bob had several jobs that involved travel. He was in the music business for a while, promoting country western artists in the southeastern U.S. After that, RCA kept him on the road with specialty installation and maintenance of electronic clocks and carillons. But all through the years Bob was a hobbyist beekeeper, and twelve years ago he left the road to manage bees fulltime.

Bob increased his colony numbers to present levels primarily by splitting and raising his own queens. He has a well developed and refined sense of the type of bee that performs well in the Appalachians and has carefully produced the bee he wants. Now, with one son as the queen breeder of the business Bob concentrates on the results. By expansion and splitting he now operates over 1,000 colonies in three states.

Like many beekeeping businesses, he can't find the skilled workers his operation demands, although he gets some help to move colonies and check distant apiaries. But it's mostly a one-person operation – from developing the bee to producing the honey to selling the products. Even so, Bob still finds time to volunteer his time and sales talent, primarily to the North Carolina and Eastern Apicultural Society (EAS) beekeepers, and the Lions Club, where he is in his second year as white cane chair.

Bob believes in feeding bees during winter. He uses apiary sites on the North Carolina coastal plain where the winter is considerably milder compared to the mountain yards of the western part of the state where he lives. He likes to winter two four-frame nucs over a double screen, above an established colony. The nucs will expand with spring weather (and his attention) to provide pollination units the second or third week of April.

Once drones are numerous in the spring Bob begins queens. Attention to drone mother colonies is the key to having high mating success

Continued on Next Page

BOB COLE ... Cont. From Pg. 501

levels, he says. Feeding sugar syrup helps queen and drone colonies develop and provide the top quality queens he needs.

Bob Cole is in an area of the country where sourwood honey is king, but a lot of honey is sold as chunk packs. About 15% of his market is sold as chunk packs. He regularly produces tupelo and gallberry along with the sourwood honey.

When it comes to sales, Bob is his own broker and has over 60 outlets for his honey. We visited a Red & White supermarket in Boone where personal attention and frequent visits insure him an entire rack of his product, prominently positioned next to the fruits and vegetables. A super salesman, he makes a point of spending time with shop owners and department managers where he sells his honey. It pays.

Like most beekeepers, Bob has found that product quality is the key to successful selling. In fact, he can't produce enough honey for his outlets. Some 60% of his honey is sold to tourists, which is related to his market mix. Customers come back because they like his honey.

With pollination movement an important part of his operation, Bob believes in good sound bee equipment. He likes crimp-wired foundation which he wires with two horizontal strands. Winter days are spent in the shop repairing old equipment, assembling new equipment and, since he has a big need for beeswax, replacing comb.

With a large variation of habitat, Bob finds years like 1992 a real challenge. He said it was one of the poorest nectar and pollen years in memory. That summer, 21 of every 30 days were cloudy. Delay in flowering on pollination rentals meant greater difficulty in getting bees to tulip poplar and locust locations on time. By mid-May, Bob's colonies should be moved to locations above 3,600 feet to work the late tulip poplar trees and early sourwood bloom. Usually both are very reliable nectar producers, but years like 1992 keep a beekeeper aware that careful timing, good management and luck are keys to successful production.

Sourwood locations, even in the Appalachians, are not sure sites these days. Clearcutting and wood chipping threaten the crop each year. Since sourwood doesn't yield as consistently at elevations below 3,200 feet, the greatest threat is at the highest elevations. And there is increasing pressure from vacation developments since the western North Carolina/southern Virginia area is only a few hours from populous east coast cities.

The western North Carolina mountains are experiencing an increase in Christmas tree plantations. Such sites provide spring dandelion in abundance. Pine and fir trees are not sprayed for pests until later in the season so bees and Christmas trees make good neighbors. Water runoff is a potential problem, however.

Beeswax is an important product in the Cole operation. He sells a considerable amount at festivals, and also counts a large number of furniture finishers as customers. He sells them 14 oz. blocks of beeswax for $3.50. Many of his outlets also handle one-ounce blocks molded in a hexagon design at even greater profit. Bob hasn't yet moved into candles, but I notice he has paid particular attention to candle-making workshops at the Eastern Apicultural Society meetings recently. For now, blocks of beeswax, big and small, give him a good product mix for both his permanent and temporary outlets.

Bob credits EAS with providing a generous amount of his beekeeping knowledge. He has given back manyfold in his service to the organization. He served five years as chairman of the Board and still chairs Sites Committee and Past Board Chairman. He is a familiar face and name to beekeepers throughout the Eastern part of the country.

Bob Cole is a master beekeeper. He not only has earned the title from both the EAS and North Carolina Beekeepers certification programs to certify beekeepers, but in his management of bees and sales of his products. A visit to the Boone or Blowing Rock, North Carolina area is not complete until you follow Elk Creek up the mountain above Todd and sit on the deck and talk bees and beekeeping with Bob and Susan Cole. You won't find more gracious hosts in all of the Appalachians, nor anyone more knowledgeable and interested in the craft of beekeeping.

HOME HARMONY

ann harman

A Taste Of National Honey Month

September is a good month for trying something entirely different. Yes, September can be a busy month but not all new recipes are time-consuming and complicated, peculiar or mysterious. True, your family will have to vote whether or not to serve a particular dish again, but you might be surprised at the interest shown in a new and different approach to a familiar food.

Honey is a natural in a wide variety of recipes. Your honey's off the hives by now and you're ready to celebrate National Honey Month. This celebration is one of the easiest – and most pleasant – to organize. All you have to do is use honey in some food each day. As part of my Honey Month celebration I like to introduce someone to the pleasures of using honey in the kitchen by giving honey, recipes and samples of honey cookery. The honey dish does not have to be baked goods; it can be a salad dressing, a meat or vegetable sauce, or a dish made with fruit.

Pineapple Nut Dessert

You might like to use this recipe for pineapple to start National Honey Month.

1 large ripe pineapple, peeled, cored and thinly sliced
2 cups almonds
1-1/2 cups honey

Put the almonds through a food processor so that they are very finely grated. Place a layer of pineapple in a bowl and sprinkle with some of the honey and some of the nuts. Repeat with layers of pineapple, nuts and honey until all are used. Set in a cool place for at least 2 hours before serving. 6 servings.

The NY Times Natural Foods Cookbook
Jean Hewitt

Pemmican

Although true pemmican used suet, this version uses honey to bind the ingredients together. A much tastier choice than suet!

2 cups raisins
2 cups dry dates
2 cups nuts (peanuts, cashews, walnuts, etc) OR
1 cup of your favorite dry cereal
enough honey for a binder

Grind together all ingredients except honey. Add honey a little at a time, mixing well until moist enough to mold well and hold shape. Press into a pan until about 3/4-inch thick, or mold directly into bars. Refrigerate. If in a pan, cut into bars. Wrap bars in aluminum foil.

Arizona Cookbook
Compiled by Al and Mildred Fischer

Savory Soybeans

Baked beans fixed with honey are always popular. But have you ever tried baked soybeans with honey? Here's a recipe for a very nutritious main dish.

1-1/2 cups dry soybeans
2 small tomatoes, chopped
1/2 cup tomato sauce
1 small green pepper, seeded and chopped
3 green onions, chopped, including the tops
3 slices bacon, diced
3 tablespoons honey
1 tablespoon dry mustard
1 teaspoon salt (more if needed)
freshly ground pepper

The night before, place soybeans in a 3-quart kettle. Add water to 1-inch over the beans. Cover and soak overnight. The next day, drain beans, discarding any loose husks, and return to kettle. Preheat oven to 325°. Combine the beans with all the remaining ingredients, adding water to barely cover. Bring to a boil on top of the stove, cover, then place the pan in the oven and bake for 4 hours, until tender. The beans should be a tawny color; the liquid reduced by one-half. If you prefer drier beans, bake another hour. The beans improve in flavor if made in advance and reheated.

Honey Feast
Gene Opton & Nancie Hughes

Emerald Isle Bread

Bread recipes are so numerous that I think they must outnumber recipes for anything else. I once visited a Bread Museum in Zurich. Can you think of any other food that has a museum of its own.

Since this next recipe, for a wonderful oat bread, calls for small loaf pans, the bread could be used as a gift to celebrate National Honey Month.

1-1/4 cups rolled oats
3 cups all purpose flour
1-1/2 tablespoons baking powder
2 teaspoons salt
2 cups milk
1/4 cup honey
1/4 cup minced fresh parsley
1 egg
1 tablespoon melted butter

Generously grease three 6x3x2-inch loaf pans. Grind oats in processor or blender until fine. Transfer to mixing bowl. Add flour, baking powder and salt and mix well. Whisk together milk, honey, parsley and egg. Add to dry ingredients, blending with a wooden spoon until well combined. Divide batter evenly among pans. Bake at 350° until loaves test done, about 50 minutes. Turn out onto rack and brush tops with melted butter.

Cooking With Bon Appetit: Appetizers

Chocolate Chip Apple Pie

Of course you can bake an ordinary apple pie with honey – just sub-

Continued on Next Page

HOME ... Cont. From Pg. 505

stitute honey for sugar. However, since we are trying new and different recipes, here is one for an unusual apple pie. Actually it's sort of a crumb pie. You will note that brown sugar is used in the topping. Don't try to substitute honey; it doesn't work.

4 cups peeled and sliced apples
1/3 cup honey – your favorite
1/2 teaspoon cinnamon
1/3 cup milk chocolate chips
1/4 cup brown sugar
1/2 cup chopped unsalted peanuts
1 tablespoon flour
1 9-inch unbaked pie shell
1 cup biscuit mix
1/4 cup butter or margarine

Combine apples, honey, flour and cinnamon, tossing to blend thoroughly. Put into crust. Sprinkle chocolate chips over apples. Combine biscuit mix and brown sugar. Cut in butter until mixture is crumbly. Add peanuts and sprinkle over apples. Bake at 375° until golden brown, about 35 to 40 minutes. Cool pie slightly before serving.

Apples Rappahannock Style
Rappahannock County 4-H Club

Double Cheese Wheat Muffins

Making muffins for breakfast can actually be quick and easy. Combine the dry ingredients and grease the muffin pan the night before. You can even have some or all of the liquid ingredients measured out and ready to add. Do not combine these the night before since a honey and egg mixture will curdle in a few minutes. Turn the oven on before you start mixing and it will be warm and ready when the muffin pans are full.

1 cup all-purpose flour
1/2 cup whole wheat flour
1/2 cup shredded cheddar cheese
1/4 cup grated Parmesan cheese
2 teaspoons baking powder
1 beaten egg
3/4 cup milk
1/4 cup honey
1/4 cup cooking oil

Grease 12 muffin cups. In a large mixing bowl stir together the all-purpose flour, whole wheat flour, cheddar cheese, Parmesan cheese, and baking powder. Make a well in the center of the dry mixture. In another bowl stir together the beaten egg, milk, honey and cooking oil. Add the egg mixture all at once to the dry mixture. Stir just until moistened (batter should be lumpy). Spoon batter into the muffin tin, filling each cup 2/3 full. Bake at 400° oven for 18 to 20 minutes or until done. Remove from muffin cups and cool slightly on wire rack. Serve Warm.

Old Fashioned Home Baking
Better Homes & Gardens

Cocoa Fruit Breakfast Drink

In case you have decided to save the muffins for lunch with a salad, here is a quick breakfast drink.

1 container, 8-ounces, strawberry yogurt
1-1/4 cups cold milk
1 cup fresh strawberries, sliced
1 medium-size ripe banana, cut in slices
3 tablespoons cocoa
2 tablespoons honey

Place all ingredients in blender, cover and blend until smooth. About five 6-ounce servings.

Hershey's Simply Chocolate

Syruped Grapes

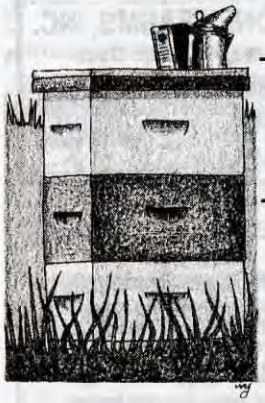
Finally, still in keeping with new and different – but simple – recipes with honey, here is an elegant dessert.

1/2 pound white grapes
1/2 pound red grapes
1/4 cup honey
1 teaspoon lemon juice
2 tablespoons sherry
1 tablespoon toasted slivered almonds

Cut grapes in half and remove the pits if necessary. Combine and blend well the honey, lemon juice and sherry. Place grapes in a bowl then add the honey mixture. Marinate for 2 hours at room temperature, then refrigerate. Serve in individual bowls and decorate with almonds.

The Honey Handbook
Andrea Nasi, Ilaria Rattazzi, Franz Rivetti

Now you can celebrate National Honey Month at breakfast, lunch and dinner, and even at snack time with friends and family.



BEE TALK

richard taylor

"If a sense of awe regarding swarms does not leave you thunderstruck, you have not opened your mind."

I live where there are lots of vineyards, and last summer a television crew came down the road making a documentary of this Finger Lakes wine trail. When they stopped at my honey stand we got talking about bees and they became so fascinated with this that they came back the next day to make a TV segment about me and my bees. They sent me the tape, which I've seen only once. It seems to be about 15 minutes long. Anyway, the reason I bring this up is that I'll be glad to lend the tape to anyone who might want to show it to a bee club or whatever.* I'll get nothing for this, except, of course, a bit of nourishment for my vanity.

Now to the subject of bees. After two wonderful years of honey getting this one has been, for me, the worst I can remember, in spite of perfect weather. The huge basswood next to my cottage not only had no bees in it, it had no bloom. It has been dreadfully dispiriting. Well, we take from the hand of nature what she is willing to give, sometimes bountifully, other times meagerly.

So I'm not going to talk about honey getting. I'm going to pursue the mystery of bees, which is part of the whole mystery of nature. It is the confrontation of the mind with this mystery that stirs both the religious and the scientific impulse in us. I have never met a first-rate scientist who did not look upon nature with a certain awe and reverence, and while I am no scientist, I am perpetually overwhelmed by this sense of mystery.

Here is an example, drawn from what is perfectly familiar to every beekeeper. When a colony of bees throws a prime swarm it sends scout bees over the countryside, far and wide, to find a suitable nesting site. The scout bees return and recruit other bees to check out what they have found. Comparisons are made, and increasing numbers of scout bees then examine what seems to be the most promising nesting site. Finally the matter is settled, and the entire swarm suddenly takes wing, gets itself oriented in the air, then drifts off, with increasing speed, straight to the chosen site. All pour into that cavity and, within a few minutes, bees are entering and leaving with regularity, exactly as if this had been their home from the day they were born.

That, in outline, is what happens. The details of this complex procedure are to some extent known, but apart from that, can you contemplate, and comprehend, what I have just so prosaically described without being thunderstruck? If the sense of awe does not flow in upon you, then I think you simply have not opened your mind to it.

Now I shall invite you to consider a detail of the picture just sketched. That nesting site, into which those thousands of bees finally pour, was the discovery of just one single bee within that vast multitude. That one bee, seemingly no different from her thousands of sisters, was destined to seek out and find what would become the nesting site, perhaps for years to come, of that ongoing colony. Moreover, when she set off to find it, she was doing what she had never done before, and what only one bee out of many thousands is ever called upon to do. And not only did she find that cavity – the hollow of some distant tree, for example – but she made a preliminary assessment of its suitability, in terms of several criteria. She measured its size, for example. How? Well, she paced it off, much as you or I might get a rough idea of the size of a large room. She walked all around inside and thus determined its size, not by counting her steps, of course, but by seeing how far she was walking in relation to the entrance! Having determined that the cavity was neither too large nor too small, as well as not too close to the ground, she returned to the swarm and recruited other bees to come confirm what she had found. As the recruits arrived in the vicinity of the site, this original discoverer of it alighted at the entrance and exposed her scent gland, fanning the pheromone into the air to direct the recruits to the exact spot. Soon afterwards came the dramatic exodus. Of the thousands of bees that suddenly arrived, hardly any had ever seen it before. The only ones who had were our original scout plus the recruits which, by the time the swarm came, numbered several hundred, but still, only a small fraction of the total colony.

This whole business simply boggles my mind, but the thing I

cannot get over is that one bee, the discoverer. We think of bees as all doing more or less the same things, we say "by instinct," to cover our ignorance. But this one bee is doing something utterly different from all the rest, something she has never done before in her life. And it is not a random, hit-and-miss procedure, but a seemingly sophisticated one, involving the application of clear criteria, measurement of space, reporting back, summoning others, and so on. How did she learn all that? What equipped her for this unique and momentous mission? I think about this, I dwell upon it, and finally all I can say is God only knows. ○

QUESTIONS?

Harvest When Ready

Q. Can honey be harvested from supers when only 3/4 of the combs are capped, and when some of the combs are only half capped over?

T.C. Koronich
Novelty, OH

A. Any comb that is entirely or almost entirely capped over is ready for harvest. One that is only partly capped over can be extracted *provided* the honey in it is "ripe," that is, not thin. The way to determine this is to hold the comb horizontally and see whether you can shake honey (or nectar) from the open cells.

Leftovers

Q. After harvesting my honey I have several combs only partly capped over. Can I give these back to strong colonies, other than the ones they came from, to finish up? Or will the bees just remove the honey?

Russell Willsey
Sebring, FL

A. The bees will not remove the honey just because it was put in the combs by a different colony. They will treat it the same as if stored by themselves, and will usually, unless there is a dearth of nectar in the fields, finish the combs and cap them over. I always give partially filled comb honey sections to strong colonies to finish.

Propolis

Q. I have accumulated a lot of propolis. Where can I sell it?

Donald Wilson
Southbury, CT

A. Bee Hive Botanicals, Route 8, Box 8257, Haywood, WI 54843, or call toll-free 1-800-283-4274.

Cleaning Up

Q. What is the best way to get extracting combs cleaned out for storage? Could I pile them on a hive over an inner cover after the last extracting and let the bees clean them out? Or should I pile them on sawhorses in the yard and let the bees rob them out? I am concerned about crystallization and mold in the combs.

Daniel Bordeaux
Milton, LA

A. Putting them over a hive does not work well. The bees are likely to store more honey in them or, in a northern latitude, may form a winter cluster there. Setting them out in an isolated yard for the bees to clean has always worked for me. It creates a feeding frenzy, but the combs get cleaned out thoroughly and fast.

Mites In Fall

Q. One of my hives has Varroa, but does not appear to be heavily infested. Should I treat for mites now, during a honey flow, or wait until fall? For some time I have noticed bees crawling in front of the hive. Is this a sign of tracheal mites?

Monroe Miller
LaGrange, IN

A. Do not treat for any kind of mites when you have supers on the hive, as you should when there is a honey flow. Wait until fall, then use acaricide strips for the time specified on the label, after honey is harvested. As for crawling bees, this is likely to be a sign of tracheal mites, but this does not, by itself, indicate serious infestation. Treatment, however, is indicated. Use menthol or grease patties.

Better Bees

Q. I have both Italian and Caucasian bees. None of my Caucasian colonies succumbed to tracheal mites last winter, only the Italians. Does this mean anything?

Bill Taylor
Columbus, OH

A. It does not prove anything, but it is well known that some strains of bees are more resistant to mites than others, and your experience suggests that your Caucasians are more resistant than your Italians.

Wax Moth

Q. I found about a half dozen moths, about an inch long, under the lids of two strong colonies. Were these wax moths? And if so, why were they in strong colonies? I have heard that wax moths are a threat only to weak and declining colonies.

Russell Willsey
Sebring, FL

A. Without seeing them I could not say they were not wax moths, but I doubt they were. In any case, the moths themselves do no damage to a colony, so should be ignored. It is the larvae that chew up combs, and in my latitude they are no threat to a strong and healthy colony.

Editor's Note: Even strong colonies will have wax moths present, both adults and larva. Strong colonies will keep them in check. Weak colonies may not have enough bees to control the larva that can destroy a colony.

Questions are welcomed. Address: Dr. Richard Taylor, Box 352, Interlaken, NY 14847, enclosing a stamped envelope.

ANSWERS!

Richard Taylor

?Do You Know? Answers

1. **True** Extracted honey is much easier to produce than comb honey since comb honey production requires a heavy, fast honey flow and intense colony management. Strong colonies are normally reduced to a single hive body, so it is necessary to examine the colonies every 7 to 10 days to check for swarming preparations. Swarming is a more serious problem when producing comb honey than in larger hives, with plenty of empty comb space, normally used for extracted honey production.
2. **False** Honey is a product of both floral and extrafloral nectaries (plant origin) whereas honeydew is a sweet liquid excreted by several different kinds of insects with sucking mouthparts that feed on plants (aphids, leafhoppers, scale insects etc.).
3. **False** Honeydew is not considered suitable for winter stores for bees because it differs chemically from honey. Mineral salts and possibly melezitose and dextrins are believed to be responsible for the toxic effects. The quality of honeydew varies according to the plant on which it occurs and the insects producing it.
4. **True** Numerous species of sugar-tolerant yeasts have been isolated from honey and cause fermentation when they grow and reproduce, breaking down the sugars into alcohol, carbon dioxide, water and acetic acid.
5. **False** Fume boards plus a chemical repellent, i.e., Bee Go (butyric anhydride) or benzaldehyde, are used to drive bees from honey supers as they are being removed for honey extraction. Fume boards are not used to treat colonies with tracheal mites.
6. **True** Treating colonies with terramycin is normally done by mixing it with powdered sugar and dusting the top bars in the brood area. This is the preferred treatment method as terramycin is less stable in syrup and dusting reduces the likelihood of it becoming incorporated in the honey.
7. **True** For honey to crystallize, there must be some form of particulate matter present on which the crystal can grow (honey crystallization nuclei). Dust, pollen, wax particles, small pieces of propolis and even air bubbles can serve as honey crystallization nuclei. Since these materials are added during the extraction process and air is added with a honey pump, the granulation process is speeded up.
8. **True** The production of HMF (Hydroxymethylfurfural), a breakdown product of sugar solutions containing glucose and fructose, increases with the heating of honey to control fermentation and the storing of honey in warm areas.
9. **False** Hogg half-comb cassettes are a new type of plastic sections used in production of section comb honey. Bees produce comb honey in a marketable plastic tray complete with lid. Each half-comb box has an embossed honeycomb pattern on the bottom coated with wax from which bees construct their comb.
10. B) 24 Sections or E) 28 Sections
11. B) 98%
12. Shaking and brushing bees from the capped combs
    Bee escapes or escape boards
    Chemical repellents
    Bee blowers
13. When honey is stored in the comb, all the delicate aroma of each floral source is sealed in and retained, whereas some of the aroma may be lost in the extracting and processing of honey. Less expensive equipment is necessary for comb honey production than for extracted honey. The retail price of comb honey is higher than similar quantities of liquid honey.
14. All of the physical and chemical changes that honey normally undergoes while in storage can be avoided by storing honey at low temperatures (below 50° F.). Honey kept at very low temperatures for years cannot be distinguished from the freshest honey.
15. Wax particles incorporated into the honey during the extraction process should be removed before the honey is stored or processed. Otherwise the honey's flavor may be impaired during packing since the honey is likely to be heated beyond the melting point of wax.
16. Cheesecloth, once popular for straining honey, is no longer recommended since it adds small bits of lint to the honey.
17. The most efficient way of removing air from honey following extraction is to keep it in a settling tank for two or three days to allow most of the air bubbles to rise to the top. The resulting foam should be skimmed off before bottling or packing.
18. Vibration is a prominent problem with honey extractors. The beekeeper must try to balance the placement of the combs in the extractor as well as spin the combs slowly initially, then increase extractor speed as the honey combs become more equal in weight. In addition, turnbuckles and cables should be used to attach the extractor to a solid object. Large commercial extractors are bolted directly to the honey house floor.
19. Colonies used to produce comb honey should be level. If the colony is tilted forward slightly during the honey flow, the sections at the rear of the hive will be drawn, filled with nectar and capped first. The problem is eliminated by leveling the colony at the time the section supers are added.
20. Colonies used for comb honey production should have no upper entrances. When upper entrances exist, the sections near the entrance will be travel stained and bees are reluctant to store honey near an entrance.
21. Leveling colonies does not always ensure proper filling of sections from one end of the section holder to the other. Bees will do a better job of filling the sections immediately above the brood area and have a tendency to store honey toward the rear of the colony, even if the colony is level. Therefore, it is advisable to turn comb honey supers end for end when the section supers are 2/3 to 3/4 filled.

There were a possible 25 points this month. Check 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

Gleanings

SEPTEMBER, 1993 ALL THE NEWS THAT FITS

4 New Also Named

HONEY BOARD NAMES OFFICERS

The National Honey Board re-elected Binford Weaver, Neil Miller and Steve Klein as officers, reelected Dale Bauer as a member and elected Mike Ingalls as a member to the Executive Committee during the Board's annual meeting, held in Denver on June 26.

Binford Weaver, a beekeeper and president of Weaver Apiaries in Navasota, TX, was reelected as chairperson of the National Honey Board. As chairperson, Weaver presides at Honey Board meetings and supervises all Board activities.

Neil Miller, president of Miller's Honey Farms, Inc., Blackfoot, ID, was reelected as secretary/treasurer.

Dale Bauer, a beekeeper from Fertile, MN and an officer of Sioux Honey Association, was reelected as member of the Executive Committee. Mike Ingalls, a honey handler from Sultan, WA, was also elected as a member of the Executive Committee. Officers and members of the Executive Committee are selected by a majority vote of the 13-member National Honey Board.

Meanwhile, Secretary of Agriculture Mike Espy announced the appointments of four members and four alternates to serve on the National Honey Board. Members and alternates announced were:

Frank E. Randall, Umatilla, FL and alternate Lloyd B. Shearman, Jr., Wimauma, FL representing honey producers;

Neil J. Miller, Blackfoot, ID and alternate Shirley W. Miller, Midvale, UT representing handlers; and

M.Z. "Mike" Ingalls, Sultan, WA and alternate Jill M. Clark, Lancaster, PA representing importers.

Appointed as public member is Shirley L. Doty, Yakima, WA with alternate Kelly J. Duffin-Maxwell, Glenview, IL.

All appointees will serve a three-year term ending March 31, 1996.

FARM NUMBERS DROP

Farm numbers are continuing to decrease, but the rate of change varies considerably when considering size. USDA estimates farm numbers are declining about 23,000 per year. But recent studies show that between 1974 and 1987 the smallest farms, less than 50 acres, increased by 90,000 and farms with 1,000 or more acres rose by 14,000. The major decline was in farms with 50 to 999 acres, they fell by 300,000. Recent trends indicate the loss of mid-size farms is much slower than in the 1980's. Of the 2.1 million farms in the U.S. only 6,000 were controlled by non-family corporations, about 3 percent, and the number has remained steady. The average annual net income from farm operations was $3,994. Only 18% of farm operator households received more income from the farm than off the farm in 1991.

It's The Same In Maine

BEARS CAUSING PROBLEMS

Some Nova Scotia beekeepers have called for black bears taken off the province's protected species list so they can be shot after a rapid increase in the number of raids on hives.

Beekeepers want the Natural Resources Dept. to take steps to protect their industry. But one provincial wildlife biologist said beekeepers could keep bears away by using electric fences.

The number of bears attacking hives in blueberry fields has doubled over last year and the beekeepers said they feared their bee colonies would be destroyed if the problem was not dealt with.

"We had 10 complaints of damage last year," said Nova Scotia Beekeepers Association spokesman John Murray. "This year we've already received 20 and it's only July."

NH Gets Political Boost

GOV' TRIES HAND AT BEES

David Sorensen, Howard Kimball, Gov. Merrill & his wife.

Gov. Stephen Merrill became NH Beekeepers' Association newest member. A life-long dream of the Governor, having and managing a colony of honey bees finally came true. A legislative aide read an article in a local paper by David Sorensen, UNH Extension Educator about an upcoming beekeeping program. Contact was made and what followed was exciting and rewarding for everyone.

The State Beekeepers' Association decided to make honey while they could, so they presented the Governor a gift including all the protective clothing and equipment needed to work a hive. NH Beekeepers" Association President, Howard Kimball and Vice President, David Sorensen, each contributed a colony of bees.

The State of NH Service Department enclosed an area with snow fence and placed a nice swinging gate at the front. The apiary is located at the Governor's Mansion, 21 Mountain Road, Concord, NH, also called the Bridges House given by Stiles Bridges, a former NH Senator.

The Governor has had several visits with Howard and Dave to help him learn how to best manage his hives. He demonstrated a great deal of interest in his bees and visits the apiary quite frequently to watch its development.

BOTTOM ... Cont. From Pg. 520

the hive, and finished the job the next day. At the hospital that afternoon Ann was told she obviously was not allergic since she had about 60 stings (13 in her hand alone), but the attendants gave her a tetanus shot for the nasty nail cut on her leg.

Here's my misadventure. I had to manage a hive on the same day that I was to run a 10K race. Time was short, so I dressed hurriedly. Working the hive, I felt a sting in my ankle. I looked down to see that I had not put on socks (usually I cover up completely, including two pairs of heavy socks). It hurt, but I was not about to cut the activity short. But about 30 seconds later a dozen needles went in. It felt like my foot was on fire. I looked down and there were a cluster of bees on my bare ankle, evidently alerted by the first attacker of my Achilles heel. I ran, trying to get rid of the bees, receiving a few more stings, and took a grand finale piercing when I took off my shoe.

Postscript: I ran the race that afternoon, although it felt like I was dragging a 30-pound weight, and my time was about 10 minutes longer than it should have been.

And so it goes. The old war stories are told and retold. It seems we beekeepers relate these incidents with a kind of pride mixed with bemusement. I guess beekeeping wouldn't be so much fun if it weren't hair-raisingly scary every once in a while. Q

"I'd like to report an earthquake."

Display Index

Sting Stories

howard scott

Do we beekeepers have a sadistic streak? Most of us are gentle, law-abiding souls, who wouldn't harm . a bee if we could avoid it. But I suspect underneath the mild-mannered exteriors, lies demon spirits. And the reason for this outrageous accusation is that we love to hear horror stories from fellow practitioners, or to relate our own near-catastrophes. At every bee gathering I've ever been to, invariably someone describes in minute detail some awful happening.

Whenever I hear a horror story, I ask for details, paint the picture in my mind, and feel myself in the situation, imaging the smell of panic, the furious clamoring of an angry cluster of bees, or the insidious buzz of one invisible soldier, so that I often squirm and bend in place. This vicarious experiencing invariably gets my heart beating at double the rate and intensity that the latest movie thriller does. *Tyrannosaurus rex* pales in comparison to our pointed charges.

So to juice up this page, I want to share with you a few stories I've heard lately. I will only include first names to avoid embarrassment; after all, we beekeepers are supposed to be strong and silent types and it would be unfair to reveal someone in a state of absolute panic.

Robert was tending his bees when two critters got underneath his bee veil and began walking on his face. A week before he had panicked when that happened, and suffered a sting in the cheek while yanking off his veil in an attempt to free the intruder. So this time he resolved to remain calm and continued working over the hive.

But one bee crawled up Robert's nostril. He tried to blow it out, but was stung on the inside of the nose. It felt like "a strong electric shock that touched every extremity of my body." He yelped in pain and swatted his face, which caused the other bee to sting right below his eye. Robert quickly finished his work. That night the inside of his nose swelled and made it hard for him to breathe. But the worst part was that he couldn't get up the courage to go into his hive for another month.

Eddie was tending several hives in a field. He returned to his truck, climbed in, and took a sip of cooled coffee that had been sitting on his dashboard. As soon as the liquid passed his lips, he knew he also swallowed a bee ("I could feel it fluttering down my windpipe.") And then, halfway down, the bee stung. The sting felt like "a punch from within my system, the strangest feeling in the world." The bee then struggled to climb up his windpipe, and kept falling down.

Being a long-time apiarist, Eddie decided to ignore the incident. However, that night, he woke up with chest pains. At 11 p.m., his wife drove him to the emergency room of the local hospital. The doctor examined him, decided there was nothing to be done, and gave him Benedryl to reduce the swelling. Eddie went home two hours later, one relieved man. These days he admits, "Every time I drink coffee when I'm around bees, I'm more careful."

Ann had to move a hive for an old friend who was in the hospital. Unfortunately it was a double-hive, weighing almost 200 pounds, and it had a separator in the middle. First Ann and a friend stapled the hive bodies, which were pretty badly weathered. Then they began to roll it up the ramp to the pickup's flatbed.

Unfortunately a ramp board broke, the hive shifted, and the bees escaped in force. Trying to prevent a toppling, Ann snagged her trousers on a nail and ripped a hole from groin to knee. The bees took advantage of the opening. They also stung through her heavy bee gloves. Through it all Ann held on, lest the hive fall and split apart. They righted

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