NOV 92

GLEANINGS IN

BEE CULTURE

BACKYARD COLLECTION

Picture The Profitable Gift Basket Market For Your Honey!

MAKIN' HONEY

With Adee Honey Farms Crews

TOPS & BOTTOMS

The Perfect Top, The Perfect Bottom

ROOT PUBLISHING

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Columns

Departments

COVER... We were able to convince Walter Swartz and his talented crew to show us how to make these super gift baskets just in time for holiday gifts or sales. You CAN make these, and make money in the process. Check out his "Backyard Collection" on page 616. Make t connection with YOUR honey in one of these baskets.

photo by Joanne Tuchrello

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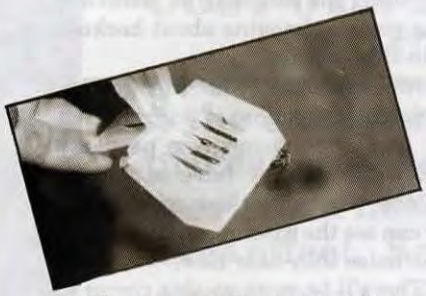

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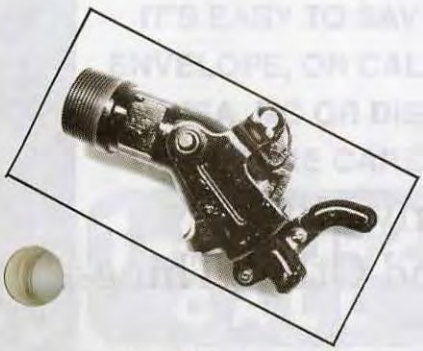

After The Party – Pg. 626

INNER·COVER

Terrible tales are being told about the outcome of taking varroa mites for granted. The plots to these stories are similar, as is every inevitable outcome. They go something like this ...

It starts when there are very low varroa infestations early in the spring, before the major honey flow begins. The take-it-for-granted operator either doesn't check, doesn't find, or doesn't act – so treatments aren't given when the opportunity exists.

Then, when it's time to super, bees aren't checked, or acted on, again. Anyway, you can't treat with honey supers on, so why bother?

Meanwhile, that seemingly small (maybe almost invisible) mite population has been growing. As brood increases so do the "brood rearing" opportunities of the mite. And each female mite produces several female mites that produce several more female mites until the competition for space in every brood cell becomes incredible.

It's at this stage damaged and deformed bees begin emerging, or no bees at all emerging, if anybody looked. This population decline continues until the queen simply shuts down. Then, when there's no brood at all, adult mites really begin to scramble for places to go. Inter-apiary and intra-apiary contamination spreads. Adult bee infestations increase dramatically, honey production stops, bees die or abscond and the end comes fast. It's not a pretty sight.

What's left is a bunch of boxes with honey (maybe), and little else. Robbing quickly occurs and by the time the take-it-for-granted operator gets back, all that's left is lunch for wax moths and some stray, wooden boxes. No crop, no bees, and no explanation.

My biology may be a bit off, but the scenario I've laid out isn't. But why haven't we heard about this before? Simply, because until now we've rushed to treat infested colonies. That helped. But when belts are tightened by poor crops, low prices and other costs some producers cut corners. Take-it-for-granted was one.

I hate hearing about any beekeeper going out of business, especially because of something like this. Careful checking requires time, which translates into money, and treating costs even more. But does treating and checking cost more than a colony produces – in honey, bees and the added costs of the plague it spreads?

If it does, the mites have won, and it's time to find another way to spend our time. But if we are to continue, looking and learning and treating is going to be a way of life, like it or not. Until something better comes along.

•

The honey industry has taken a few hits lately, have you noticed?

One Presidential candidate (maybe the next President, by now) singled us out as the best way he could think of to reduce the budget deficit. Right.

More recently a major network news show seemed to think the money spent on the honey loan program would be better spent on a variety of other government projects. None that produced food, though. Don't they eat those things needing pollination, out there in the big city?

And routinely people in congress take aim at us, and it always gets good press when they do. At least good for them.

Here's a couple of thoughts.

The next time you get a swarm call, refer them to the Embassy for the People's Republic of China, 2300 CT Ave. N. W., Washington, DC 20008, (201) 328-2500. The Ambassador's name is Zhu Qiz Hen. He'll be glad to help. Give the caller a buck for the call. It'd be worth it. Especially after a couple hundred calls.

Or give them the name and number of your Senator or Congressman (get that from your library), and see how fast that swarm disappears.

If you're less vindictive (or you don't have bucks to throw around) maybe you'll like an idea being tossed around by the Federation (ABF). They, with the cooperation of nearly everyone in the industry, are putting together a book that tells the story of beekeeping in the U.S. When complete, it will have everything you can imagine about anything you can imagine about beekeeping in this country.

And, you ask, who will get this wonderful collection of information? New and existing congress people, to start with. So they have a resource available when questions arise. And so they can see the wisdom, or folly of some of the noise they hear now.

There'll be more as this comes together.

Now, there's a really unique idea – getting together.

Tiny Mites, And Other Things.

COMING SOON

The next few issues feature some pretty exciting articles covering the whole world of bees, beekeepers, and the art, science and business of keeping bees.

There's the Richard Adee article next month, which gives a brief view of the man that runs this incredibly huge operation. We'll look at his management style, the staff, some aspects of the finances that make his operation work, certainly the politics and even the fun – they all are part of this complex businessman/beekeeper.

January has a couple of special attractions, too. First, there's a first-ever (here) interview with Chip Taylor, the controversial researcher from Kansas. Though he has been studying the African Honey Bee since the early 70's, it seems they are only a part of what makes this scientist tick. Discover the rest of the story when you meet the Man Who Loves Mysteries.

In the same issue we will be looking at the U.S. Honey Packing Industry. We've talked to and visited with the biggest U.S. packers, some of the smallest U.S. packers, and a few in between to get a first hand view of why they are the way they are and how they do what they do. Now you'll know what they know.

After that? Honey Jars, Winter Loss Survey, Fire! Tracheal Mite Manipulations, Up Close and Personal, Nectar On My Boots, Research Review, Interviews, articles and lots more.

Coming Soon in *Bee Culture.*

P.S. There's a change in the wind here at *Bee Culture*, one you won't want to miss. Stay tuned – the January issue has surprises Galore!

MAILBOX

■ Action Plan Needed Now!

I am concerned! I am disturbed! I would like to request some action by beekeepers in the U.S. through the pages of this publication. I would like to urge the apicultural industry to participate with their State Apiarist, or the appropriate regulatory individual, in the immediate development of procedures to deal with Africanized Honey Bees (AHB) in those states without a current plan.

In the spring of this year, the National Association of State Departments of Agriculture (NASDA) conducted a survey to determine what, if any action states have taken on the AHB Model Action Plan finalized in St. Louis in October 1991. The results of the survey give me the perceptions and concern I mentioned.

Of the 50 states, twelve (12) apparently did not respond to the survey. Twelve (12) have not made any plans. Eleven (11) are working on a plan. Only eleven (11) have, or are adopting the Model Action Plan with or without slight modifications. One state says they are adopting the USDA Technical Working Group plan. Three (3) states have adopted the Texas plan. In addition eight states indicated they will not or are not planning to adopt the Model Plan. Will all states and migratory beekeepers be prepared with credible strategies which will facilitate interstate movement of bees, and still protect the public interest? What has become of all the work and planning performed by USDA, NASDA, AIA and industry on the Model Action Plan?

My most recent information indicates that 34 counties in Texas have one or more AHB detections. With the current rate of AHB spread, some beekeeping and stock production areas of Texas may be threatened next year! My perception is that perhaps 24 states do not presently have sufficient planning completed or in progress to deal with the migratory movement of queens, package bees or hives. Am I wrong?

According to a survey conducted by the Apiary Inspectors of America, Texas shipped 277,225 colonies to 13 states in 1987. Ninety two percent (92%) of these went to four states. Those four states ship hives to the west and east coasts. Nine (9) other states received 11,910 colonies from Texas. The number of queens and packages shipped from Texas is probably not known, but they undoubtedly go to many states. Are these states prepared to deal with accidental AHB introductions?

Knowing as I do that it usually takes two to three years to implement statutes and regulations, it becomes imperative that industry work with their states to adopt the Model Action Plan, now! That plan has within it all the necessary issues that need to be addressed in writing regulations.

There are two ways to adopt the NASDA Model Action Plan:

First, the Plan may be adopted as a matter of policy. This would be sufficient if a state's current statutes and regulations have text which allows the implementation of the issues identified in the plan.

Second, if authority language is not in current state statute, the Plan may be used to identify the authority items which need to be placed in statute. Concurrent with the statute development, rule language may be formulated which will implement the details of the Model Action Plan.

It is particularly wise, in the case of AHB, to place only the authority language in statute and the implementation language in rule. This is because we will be learning much from each other as we experience AHB movement through Texas and its first introductions into migratory beekeeping and stock production areas. New techniques to identify AHB, scientific or practical, may be developed. Rule making allows industry and government to respond reasonably and quickly to new information, and lessens the impact on migratory beekeepers and the public while supporting the needs of U.S. agriculture.

There are three reasons to act now in developing enabling language and rules. One is that most of the work is already completed in the Model Action Plan, and it represents a consensus of a broad range of regulators and industry who attended the St. Louis meeting. Second, last minute planning is very disruptive to migratory beekeeping and national agriculture, and it also presents a poor accountability image of industry

Continued on Next Page

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!

MAILBOX

and government. I think we should learn from our past experience.

Third, USDA and NASDA took the lead by forming a committee which identified all of the issues, then they drafted a proposal and hosted the St. Louis meeting which resulted in the AHB Model Action Plan. Now it is up to the industry and state governments to follow through with implementation.

With all the background efforts completed, will some of us again be late to respond to such a highly visible public issue? I think that industry should take the lead in those states which have not adopted the Model Action Plan, and get it formally adopted. They should begin now to discuss what they will do when the first AHB colony is found in their state. Prohibiting movement of queens, package bees or hives is not the answer. It only further divides the industry and places hardship on some individuals.

Stock producers need to keep industry informed constantly about what they are doing, and will do, to protect their production lines from AHB contamination. This includes addressing the perceptions of industry in a forthright manner. When they can no longer produce EHB stock reliably they should begin producing selected AHB/EHB hybrids for use in the AHB range areas.

I think this is an urgent matter deserving the attention of your readers.

James C. Bach
WA State Apiarist
AIA Past President

■ Needs Land

The fall is treating us well here in our part of California, I hope you can say the same of your home. This letter is a simple request of you. Our non-profit environmental group is in the process of finding a suitable piece of land in the lower 50 states that would serve as a training and research center for one of our educational programs. I wish it were not necessary to burden you with the request of donated space in your journal, but there are a few problems like massive topsoil erosion, groundwater contamination, and the startling disappearance of groundwater, land rights and the family farm that beckon us to act.

Printing the following copy in an appropriate section of your journal would be of much assistance.

Wanted, donated farm for use as a Non-Profit, Environmental Education Center and community. Will work to put abused land and planet into proper stewardship. Contact: Mudd Baron, Earth Island Institute, 300 Broadway, San Francisco, CA 94133, (415) 788-3666.

I wish that every available piece of land were in proper use in this country, but it is not so. The average age of the American family farmer is too close to 60 to suggest a healthy continuation of one of this country's founding institutions: the family farmer. Our desire with this land project is to create a working, educational model of a farm that serves as a center for bringing together students and farmers, teachers, writers, researchers and folks like the ones at the Land Institute in Salinas, Kansas that could offer some hope for a world full of people that "have never lifted one pitchfork of manure out of their own barn." I don't know how to say it with greater brevity or otherwise, you can figure out what the metaphor means; but I hope there is one bold person in your readership that is in a position to help.

I grew up in a rural community along the Ohio River and have lived on a 150-acre truck farm most of my life. It's not natural to think that one must move to a city to save the farm way of life. I have "lived" in San Francisco for a year. Well, I have no intentions to remain in this or any city and would much appreciate your assistance in my bold attempts to find the person to help us make things right again, get done with all this fussing about the greenhouse effect, and go fishin' Please contact me if you need any further information.

Mudd Baron
Director, Earth Speaks
300 Broadway
San Francisco, CA 94133

■ More Wax Equipment

I built two solar cappings separators from old automobile oil pans that work very well. Each pan holds the cappings of three to four supers. Most of the honey leaves the wax in a day during August, and then the wax melts down in a couple of days more. I get a gallon plus of honey from each separator.

The items needed are:
one auto oil pan
one honey valve
1" iron tubing for the legs
3/4" plywood for the lid
1/4" plexiglass for the lid cover
1/2" wire mesh for a strainer
perforated metal from an old clothes washer (I was able to find one of stainless steel)

I first thoroughly burned the inside of the oil pan with an acetylene torch, to remove all traces of oil. I then made the legs from the one inch metal tubing, welding them to the sides of the pan. I made mine 18" long, and put wooden plugs on the bottom ends.

I traced the outline of the top of the pan on the 3/4" plywood and cut out the area with a Skil saw. Then, the 1/4" plexiglass is fastened with screws. The honey valve screws into the oil pan drain hole.

The 1/2" wire mesh is cut to fit the bottom part of the pan, and keeps bits of wax from plugging up the valve. The stainless steel perforated metal is cut to fit the middle part of the pan. The wax goes through this as it melts, leaving most of the slum gum behind.

R.G. Neher, M.D.
Boise, ID

■ Basics

I would like to ask your advice on how to control Fire Ants that find their way into my hive. I just started in the hobby last year and have had trouble with Fire Ants coming in the

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MAILBOX

hive. Although I don't like using chemicals, it may be the only way to control this troublesome insect. What do you recommend?

I would also like to ask your opinion on the "best" number of hives a beginner should start with and how far apart should the hives be placed from each other?

I have found your magazine very educational and helpful and believe me, as a novice I need all the help I can get!

Greg Crowder
Americus, GA

Editor's Note: Fire Ants seem to be an increasingly difficult problem for beekeepers. And, although there are more serious problems, if your colony is killed by these pests, other problems don't count.

We published an article this past May on controlling Fire Ants that listed several chemicals that were labeled for use and that would work. Ants are, though, "Easy to Kill, but impossible to eradicate". Persistence Pays.

My personal recommendation is that a beginner should start with a minimum of two, and no more than five colonies. But, that depends on your definition of 'beginner'

If you're not just sure what a honey bee is yet, or have much clue to their biology, stick with two or three to start.

If you're more 'nature-oriented', and have a feel for this sort of thing, three to five is probably better.

But, what will you do with a couple hundred pounds of honey next year? Know that answer, too!

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GUEST EDITORIAL

DR. HERBERT DRAPKIN
PERMA COMB SYSTEMS

"Steve Taber's opinion of plastic isn't the only one."

The September '92 issue of *Bee Culture* carries an article by Steve Taber entitled "Stay Natural". This is an insult to all of us in beekeeping who have tried to make this industry more efficient and profitable.

Since he has used the name of Langstroth and others to lend credence to his tirade, I quote from Langstroth, taken from the 1888 revision of the *Hive and the Honey Bee*.

"In apiculture as in everything else, we should try to obtain the best results with the least labor and expense, and these can be obtained by studying the habits of the bees, complying with them as far as is PRACTICABLE."

Langstroth was not a PhD entomologist, but a keen observer and student of beekeeping. He had the courage to try techniques by such individuals as Huber, Dzierzon and others. He built hives according to their specifications, observed them and felt they should be improved. In the preface of the 1977 reprint of the *Hive and the Honey Bee*, it says ". . . in recognizing the practical application of the bee space ranging from 1/4" 3/8", Langstroth designed a beehive in which the frames that hold the combs and the hive walls conformed to this spacing".

The rest is history. Langstroth used a natural phenomena he had observed. Since 1853 we have taught the Langstroth method of doing beekeeping and it has not changed. Langstroth, Root, Miller and others made excellent observations without the use of a 'rocking chair'. They tried to set standards and elevate apiculture by producing products that would improve production and efficiency. These improvements were made by studying the natural habits of the bees.

To ascribe that we go back to using frames without foundation and to let the bees do as they wish is to send beekeeping back to the outhouse days. Why have indoor plumbing? Why not go further back and use the bushes? We live in a world utilizing the goodness of nature and try to improve it for the benefit of man. For Taber to belittle the advances that have come about with the introduction of plastics is to have wrapped himself in a time cocoon. He appears not to recognize the "Langstroth" tradition in trying to improve beekeeping by stating that plastics are no good. Unfortunately, there are some that would believe him and say he is right.

I have been directly involved in beekeeping for over 18 years, and have known its benefits for many more years. I am a member of the scientific community and recognize that bias is not new and how it hinders advances in any field. The statement that plastic comb is terribly expensive and only hobbyists can afford it is the typical reaction of an individual who is envious of their production.

There are many like him, who teach beekeeping courses and have this opinion. When asked if they have tried them, as Langstroth did with Dzierzon, or other plastic equipment, like frames and supers, all they can say is NO we have not. Then why haven't they tried them? They are supposed to be teachers.

Langstroth also made this statement, "The present condition of practical beekeeping in this country is known to be deplorably low – not withstanding the large number of patent hives which have been introduced, the ravages of the bee moth (and today you could add mites and AHB's) have increased and success is becoming more and more precarious. Multitudes have abandoned the pursuit in disgust and think they must return to the simple box or hollow log and take up their bees with sulfur in the old fashioned way. In the present state of public opinion, it requires no little courage to venture upon the introduction of a new hive system of management"

If we have to, at this stage of beekeeping, go back to the 'rocking chair' style of research and allow our bees to dictate how they should be managed, then we don't need the National Honey Board or a honey program, for there will be no commercial honey produced in this country because all of it will be imported.

My last quote is also from Langstroth. In his introduction, he tells of two new publications in beekeeping, – "A publication has long been needed. Properly conducted it will have a most powerful influence in disseminating information, awakening enthusiasm and guarding the public against miserable impositions to which it has so long been subjected."

This article of Taber's, for all of the good he has done in the past, is not worthy of him and does a disservice to the apiculture field.

? DO YOU KNOW ?

Successful Wintering

CLARENCE H. COLLISON

Within North America the general requirements for successful wintering of honey bee colonies is highly variable due to different climatic conditions ranging from the Arctic north to the sub-tropical south. Regardless of where you are located, colonies have the same basic requirements for successful wintering: good queen/colony population, adequate food reserves, free of disease, protection from the extremes, and ventilation. If these basic requirements are satisfied, colonies are able to adapt to a very broad range of winter conditions. How well do you understand the principles of fall and winter management? Please take a few minutes and answer the following questions to determine how well you understand this important topic.

The first five 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 importance of having adequate ventilation in the over-wintering hive is to regulate oxygen/carbon dioxide levels when the bees are in a tight cluster.
2. ____ The quantity and arrangement of pollen stores in the colony is important in the fall since spring brood rearing begins several weeks before an adequate supply of fresh pollen is available.
3. ____ Honey bees will die when they are exposed to temperatures of 45° F or less for two days.
4. ____ In the northern regions it is advisable to unite or kill small colonies that are not in condition for wintering.
5. ____ The initiation of brood rearing in the winter cluster increases food consumption and mortality of adult bees.

Multiple Choice Questions (1 point each).

6. ____ The temperature at the surface of the winter cluster is normally held at:
   A. 55-58° F
   B. 47-50° F
   C. 39-42° F
   D. 51-54° F
   E. 43-46° F

7. ____ Each gallon of syrup containing two parts sugar: one part water, fed in the fall will increase winter stores by approximately ____ pounds.
   A. 10
   B. 7
   C. 5
   D. 8
   E. 4

Various temperatures have a direct effect on formation and functioning of the winter cluster. Please match the following phenomena with the appropriate temperature. (4 points).

A. 57°F B. 23°F C. 60°F D. 45°F E. 52°F

8. ____ Temperature at which honey bees use their honey reserves most efficiently.
9. ____ Temperature at which cluster first begins to form.
10. ____ Threshold temperature above which the cluster expands in size and below causes the cluster to contract in size.
11. ____ Temperature at which cluster contraction stops.
12. In both south and north it is important to make a brief mid- to late- winter examination of the colony. What is the primary purpose of winter examination? (1 point).

The formation of the winter cluster is a unique winter survival behavior that permits the colony to remain active by regulating temperature and even allows brood rearing.

13. What is the function of the bees in the center of the winter cluster? (1 point).
14. What is the function and orientation of bees found on the outer surface of the winter cluster? (2 points)
15. As the temperature external to the winter cluster drops, the size of the cluster contracts. What is the purpose of this size reduction? (1 point).
16. Please explain why a colony often dies while in the winter cluster even though honey stores remain above and to the sides of the cluster. (1 point).
17. Please compare the temperatures of a winter cluster raising brood to a broodless winter cluster. (2 points).

The quantity of honey which is necessary to sustain a normal, healthy colony through the winter months will vary, depending upon latitude, altitude and local climatic conditions. Select the appropriate wintering condition for your location.

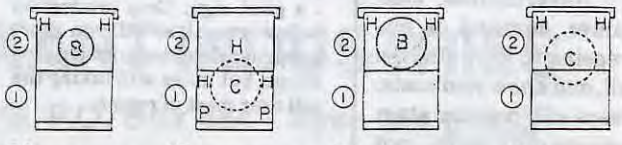
I. Average temperature of coldest month exceeds 50° F.
II. Average temperature of coldest month ranges between 25-45° F
III. Average temperature of the coldest month is 20°F. or lower.

18. The wintering colony for your region should have a minimum of _____ pounds of reserve honey. (1 point).
   A. 60-90 lbs.
   B. 15-30 lbs.
   C. 90-120 lbs.
   D. 20-50 lbs.
   E. 30-60 lbs.

19. Why is it recommended that a beekeeper should under-super colonies in late summer and early fall? (1 point).

Please match the following colony diagrams to the correct time of year in the north. (4 points). (B= Brood, C= Cluster, H= Honey)

A. Late Winter B. Early Fall C. Late Fall D. Early Spring E. Winter



20. ____ 21. ____ 22. ____ 23. ____

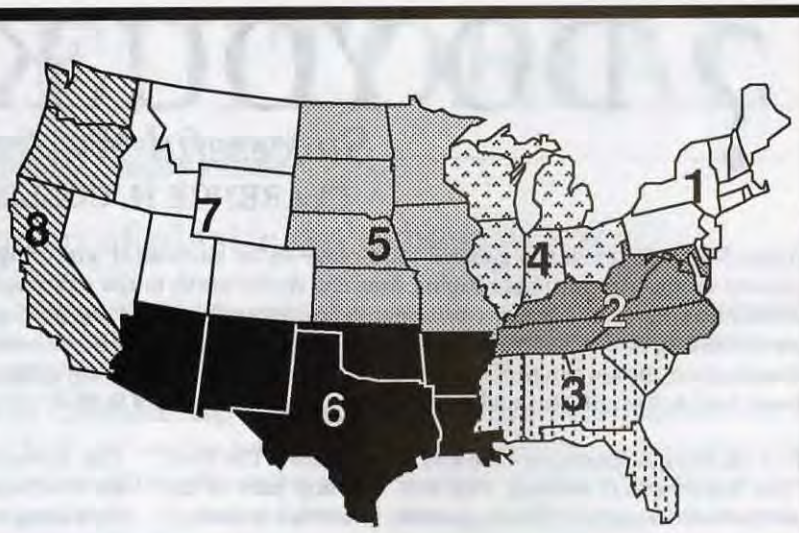
ANSWERS ON PAGE 634

NOVEMBER Honey Report

November 1, 1992

REPORT FEATURES

Prices shown are averages from many reporters living in a region, and reflect that region's general price stucture. 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 #Wh.	46.76	47.67	46.25	39.80	43.52	43.50	43.01	37.32	31.80-61.20	43.03	44.82	37.77
60 # Am.	44.80	42.65	37.70	37.10	39.38	41.25	41.05	35.55	28.20-61.20	40.06	40.97	36.82
55 gal. Wh.	.683	.614	.607	.570	.576	.555	.579	.600	.50-.79	.608	.596	.525
55 gal. Am.	.628	.541	.556	.547	.546	.493	.536	.533	.49-.70	.551	.552	.512
Wholesale – Case Lots												
1/2 # 24's	20.16	23.61	18.55	16.93	18.55	19.95	21.55	21.50	16.10-24.00	20.59	20.60	24.97
1 # 24's	30.15	31.73	25.70	29.10	26.55	29.90	29.55	27.50	24.00-37.08	29.34	29.40	27.71
2 # 12's	27.15	29.38	26.44	27.44	23.60	26.03	28.11	29.24	22.20-36.00	27.47	28.05	26.03
12 oz. Bears 24's	25.65	28.89	23.97	24.51	22.70	25.78	26.44	19.00	11.45-36.00	25.13	28.11	25.33
5 # 6's	32.23	31.20	29.50	29.58	25.95	32.38	28.83	27.55	25.50-42.35	29.90	30.09	26.94
Retail Honey Prices												
1/2 #	1.13	1.36	1.16	.97	.85	1.18	1.13	1.19	.82-1.75	1.16	1.16	1.07
12 oz. Plas.	1.57	1.66	1.88	1.48	1.21	1.27	1.51	1.39	1.12-2.00	1.51	1.52	1.43
1 #	1.63	1.92	1.71	1.74	1.44	1.45	1.78	1.69	1.39-2.25	1.70	1.74	1.57
2 #	3.08	3.43	3.10	3.26	2.40	2.82	3.00	2.77	2.30-3.98	3.05	3.07	2.73
3 #	4.74	4.37	5.12	4.27	3.90	3.52	4.33	4.18	3.25-5.73	4.30	4.33	4.43
4 #	5.64	5.21	5.38	5.36	4.97	5.00	5.10	5.19	4.25-7.40	5.25	5.34	4.82
5 #	7.58	6.61	6.00	6.70	4.94	6.12	6.12	6.14	4.59-9.25	6.47	6.56	5.66
1 # Cream	2.18	2.63	2.03	1.74	1.96	2.38	2.38	2.23	1.54-3.00	2.17	2.13	2.39
1 # Comb	3.35	2.75	2.97	3.37	3.09	2.65	2.65	3.60	2.50-4.50	3.19	2.73	2.59
Round Plas.	2.21	2.68	2.43	2.70	2.20	2.46	2.46	2.50	1.75-3.00	2.41	2.40	2.40
Wax (Light)	2.60	1.55	1.50	1.23	1.51	1.63	1.63	1.19	1.00-3.80	1.74	1.64	1.23
Wax (Dark)	2.33	1.03	1.18	1.21	1.22	1.13	1.30	1.02	1.00-3.00	1.32	1.26	1.06
Poll./Col.	32.25	23.17	30.00	32.00	27.14	27.48	26.14	31.00	22.00-40.00	29.27	29.20	27.35

MARKET SHARE

All sorts of crazy things are going on at the big producer level that may, or may not affect prices this year. The Chinese import situation, buy back prices, the election

Nevertheless, consumer demand is increasing so keep shelves full, and know your costs. Bears still popular at an average of $2.00/lb. - not a bad price.

Region 1

Sales steady to strong as cool weather sets in. Prices tend to be higher the further east and north you go. Cool, wet summer dampened production generally, but some areas did well. Mites (both kinds) endemic in region.

Region 2

Sales generally strong, and prices steady to even increasing - a good sign. Crop production below normal, so will run short by spring. Colonies in pretty good shape, but mites still taking the toll over most of region.

Region 3

Sales in the northern two-thirds of the region doing well, but prices only steady. Good crop for the most part, and bees in pretty good shape. Mites still a bother, or worse if treatments not applied. Hurricane areas still having severe problems plants, hives, and even a few beekeepers blown away.

Region 4

Sales doing about average, especially in stores. Farm markets a bit stronger. Prices all over the map because of critical shortages. Probably the worst crop, overall, in years. Imports will be showing up in more places, just to fill the gaps.

Region 5

Sales only steady, but demand should increase with cool weather. Crops average, or less. In some places much, much less. Cool rainy weather most of the season has caused significant problems in northern areas.

Region 6

Prices actually increasing, but not much, and sales still steady to slow. AHB in southern TX is moving west faster than east, and NM, AZ and even southern CA are watching the show. Stay tuned.

Region 7

Sales, demand and prices as usual doing well. Above average crops generally, bumper crops in lots of places. Mostly all white and extra light amber. Bees in good shape with ample stores and relatively good health.

Region 8

Prices and sales doing O.K., but north and south show big difference. Northern drought caused production problems, while the rain in *some* parts of the south gave some producers more honey than they could handle. Go figure!

RESEARCH REVIEW

DR. ROGER A. MORSE

Cornell University • Ithaca, NY 14853

"Managing AHB; Pollen, and I.I."

How the practical management of Africanized honey bee colonies differs from the management of European honey bees has been little studied. Most of our experience comes from beekeepers with hands-on experience. It was therefore of interest and a pleasure to attend the Fifth International Conference on Apiculture in Tropical Climates in September where Africanized honey bees were discussed at length.

The meetings were held on Trinidad and Tobago, two islands that make one nation. The islands are about 20 miles apart but Trinidad lies only a few miles off the coast of Venezuela in northern South America. Africanized honey bees invaded Trinidad in the late 1970's. Thus, the whole island is thoroughly Africanized and has been so for more than a decade. The Africanized bees have been unable to negotiate the longer 20 mile gap to Tobago. There are about 430 beekeepers who manage about 4600 colonies of Africanized bees on Trinidad. About 35 beekeepers keep pure European honey bees on Tobago.

What we found on Trinidad was a well-organized, thriving beekeeping industry using Africanized honey bees. There is one 100-colony beekeeper with a Gunness uncapper, which is certainly as up-to-date as one can be in extracting honey. During the conference there were several tours to observe the agriculture and apiaries on both islands. In addition to seeing some colonies myself I talked to others who had also examined colonies.

There are six extension beekeepers in the Trinidad and Tobago Ministry of Agriculture, Land and Marine Resources. These men work directly with the beekeepers. That is a large number of beekeeping extentionists for a nation that has only 1.3 million people. The Ministry had a booth at the meeting hall in which there were honey and equipment exhibits and information about local beekeeping. I talked at length to two of these extension beekeepers about beekeeping. The following is what I learned.

Africanization usually forces better beekeeping. Most successful beekeepers on Trinidad requeen each year. Swarm control measures must be taken or there will be excessive swarming. It is recommended that colonies be split, or at least reduced in strength prior to the time they would normally swarm. This usually means prior to the honey flow. I understood that this may mean a great deal of colony equalizing, that is taking brood and young bees away from the stronger colonies and giving them to the weaker ones. (It has already been noted elsewhere in South and Central America that colonies of Africanized honey bees build populations more rapidly in tropical areas than do European honey bees so this advice makes common sense.)

I was told one should use cool white smoke when working colonies of Africanized honey bees. So far as I know this topic has never been researched and I suggest it needs study. A few beekeepers in North America have also told me that using cool smoke makes working with European honey bees easier too but I have never seen much discussion of this in the literature. I have seen many beekeepers in the U.S. place a large handful of fresh green grass on the top of the smoker fuel. This is for the purpose of preventing hot embers from being blown into the hive and to cool the smoke.

In Trinidad beekeepers seek out better locations away from people. This is something we have often not been too careful about in the U.S. with our own bees. Too many times I have seen colonies along the right-of-ways on active highways, which I suggest is a bad idea.

Beekeepers in most warm climates use high hive stands to protect against ants, toads, and other noxious animals. I was told that in Trinidad it was well to use hive stands but that one should not place too many colonies on a single stand. The vibrations caused by working a colony can affect other colonies on the same stand. I have had this advice from other countries where Africanized honey bees are used.

Africanized honey bees appear to be less aggressive in shaded areas where they may be cool. However, it was felt that shade may encourage absconding during the rainy season. In the rainy season, when there is less foraging, colony entrances should be reduced and colonies fed if necessary. Without food the colonies may abscond. It is reported that small colonies are more likely to abscond when a virgin queen takes her mating flights. This has been seen in other countries and it is necessary to use mating nucs that are larger than those we normally use in the U.S.

Many beekeepers in Trinidad requeen using locally raised European queens that have mated with Africanized drones. This makes colonies of hybrid bees that are much easier to manage than are colonies of Africanized honey bees. And, the hybrid colonies are just as good producers.

I also learned that a number of queens are being imported from the U.S.

The cycle of the year in Trinidad is very much like that in Florida except that there is no fall honey flow as there is in the south of Florida. The chief honey flow is in March and coincides with the citrus honey flow. However, there are other good honey plants. There is a second but small honey flow in August. About 40 percent of Trinidad is forested with several good foraging plants among the many trees and vines in the forest.

Pollen Foraging

Honey bees make foraging decisions despite their small brains. What is demonstrated in the paper cited below is if one removes pollen from a colony the bees will respond and there will be a greater number of pollen foragers. Furthermore, these pollen foragers will return to the hive with larger loads of pollen. The opposite is also shown. If a colony is given a quantity of pollen the bees will respond by collecting less pollen. However, adding or removing pollen did not affect the number of bees foraging, only what they collected. When there is a large quantity of pollen in a hive the foragers switch to nectar collection.

The circumstances that help to control nectar foraging have been researched by a number of people. it was demonstrated years ago that bees with more storage space would collect more nectar. Thus, what bees collect can be influenced by their management.

How bees measure how much pollen they have, or do not have, is not clear, in fact, it is a subject we know little about. What is fascinating is once again we observe that honey bees can make intelligent decisions. With more and more colonies being rented for pollination there are obviously some practical applications for this information.

"Nature vs. Nurture"

Some colonies of honey bees collect more pollen than others. The difference is genetic.

However, how pollen collecting bees in a colony behave is also influenced by their sisters. When worker bees from a "high pollen hoarding" colony were placed in a colony with "low pollen hoarding" bees, they collected even more pollen. And, the reverse is true. Bees from a low pollen hoarding colony were even more inhibited from collecting pollen when they were fostered in a high pollen hoarding colony.

The conclusion is simply that genetic traits in honey bees may be influenced by "the shared colony environment"

I. I. Queens

Instrumental insemination of queen honey bees is a practical laboratory tool developed in 1927. However, it is still a subject of investigation and curiosity.

It has now been shown that 50% of queens instrumentally inseminated once will still mate naturally if given an opportunity. Those inseminated once and treated with carbon dioxide will mate 25% of the time if possible. Two instrumental inseminations, or two treatments with carbon dioxide will inhibit any natural mating. It is normal for queens that have been instrumentally inseminated to be kept in colonies with excluder cloth across the entrance until they have started to lay. Once queen honey bees start to lay eggs they never mate again.

In the discussion of their results, the authors of this paper state that earlier studies had shown that if a queen's spermatheca was not full she would mate again. It was shown years ago that anesthetizing a queen with carbon dioxide speeded up the time when she would lay eggs, a matter that we know little about. ○

References:

Fowell, J.H. and M.L. Winston, *Colony state and regulation of pollen foraging in the honey bee.* Behavioral Ecology and Sociobiology 30: 387-393. 1992.

Calderone, N.W. and R.E. Page, Jr., *Effects of interactions among genotypically diverse nestmates on task specialization by foraging honey bees.* Behavioral Ecology and Sociobiology 30: 219-226. 1992.

Woyke, J. and Z. Jasinski, *Natural mating of instrumentally inseminated queen bees,* Apidologie 23: 225-230. 1992.

MAKIN' HONEY

KIM FLOTTUM

"From May to October, Everything We Do, We Do to Make Honey."

Richard Adee

Last month we watched while the crews at Adee Honey Farms turned 10,000 double-deep colonies into over 40,000 single-story nucs down in Woodville, Mississippi. Each was given a new queen, lots of brood, stores, and made ready to move north for the honey crop.

This time we'll follow them through that production and harvest season, beginning when these soon-to-be honey factories arrive in southern South Dakota.

•

May first.

Dandelion, cottonwood and willow are producing the season's first pollen flow in the southeast corner of South Dakota. Around the town of Bruce, colonies only yesterday in Mississippi have just arrived – the crop clock has started to tick.

Thus begins a focused, goal oriented program that unleashes the honey-making potential of every one of those 40,000-plus colonies.

"Everything we do, we do to make honey", is the philosophy that dominates every action and event undertaken once the nucs hit the ground. "Making Honey" is the final filter of every management decision.

•

Almost immediately the nucs are unloaded from the semi-trailer, reloaded on a 21 foot flatbed and rushed to one of the over 400 yards in the area.

Half of each yard's 36 10-frame nucs are set on either side of the drive-through truck path. They are grouped tight in twos and loose in sixes to make feeding, working and harvesting faster. A one-gallon in-hive feeder is inserted and the nucs are immediately fed a 2:1, HFCS 55:water solution. This is pumped from a 240 gallon portable tank on the back of the truck. Bees take "syrup-lite" faster than full strength, and coupled with the early pollen flow populations build fast.

It takes six weeks to move the 45,000 nucs north – on average 1,000 a day arrive and need to be set. During this six weeks the first nucs set are fed again from a 1,000 gallon tank. Because they aren't setting boxes or sticking feeders a two-man crew can feed 22 yards in a day.

When the last nucs arrive from the south it's time the earliest set get supered, starting about June 13. On that trip the in-hive feeder is removed and a frame of either drawn comb (best) or foundation is added. Foundation is always placed *between* combs – never on the edge – because drawn comb 'pulls the bees through' a super, filling it com-

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The holding tank for the HFCS 55 at the Roscoe plant.

The five frame nucs.

WHERE?

Keeping track of where every one of the 425 yards around Bruce are, and, has every one been fed, medicated, supered, and harvested may seem somewhat daunting. But the Adee's have drawn together three related data bases to accomplish this task.

First, an accurate history has been maintained on what may seem like routine pieces of information – How many supers does a truck hold; how long does it take to pull feeder, stick frames and add two supers to 36 colonies; how long does it take to pour 240 gallons of feed and the like.

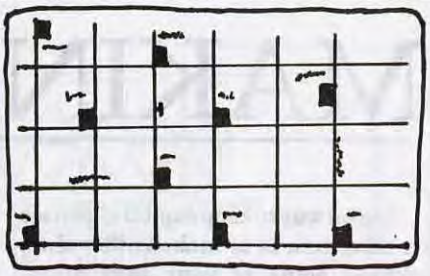
This information is used when assigning crews to particular tasks. To be most efficient, a truck needs enough of the appropriate equipment to do a particular job. Trucks are prepared at the end of each day (supers loaded, tanks prepared etc.) based on what's to be done next.

For instance, a truck holds 242 deep supers, so when adding one super/colony a crew can cover seven yards. Which seven? Well, certainly seven that haven't already been supered, and seven that are roughly in the same area to keep travel to a minimum.

To keep track of where it is a whole-wall map is kept in each area that shows the location of every yard. The maps show section roads, and where yards are located in each section. The name of each yard is noted for easy identification, but their legal description is also recorded for exact identification.

In turn, each truck has a copy of the same map, divided into several sheets on a clipboard. Nobody (hardly) ever gets lost, or misses a yard.

Consideration is given to feedback from the crews when the scheduling is done each night, too. There's no sense in



supering the colonies in the north this week if they're six or seven days behind those in the south because of weather.

Finally, the completed job and the crew responsible is recorded in the "Book", which tracks the details of every colony in every yard.

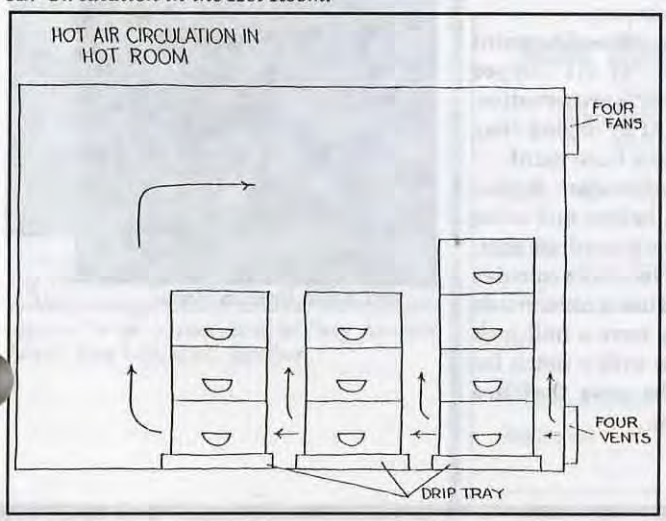
In the "Book" each yard has a slot for the number of colonies, the dates set, fed, supered, harvested . and for each crew that completed a particular task.

At a glance it's obvious what's been done, what needs doing and the most efficient way to do it.

Moving supers on the specially made pallet that holds 63 deeps.

The single loading bay at the Bruce plant. Full supers are unloaded and moved into the hot room, right inside the door. Empties are moved out the same door.

Air Circulation in the Hot Room.



The 3 bay dock at the Roscoe plant, about 100 miles north of Bruce. The open door leads to the hot room.

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MAKIN' STUFF

A good way to keep capital expenses to a minimum is to make rather than purchase some of your equipment. Adee's do just that, both for the savings they gain, and convenience – some things you just can't buy.

Pallets, for instance. Although nucs and colonies are set and harvested one at a time, supers are loaded on trucks and stored on specially made pallets. These comfortably hold 63 deep supers, and are exactly half the width of the 21 foot work trucks. These pallets are three supers wide by three supers deep.

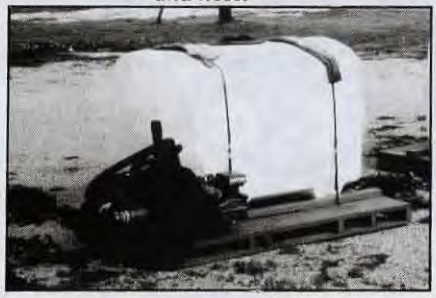
Made from half inch plywood on top, 2" x 3" supports and 1" x 6" and 1" x 4" bottom rests, they are not designed for heavy loads, but medium weight loads that are easily moved with fork lifts.

The fume board used is also custom made. The top is made of galvanized tin with overhanging flared-out sides rather than just resting squarely on the top. Inside, a smaller wooden frame rests on the super and inside that is the flannel, stapled to the top. The metal top is crafted locally, but the insides are finished in-house. They are durable, easy to use and one-of-a-kind.

Tops, too are a bit different. Made to nest so moving and stacking are easy and efficient, they are the migratory type, fitting flush on the sides, but the front and back are built out to protect board ends.

The air circulation system in the hot room was designed by Bret Adee and it's simplicity is worth noting. A false wall was built at one end of the room and four fans were installed near the ceiling, drawing air into the space in the wall. Below, heated air is forced out at floor level, and as it is pulled upward by the fans circulates between supers, and even between frames.

A 240 gallon feeder tank, with pump and hose.



The 240 gallon feeder tank used to fill the inhive feeders is simply a plastic tank with a small gasoline engine pump and lots of hose. The nozzle has a shut-off so syrup isn't wasted between feeders. It fits conveniently on a pallet for easy loading and moving.

Tie downs on the work trucks are added too. On one side a long bar has been attached that holds the individual ropes used to hold equipment down. On the other side are evenly spaced hooks to loop the rope around to anchor it. Ropes are fastened with self tightening knots that are secure but easily undone.

Five frame nucs are made by the hundreds, too. They serve in Mississippi to stock 'blow outs' (colonies that lose queens or need help), and extras are brought north to stock late blow outs or to sell.

Although Adee's seldom, if ever, buy new knocked down supers, they routinely purchase frames and foundation to replace those damaged or destroyed.

Frame assembly is handled by a three person crew – one to staple top and bottom bars to sides, one to insert plastic foundation and one to staple the cleat in place. On a good day they said they could put out 1000 complete frames.

A good chunk of the winter is spent repairing supers. Replacing corners, sides or ends, sanding and painting all keeps the equity in a super.

Repaired equipment needing paint is first treated with at 3:1 copper napthenate:mineral spirts preservative, put on with a roller. After drying they are painted with a latex base paint.

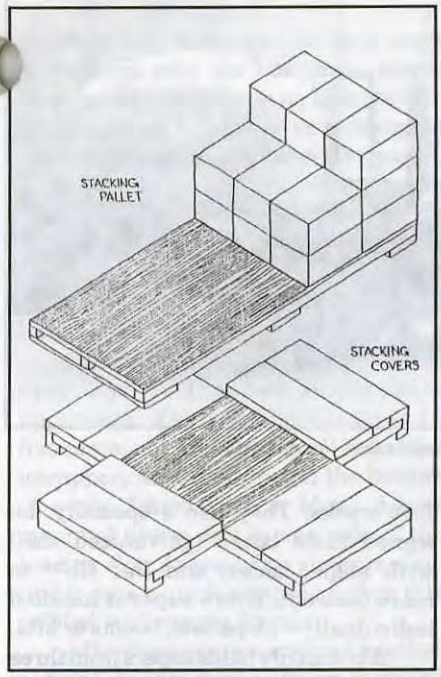
New tops and bottoms are dipped in this solution both before and after assembly, but supers only need one shot.

The Kansas and Nebraska colonies that are overwintered use a cover made of cedar shakes. They have a half inch rim on both sides, one with a notch for an upper entrance, because they are wrapped for protection.

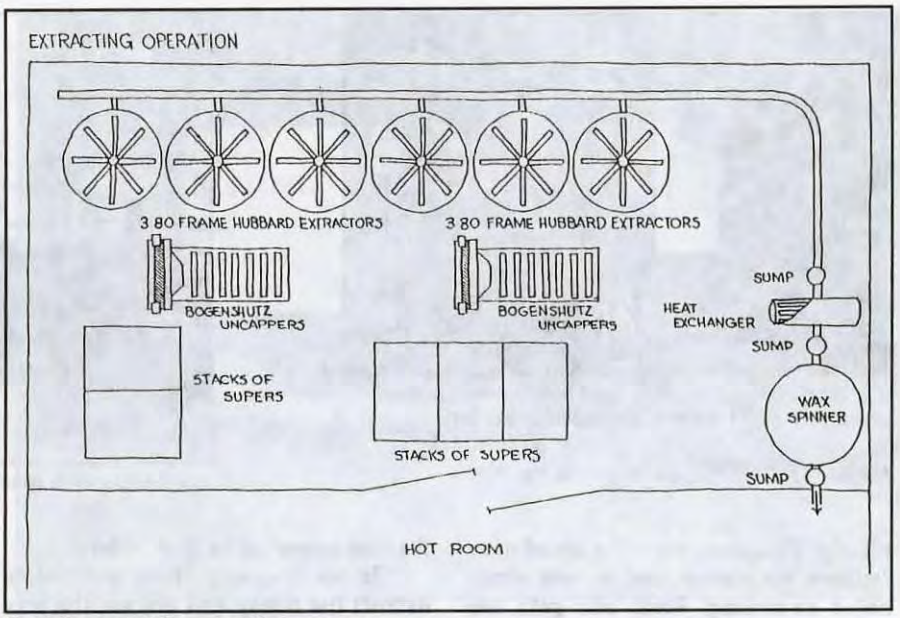
Carol Skoulund on staples,

Robin Stahl on foundation

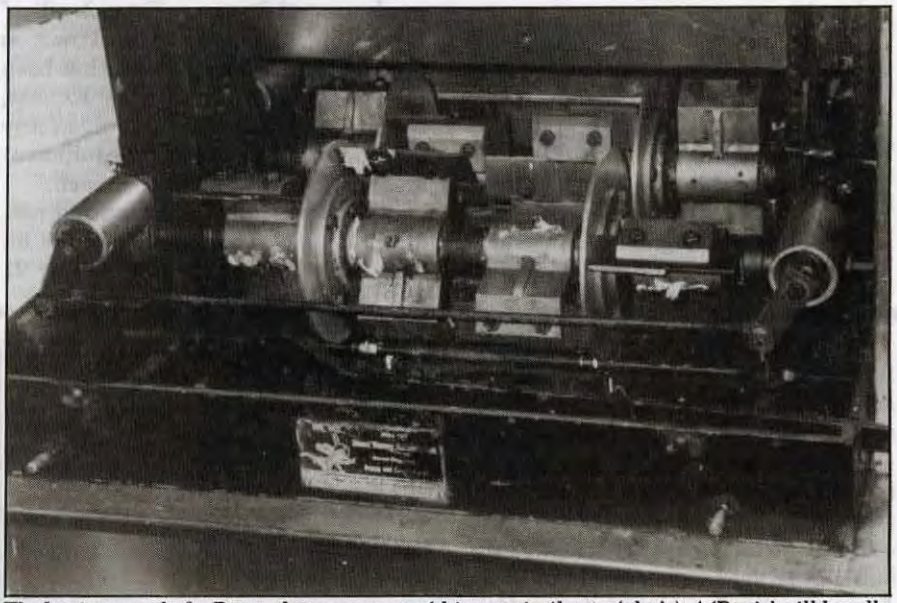
and Necia Benz on cleats.



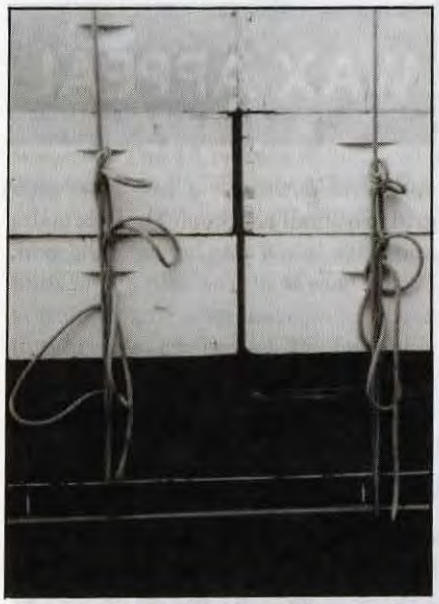
The pallet used when moving equipment, and Adee's stackable migratory cover.



Basic layout of the extracting process.



The business end of a Bogenshutz uncapper (this one similar to Adee's). A 'Bogie' will handle up to 13 frames / minute. Frames pass between two sets of revolving blades – one set on each side. Each set consists of four, four-inch blades, rotating at over 1,000 RPM. This machine is very unforgiving of out-of-line frame parts or pieces, as you can well imagine.



Close-up of the side of a loaded truck, showing the bar the ropes are attached to, the pallets the supers set on, and the knots, which appear to be a variation of 'hay haulers hitch', that hold it all together.

Adee Honey Farms

P.O. Box 368
Bruce, South Dakota 57220
605/627-5621

Plant: B R L C N

Lot No. _____

Gross _____

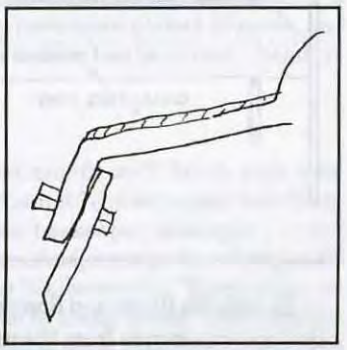
Tare _____

Net _____

Destination _____

_____

The tag that goes on every barrel. Actual size is 4" x 6-1/2"



Detail of a blade, which can be removed and sharpened or replaced.

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The four 700-gallon galvanized holding tanks. When one is full all 13 barrels are considered a 'lot'.

The 1,000 gallon tank used to feed the second time.

MAKIN' HONEY ... Cont. From Pg. 609

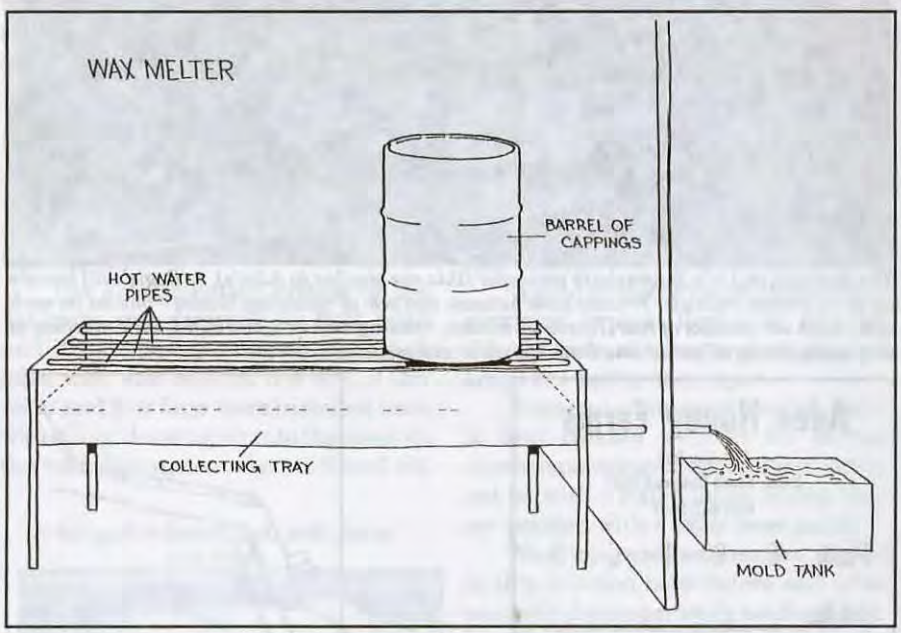
pletely. This also opens the brood nest, reduces congestion and almost eliminates swarming. Each nuc gets two deep supers, and is now considered a 'colony'.

It takes about two weeks to get everything supered, and the crews get a fourth of July break (weather and everything else permitting). After the holiday any remaining supers are placed on the best producing colonies, which takes until about the twentieth of the month – when harvest begins. Management from May to July is primarily setting-feeding-supering, in that order.

It takes nearly three months to extract the honey and process the wax from the 425 yards in Bruce and the 350 yards around Roscoe, a "branch office" about 100 miles north. The extraction process at Adee Honey Farms has been fine tuned, and crews from Kansas, Nebraska or South Dakota fit in any location because the set up, equipment and routines are identical at each.

Whether you call it harvesting, robbing or simply pulling honey it's all done with two-man crews loading 21 foot trucks. They use a specially designed fume board (galvanized shell with angled sides) and Bee Go™ to move bees out. Every super is handled individually – no pallets, booms or lifts.

A truck only holds supers from three yards and only a third of the yards need two visits. But on the first call all colonies are evaluated for keeping to move south, sending to Florida or moving to Kansas or Nebraska to overwinter. The evaluation process is quick and simple – honey production and cluster size are either good enough – or not.



WAX APPEAL

In both the Bruce and Roscoe plants, cappings wax moves from the uncapper to a spin-flow wax/honey separator. The wax is collected and put in barrels and moved to the melting room in Roscoe.

Since trucks routinely move between the two plants, shuffling extracted honey, empty barrels and the like, moving barrels of honey to Roscoe, or processed wax to Bruce is never a problem.

Open barrels of cappings are placed, open end down, on a hot-water-pipe grid in a small hot room. The wax melts and drips into a tray beneath the grid. From there it drains into a collecting pan in an adjacent room where debris is skimmed off and clean wax is run through a strainer and then into 40 lb. molds.

Between the Roscoe, Bruce and Kansas operations Adee's processed 70,000 lbs. of wax last season. Broken down, that comes to 11 lbs. of wax per barrel of honey produced, or just about one pound for every five gallon pail.

When old combs are processed they are collected and taken to A.H.Meyer and Sons in Winfred, SD.

Since Adee's don't use wax foundation (see Makin' Stuff) they don't trade in wax, but almost all goes to large quantity buyers. ○

Supers are stacked on drip trays and moved into the hot room, where they'll sit for as little as an hour, but no more than 24. The hot room is designed to continuously move warm air around, over and between supers – warm honey extracts easier than cold.

The extracting room is designed to move supers in and out fairly easily, and to run with a minimum of frame handling.

Supers are wheeled in and stacked near one of the two Bogenshutz uncappers, which can handle up to 13 frames/min. One person loads the uncapper, first cleaning off the bottom of every frame with a blade Adee's mounted above and to one side of the loading slot. As soon as a super is emptied it gets a quick cleaning before it is refilled with empty frames.

A fully loaded 21 foot truck.

After frames are uncapped another person loads the three 80 frame Hubbard extractors each uncapper feeds. Honey from each extractor drains through a sump, goes to a heat exchanger, through another sump, into a wax spinner, to another sump and finally into one of the four 700 gallon galvanized holding tanks in the next room.

When finished, the extractors are emptied by two people and the now-empty supers are moved out and back to the loading dock.

Honey doesn't stay in the storage tanks long because of the constant flow in, so as soon as it's full, a tank is emptied. The 13 barrels of honey in a full tank are collectively called a 'lot' But it isn't just honey in, honey out. A practical and efficient inventory system is used to identify the source, color, barrel and honey weight, and eventual destination of every barrel.

All this information is written on a pressure sensitive tag firmly attached to the top of *every* barrel. The location, or plant tells where the honey was harvested; lot number is the 13 barrel storage tank each barrel is taken from; tare is the weight of the empty barrel; gross weight is the barrel and honey weight (to the half pound), and net is, of course the weight of the honey. Destination is filled in when a sale has been made and honey is to be delivered.

To help the packer, a sample of each 'lot' is collected when it's being emptied. An eight ounce sample is taken while the sixth of the 13 barrels is being filled. The sample is labeled with lot number, location, date and color and stored for future reference.

Full barrels are stored in one of two large Quonset hut facilities. The two (one is 60'x150', one 60'x180') also hold supers off season, trucks and other motorized equipment and other inventory. They can hold more than 10,000 barrels (full and empty), stacked four high.

Of course the month of October tends to be on the crazy side because the colonies that are to be shipped south are hungry (honey harvested and nothing blooming) and need to be moved, and there's still honey to harvest. The crews are pulled in (at least) two directions – with, it seems not enough people and not enough time – a familiar agricultural dilemma.

But, by the middle of the month the crop is mostly in the can, the right colonies have been picked to move, and another season has been met – head on.

•

Next month we'll finish with a casual but candid conversation with Richard Adee, beekeeper, manager and politician. And, among other things we'll examine his successful "Everything we do, we do to make honey" philosophy.

Finally, what does the future hold for this Mover and Shaker, and the industry his operation is so much a part of?

Next time, meet Richard Adee – King Of The Hill. ◊

Stacks and stacks of the interlocking covers the Adee's make.

UNCOMMONLY GOOD

RICHARD E. BONNEY

I like catalogs. We accumulate dozens of them at our house. Not just beekeeping, but all kinds — woodworking, photography, clothing, nursery stock, computers, seeds and probably a bunch more. It really gets out of hand at times. Periodically, I weed through and get rid of several inches of them. In fact, I try not to keep more than the most recent year on our catalog shelf. Even that can be too much, though. Some companies must send six or eight a year, minimum. In spite of liking them we're being overwhelmed, and I've learned to throw some of them out the day they arrive, especially those with no index. There are limits.

I used to make an exception with beekeeping catalogs. I never threw any of them away and I even looked for old ones to add to my collection. I don't know how many years worth I had, but one day, as I moved them aside once again (they were always in the way) it dawned on me that I had not looked at any of them for a long, long time. In fact, I could not remember looking up anything in them. I just kept adding to the pile each year. If I wasn't looking at them, why was I keeping them? No good answer came to mind so I got rid of them, and kept tossing them in subsequent years. Now I don't have any beekeeping catalog more than two years old.

This all has been a rather round about way to say that I was curious about a piece of beekeeping equipment, wanted to look it up in the old catalogs, and couldn't. I'm sure there is a law that covers all of this. You know, something like — anything you saved and then later threw away you will find a need for within a period of time determined by the importance of the need divided by its alternate availability, times its — well, you get the point. (If anyone knows of the actual existence of such a law, and its wording, I would like to hear about it.)

The piece of equipment I wanted to look up was the slatted rack. How long has it been with us in its modern guise? We know that it is not new. It was described by C.C. Miller in his book *Fifty Years Among the Bees*, and perhaps was invented by him, probably in the late 1800's. It apparently went out of favor somewhere back there in time or perhaps never gained a lot of favor, but then it reappeared in more recent years. I don't know how long the modern version has been in our catalogs. That is what I wanted to look up.

Miller used the slatted rack to correct a problem brought about by the design of his bottom board, which had a two inch depth as opposed to the 3/4" or 7/8" depth of most bottom boards today. Why he used a deep bottom board is a different question, but apparently it came first, then the bottom rack. With this deeper bottom, the bees commonly built comb down from the frames into the excess space. Miller used the slatted rack, which he called a bottom rack, during the active season, removing it in the winter.

Miller's rack was not an integral part of the hive structure in the way our slatted rack is today. It was freely removable without moving the hive body from above. Its construction was simple; two rails running the length of the bottom board, front to back, with a series of slats nailed across the rails using 3/8" spacing. Functionally, it served almost as well as our current design, but since today we leave slatted racks on the hive year round, Miller's design has a couple of deficiencies.

Why was I interested in how long the modern version of the slatted rack has been around, you ask? Because in my experience, relatively few people use one and I wondered why. One or two reasons are obvious. They are not offered as part of any beginner's outfit I have come across, so right from the start they are not seen as basic. Further, they are one more piece of equipment in the hive stack, and this is important to many beekeepers, large operators especially, who don't want to deal with anything extra unless some positive result is apparent — more honey for instance or less swarming. With the slatted rack, although anecdotal reports say the positive results are there, formal evidence of this apparently does not exist. Perhaps most importantly, although I have seen negative commentary on slatted racks, I can not remember anyone writing about them favorably, except in catalog descriptions.

I use slatted racks in most of my hives. I believe in them. I know that this belief is not shared by some people whose opinions I respect, but over the years I have come to appreciate the slatted rack for a couple of reasons. First, they do give added cluster space. The importance of this particular

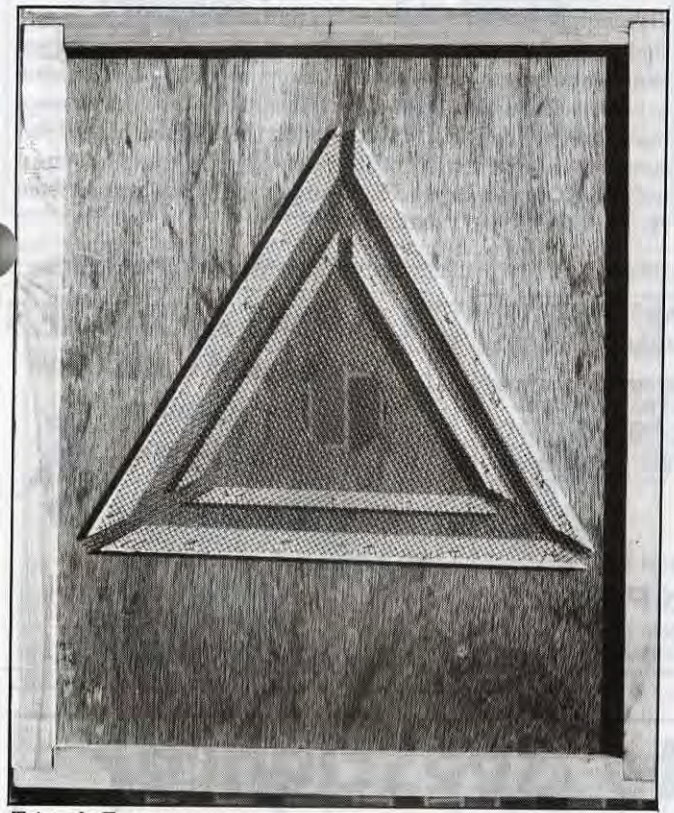
Slatted rack – The wide board or slat at the front buffers the entrance while the space under the slats gives room to cluster outside the hive proper. The bees can be indoors but congestion is relieved.

space is perhaps debatable, but it is there and I'm willing to believe that it helps relieve congestion and allow better ventilation in the hive and therefore is a factor in swarm prevention. It is not a panacea, though. It is only one factor in a swarm control program.

The slatted rack also acts as an entrance buffer. The 3" to 4" wide front slat serves to make the entrance to the hive a little less direct, buffering the lower frames from a more direct contact with the outside. This reportedly gives better utilization of these lower frames for brood rearing.

A further possible advantage, and one for which I have not yet found a logical explanation, is that those of my hives which do have slatted racks seem to be cleaner in the spring. They do not have the build up of dead bees often found in over wintered hives. This apparent condition might be more understandable if I kept better records and could remember why certain hives had no slatted racks in the first place. It is entirely possible I would discover that they had other, perhaps unrelated, problems and that is why they seemed to have more problems in the spring. Anyhow, I like the racks.

Slatted racks aren't the only thing I have wondered about. Another piece of equipment that is not as well known

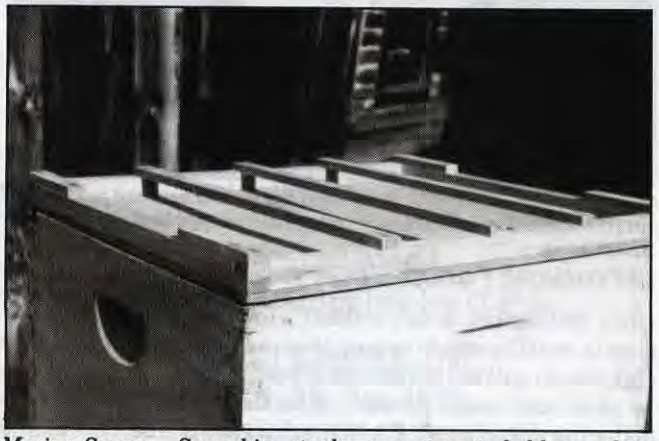


Triangle Escape.

as it might be is a particular model of a bee escape board that is available. This one appeared in the catalogs several years ago and now is listed in two of them that I have handy. It is not listed in two others. One catalog calls it an escape screen, the other a triangle escape board. I have heard many rave reports of the effectiveness of this escape board since it appeared. I also heard one negative report, but it turned out that the beekeeper in question was using it upside down.

The board is a simple maze with no moving parts. The bees go down through a large round hole and exit below via any of three openings, each about 3/8" wide. They then find themselves in an antechamber of sorts and have three more openings to choose from. The nature of this maze is such that if they find their way in the wrong way, from below, their natural path takes them across the antechamber and out again through one of the other exits. Simple but effective.

Although this board only started showing in catalogs recently, a version of it has been known for a long time. I found one, only slightly different, in an attic at the University



Moving Screen – Some hive staples or a strap to hold everything together and this colony is ready to move, with or without an outer cover.

of Massachusetts several years ago. UMass first offered a course in beekeeping in 1870, but I don't believe this escape board is quite that old. From its appearance and construction, it probably dates to the 1920's or thereabouts.

For anyone who uses a Porter style bee escape in an inner cover for emptying supers, this type of escape board is worth consideration. As stated, it has no moving parts. It is difficult if not impossible for it to mis-function. Further, the board has a screened opening so the bees have a better idea of where they are going and seemingly are more willing to go there.

I came across another piece of equipment while digging around in that attic at UMass that time. I have never seen one of these in a catalog or anywhere else, although I don't believe it is unique. I assume it was intended as a moving screen and that is how I have used it. In fact, I made several more. I don't use one every time I move a hive, only when the weather is very hot, or when the colony may be confined for more than a few hours. The screen goes on top of the hive, with or without any covers. I always leave off the inner cover, and if the weather is very hot, also leave off the outer cover. However, the screen is designed so it can be used with the outer cover, which sits up on the cross pieces allowing plenty of ventilation.

An advantage of this screen other than ventilation is that the bees are much less claustrophobic with it in place. They seem to travel more calmly, and when the entrance is opened at the destination, they don't come pouring out as frantically. In fact, I have had instances where I removed the entrance screen and no bees came out for many minutes. They were all up above.

I have never had occasion to use this screen for simple confinement, but it should be very suitable when closing a hive down because of insecticide spraying, or any other time when you need to keep the bees in for a day or two.

This moving screen is very simple to make. For that matter, so is the escape board. No specific plans are necessary

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Queen catcher – The queen is confined but the workers can pass in and out freely. Set the catcher down in a protected spot and work the hive without worry.

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since dimensions aren't critical. However, my own experience in making any hive part that includes screening is that eight mesh galvanized screen is best. Window screening can be used but it sags. Because of its flexibility, it needs more fastening and support. Eight mesh screen can be hard to find but a little persistence should turn it up at a hardware or building supply store in your area. If local sources fail you, the Walter Kelley Company has it in 100' rolls. It might take you a while to use that much.

So far, I have been discussing larger pieces of equipment, hive parts, so to speak. Let me throw in something a little different — a queen catcher. These have been around for a few years. They originated in Europe, I believe. I first became aware of them while browsing through a catalog. The first ones I saw were of brass, the more recent models are plastic. I have used both and plastic seems to work as well as brass.

This device is very handy for doing just what its name suggests — catching the queen, and it works very easily. Find the queen, squeeze the handles so the catcher opens like a clamshell, set it down over the queen, release the handles carefully, and that's it. But, that's all, too. It is not intended as an aid in holding the queen for marking or clipping, nor can you readily transfer her from the catcher to your fingers. I use mine when I am working the hive extensively, say during spring cleaning or while making up a nuc. I find the queen, catch her, set her aside and don't have to think about her until I'm done. If she is left near the hive, workers will find her and keep her company. When the work is done and the hive is being reassembled, I release her into the brood area.

One thing I don't suggest, though, is a massive hunt for the queen during routine hive inspections, just so you can confine her. However, if I run across the queen during a routine inspection, I do grab her and set her aside — if I remembered to bring the queen catcher.

Well, I didn't find all of this equipment in a catalog, although perhaps I could have if I had saved the old ones. Not that you can order from out-of-date catalogs, but at least you can have a better sense of the history of things. I have come to realize that I need to make an exception with my beekeeping catalogs. I'm going to start saving them again. Since I put some new shelves in my office recently, they won't become a nuisance for a while yet. I'm even going to keep the one from Holland that I can't read.

THE BACKYARD

COLLECTION

Picture your honey in the profitable gift market!

WALTER SWARTZ

What makes any particular item especially appropriate as a gift? In retail, there are distinct types of merchandise categorized as gifts, and although there is a wide range within this category, there are certain qualifications which link them together. In general, gift merchandise, if not decorative, is usually attractive; useful, but usually not utilitarian; novel, rare and amusing; extravagant as compared to commonplace; and a treat with wide appeal.

Gift foods or delicacies command a large share of the gift market, and in this group honey is a standout. It is basic and yet rare, with universal appeal and versatility. Yet, like other gift foods, honey has to be dressed up or joined by companion products to compete as a gift. It requires a certain distinction to set it apart from the utilitarian honey in the supermarket. Limited edition, handmade, privately produced, local products have the distinction gifts require, such as honey produced by backyard beekeepers, but the presentation is important. The desirability of your honey as a gift is increased by its outward appearance.

It's true that there is a certain naïve charm and appeal in a package that is so basic and rudimentary, such as a mason jar with a scrawled stick-on label and a misspelled word or two, but only as a novelty or rustic souvenir. And is there anything worse than phoney naïvete?

Professional packaging is not necessary, in fact slickness would conflict with the hand-on image. The package should reflect the honey and its producer, reflecting what makes it special or unique. The kind of honey (clover, blueberry, wildflower, etc.), or the place where it was produced (historical, picturesque and pure, tourist attractive, landmark, or simply local, like in your backyard) – the packaging should represent the outstanding characteristics. Once the basic package is right, gift enhancements are easy and well worth the effort. (For more on packaging see The Backyard Private Label, *Bee Culture*, March, 1992).

An attractive jar of honey makes a good small gift, but coupled with one or more related companion products and packaged as an ensemble, the potential is greatly enhanced. The possibilities are almost endless: two or more different types of honey, (light and dark, clover and buckwheat, extracted and comb, extracted and chunk, liquid and creamed, etc.,) honey with fruit (dried apricots, cranberries, peaches, pears, etc.) honey with natural herbs and flavorings (cinnamon, citrus zest, vanilla bean, mint, etc.) honey with nuts, etc., etc. There are many possibilities but be sure only pure and natural products are added to honey, preferably devoid of moisture which could cause fermentation, and anything that is added to the honey should be added to the label as well.

Combining honey with beeswax products such as candles, polish, lotions or salves also makes a great gift item. Possibly getting into the candle or cosmetic business is not your idea of what keeping bees is all about. It wasn't mine. What to do with beeswax had no interest to me until I experimented with a few simple wax products to accompany my honey gifts to friends. I was surprised how simple it was to do on a limited scale and how rewarding the results were. Now it seems like a natural extension to producing honey but only on a limited scale, as companion products to my honey. But if it's not for you, consider buying them from beekeepers in your area. Even if you do not make a large profit on these purchased items, they will enhance your sales overall by giving your customers choices and increasing your visibility.

Along these lines, the non-bee product companion is another possibility. Such things as wooden honey dippers or ceramic honey pots, candle holders, candle stands, etc. These can be purchased from local craftspeople, beekeeping suppliers, or from wholesale gift merchandise catalogs.

Companion products should be packaged in the same style as your honey and should appear to be a natural extension of your honey products.

How you put them together will make the difference in sales and profitability. Simple and ingenious combinations are far better than overwhelming, fussed-over creations that tend to obliterate the essence of the product. Packaging honey for gift appeal can be as simple as wrapping in cellophane, tying two jars together with an interesting tie, or simply adding a decorative tag to your already distinctive label or a folder of favorite ways to use honey and honey recipes. A stack of honey jars and short honey comb candles wrapped in crisp, clear cellophane and tied with raffia or fiber ribbon, is far more attractive and inventive than stuffing a basket as far as I'm concerned.

Packaging gift products is not the same as wrapping a gift or pre-wrapping, as some stores do at Christmas. The product should be clearly evident and dominant over the packaging. It should suggest to the customer: *This would make a great gift!* ... because it looks like something the customer would be proud to give and something the recipient would be pleased to receive.

Packaging gift combinations for a specific holiday or time of year is not a bad idea providing you will have sufficient access to the market in order to make your sales before the holiday passes. Like Christmas trees on December 26, your holiday gift packaging won't be of much use after the fact. It would be wiser to gear the holiday element to something relatively minor or detached, such as a tag or collar, in order to remove it after the season and possibly store it for the following year.

If you have the potential for strong holiday sales (and it is not unlikely) consider designing some of the companion products to heighten the seasonal appeal. Cranberry honey or honey seasoned with stick cinnamon and whole cloves, has a lot of Christmas (and Thanksgiving) appeal. A special tag or label sticker won't hurt in making it obvious. Bottles of wine from St. Nicholas vineyards always receive prominent display space in December and Thé Noël (Christmas tea) from Mariage Fréres, Paris, finds its way into many gourmet gift baskets. One has Santa on the label, the other has a few spices in with the tea and both are considered Christmas gift products.

I believe gift packaging for honey and related products should reflect the honesty and natural simplicity of the product. Honey and bee related products are old world holdovers that have

become something of a luxury. Package them in blister packs or shrink-wrap them and you're missing the point.

Plastic containers are inappropriate also I think, but forced to accept reality, I realize the practicality (and the novelty in some instances) of plastic containers for honey is undeniable. However, small wooden crates or boxes, natural corrugated folding cartons, raffia or twig baskets, just large enough to hold the combination products packed in with a little bit of excelsior, truly compliment the nature of the honey products and make the gift a coordinated presentation based around the honey.

Your market is influential as well in directing the look and style of your gift packaging. When someone gives a gift, it is to please the recipient but it also represents the giver. People like to give gifts they would like to receive. Therefore you have to know your market. Some markets will be suspicious of fussy presentations, where others will be drawn to creative trims. Where and how you will market your gift products will target your market even tighter. If you rent a table at the Women's Club annual holiday bazaar, your customer won't be the same exactly as those at the roadside stand. One is going to buy holiday gifts or things for the holidays, the other is stopping to pick up a jar of honey. Find the gift-minded customers.

Craft shows are usually timed to coincide with holidays and are good places to sell honey, especially if you have teamed up with a craftsperson. In some cases this is the only way you'll get into the show unless you are a candlemaker, which is considered a craft. Your product will probably be on the low end of the price scale since hand crafts usually are not inexpensive, therefore making your product the one they buy even if they're not buying. Be sure to have cards out for all to take and put one in with each purchase in order to encourage special orders.

One type of special order well worth encouragement is the corporate gift order. Every year businesses try to come up with a new approach to the corporate holiday gift which they bestow on their clients or employees. In recent years the trend has been away from showy gifts from expensive stores, towards gifts that convey homey values and originality. Here is an opportunity for an enterprising beekeeper to put together a customized gift ensemble that represents the style of the business customer. With the quantities involved, a special label and other customized touches present no problem. Most businesses are proud to give products identified with their locale, so if your packaging represents the area, it's to your advantage.

Cost is important, not just to you, but to the customer. Gift ensembles should cost a customer more than the sum of combined products and packaging, but not so much as to limit purchases. When purchasing boxes or baskets, it's important to keep the cost minimal. I always look for items that have been reduced because of discontinuance, trade show specials, etc. If you buy a basket for $2.00 and add $4.00 to the total price, that's a 50% mark-up (in retail terms ... actually it's

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COLLECTION... Cont. From Pg. 617

100%, or cost is 50% of retail price). But if the basket costs $4.00 you may only be able to mark it up to $6.00 or even $6.50. Consider the time and effort in putting the various components together as well when figuring the total gift price. Basket combinations should have three or more items as a rule in order to cover the cost of the package. If the package is expensive it should be reusable and look it to the customers.

It's well known that many products cost a fraction of the package expense. Perfume and cosmetics are the best examples, but gourmet or specialty food products are not far behind. When the product is thyme blossom honey from Tuscany, you can afford to put it in a more expensive package than I can with my New Jersey wildflower honey. The package may make it a better gift but the honey is still the gift. Even if the package is expensive, it shouldn't look expensive. It should look natural, and pure, and reek of quality.

Limiting your packaging to one or two types is sensible because it simplifies the operation and gives you purchasing power in buying one or two package styles in quantity. It also reinforces your image through the continuity. Therefore it follows that the packaging should not be an afterthought. If you have squat jars of honey and long thin beeswax tapers you want to combine, you have a packaging problem. If you're going to stack jars of honey with short honey comb candles, make the width of the candles the same as the jars. If you have found a great little basket for an incredibly low price, fit what product you can and plan companions not just by substance but by size as well. The point is to coordinate the product and gift package, giving and taking on both ends instead of forcing one on the other.

Ensembles

Putting several products together to create a gift package may seem like the extreme end of gift packaging, but actually it's the easiest to do and the easiest to sell. I can only guess at the reasons:

1. Putting together various products in a container (basket, box, crate, bag, etc.) half-filled with excelsior, shredded tissue, etc., allows a greater tolerance for diverse shapes, sizes and weights.

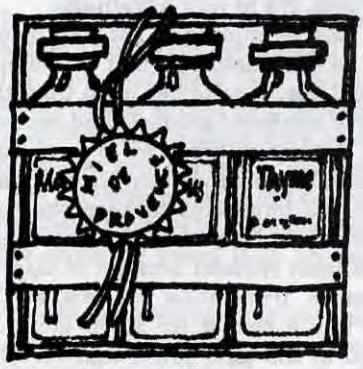
2. Wrapped in cellophane or tied with any one of various ties, it says *GIFT* loud and clear.

3. Customers are always looking for things that say *GIFT*, especially items less than $20, good for just about anyone, and original or unusual, not seen in every department store or catalog.

4. Customers are always looking for gifts that don't require extensive gift wrapping something that looks great without further embellishment.

5. The coordination of complementary products that provide a variety makes an interesting gift.

To get started, find the container ... the vessel you will fill with bee-related products. Small baskets, corrugated cartons, small wooden crates, etc. Beekeeping suppliers, florist suppliers, and the gift market suppliers are the obvious sources to tap, but not the only ones. Be resourceful and look around for unusual, but appropriate and inexpensive containers to use. Such things as paper paint pots, flower pots and/or saucers, flea market crockery, etc., are good possibilities. If you are close to a large city where there are trade shows or resources for the gift market where gift importers and manufacturers' representatives have showrooms, check out the items they're anxious to clear out. Almost always a basket importer will have a number of items at close-out prices. Take along your products to try fitting them into the baskets available at special pricing. Very often I have been able to buy baskets for $2 or $3 each. These have been good looking baskets made of twigs, grasses or moss, looking like they were worth at least $5 or more. Usually the minimum purchase is not much more than $100, and if you go in with another beekeeper you can easily meet that minimum. While you're ordering consider some larger baskets, often sold in single units, for displaying loose items like jars of honey and candles, tins of polish, or small cakes of beeswax. Your display will look better and it will save you the time of packing and unpacking these items to stack on your table or counter. Try to avoid the typical rattan or willow baskets in favor of the more unusual and rustic varieties. They may not look very durable to the practical eye, but what's important is that they show off your product and look original. Remember that it's just the packaging for the honey products and if it's reuseable . great, but the basket should not overpower the honey.



Stuff the basket if necessary, with packing material in order to elevate the products so that they are clearly visible and displayed at the top of the basket edge. If you have obtained the right sized basket, little stuffing will be necessary. If the basket is to be left open, you can add a tag or folder inside. I prefer to wrap the whole ensemble in cellophane, tying it at the top and adding the tag to the tie. This method keeps the individual items pretty much in place and discourages customers from requesting changes in the combination. I don't mind custom orders, but I do mind doing and undoing. The cellophane is sometimes objectionable to a purist, but usually not, and it adds a lot to making it look like a gift.

A gift ensemble in a corrugated folding carton is simple, economical and practical it can also be great looking. Corrugated folding cartons come in many shapes and sizes so you can usually find one that serves the combination of products you want to ensemble. Sometimes you have a choice between an all-kraft-paper (brown paper) or one with a white outer layer. I prefer the all-brown version but this is a matter of taste. I have used the white surface effectively when it was the only kind available. If you fit the products into the carton such as you would pieces of a puzzle, leaving room for packing material, such as excelsior, the package becomes a mailer, giving it another gift advantage. The carton must be sturdy and the packing ample. I use a sheet of bubble wrap as a top layer, so the package can be easily displayed and then closed up for shipping without the mess of loose packing to put on top. Some cartons are designed to be displayers, with a top section that folds back to tuck inside the carton.

The carton does not require much decoration, but it should not be left plain either. First of all, consider put-

ting a tag or small folder inside, just on top of the products. This should have your name or logo on it, and it should inform the customer and/or recipient about your apiary and the products you produce. It should include instructions if necessary regarding the correct use of the products, and be sure to include your address and telephone number so the delighted recipient can place his or her own orders with you. The outside of the carton should be kept simple if it will be used as a shipper. This is where my rubber stamps come into good use. You can use a paste-on label, or wrap it with a band of paper or ribbon. Tying it up with a heavy sisal or hemp twine looks great but remember that this is not permitted by some of the parcel delivery services. Of course, if your carton is not meant as a shipper, there are many things you can do to dress it up, but don't over do it. Besides the expense of the materials, consider your time, and the additional cost to add on to the selling price.

Less effective, but do-able in certain situations, are bag packages. The idea of a small gift bag with handles is not new but is usually limited to packaging a number of pieces of one particular item since you can only see what's on top. However you can use gift bags to combine products and certainly give a hint of what's inside, but it can only be used as a take-away item, requiring a certain amount of care in handling. To start, find a bag that is squat, or wider than tall, and not too large. It should be plain . . . a solid color complementary to your scheme, or simply a kraft bag with a twine-like handle. You can decorate it as you would the carton, or just hang a tag from the handle, which I believe is the best solution. Stuff the bottom with packing material such as plain newsprint, (*not* printed newspaper), and then layer the excelsior or shredded tissue. Place the products in, arranging them to their best advantage and add more packing material around each to hold them in place. The products should rise above the top edge of the bag, and the arrangement such that the bag looks full. Center the heavier items and let them anchor the bag since one considerable problem in doing bags is that they can be top-heavy. Placing a piece of corrugated board in the bottom of the bag will also help stabilize it. In displaying this package, it would be wise to weight the bottom with gravel or a brick, so it will stay upright in spite of prying fingers. I prefer to assemble the products in the center of a large sheet of cellophane, sometimes tying some of the items together (I try not to use double-sided tape as the fruit and cheese gift basket people do), then pulling up the four corners of the cellophane together and bunching the cellophane together at the neck and tying it with raffia or cord. I place this into the bag

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The Whole is decidedly worth more than the Sum of the Parts!

COLLECTION ... Cont. From Pg. 619

adding some stuffed-in tissue, so the points stick out, and I don't worry about spilling.

Any of the above can be adapted to a paper paint bucket, a terra cotta or plastic flower pot, a slatted wooden crate, or just about any container you can think of. I did not mention trays, but they are a possibility also. I do not care for this solution as much as I do for the others simply because of the association with shrink-wrapped cheese trays and cellophane-wrapped holiday cookie trays you see in every bakery at holiday time. But it certainly is possible to use them, and they are inexpensive.

One variation on paper trays is the stackable gift ensemble. To do this effectively, your products have to be stackable. They must be flat top and bottom, and relatively the same size in girth. A cylindrical jar of honey and a cylindrical candle of the same diameter make an ideal stack. You can add a round, flat tin of polish and perhaps a wax cake on top without a problem, but don't make the tower too tall and be sure to use circular pieces of corrugated above and below soft items, like the candle. If you use a round of comb honey I don't suggest you stack anything above it except for a lightweight product such as a candle. The biggest problem with stacks besides getting all the items to conform to a standard diameter, is wrapping it so it stays stacked. I suggest using a piece of clear acetate cut to the height and circumference of the stacked products (plus a half-inch overlap), which is taped together to from a tight fitting tube. Place the stack on a corrugated disc slightly larger than the acetate tube, so it has something to sit on, and tape the tube to the disc. Then wrap the whole thing in cellophane as previously described. This approach has a novel appearance that shows off all the components to advantage and still looks gifty.

Ensembles are effective in presenting various bee-related products together as a knock-out gift item. The whole is decidedly worth more than the sum of its parts in this instance. The bonus is that it's a sampler as well, introducing your customers to your new products, widening your line and customer base.

Dressing-up Single Products

The gift stack is a good way of making just two or three items into a gift package. If you have just one item, such as honey, or a candle, there are several dress-up measures to be considered. First of all, as mentioned, wrapping it in cellophane, tied at the top, will give it a gift appearance. A special tie and/or tag is easily accomplished, as is a special cap cover. Stickers applied to the label don't really do it, and they are hard to remove from the unsold jars. However, a ribbon running over the cap and sealed to the label can add considerable distinction. If the seal is directly related to a season, I suggest covering the seals on the carry-over with another seal.

A paper sleeve that goes around the jar, top and bottom rather than covering the sides, is a good way to set off your jar in a display, particularly if it's on a store shelf. The sleeve can decorate the jar to suit the occasion and be easily removed after the season, to be reused again. This device works best on squat jars as opposed to tall ones and is a good way to protect cylinder candles. The weight of the stock used for the sleeve should be cover-weight or heavier so that it doesn't belly-out on the sides. Small half moon tabs cut into the base of the sleeve will hold the sleeve on the jar.

When dressing-up a jar of honey with a cap cover, try to keep it simple and in keeping with the labeling. Adding fabric "dust caps" won't appeal to or be appropriate for men. Remember that honey has universal appeal ... it's not just for women. (But remember, men aren't your usual customers.) I have changed a cap cover from the stock used on the label to a Chinese tea chest paper, which resembles a primitive gold leaf or foil paper. It's quite thin and requires care in working with it, but it looks great and really adds just enough glitz while maintaining the handcrafted appearance of the label. Sometimes adding a premium item, such as a wooden honey dipper, or a recipe booklet/folder to the jar with an interesting tie will make it gift-worthy.

The novelty containers, by their very nature lend themselves to gift giv-

ing. Dressing-up squeeze bears is not difficult. A paper or ribbon scarf or hatband, if your bear has the "hat" cap. Adding a bear to the top of a jar of honey is a good way to combine these products. Interesting antique reproduction bottles and jars are available which can give your honey a very special look. Corked "medicine" bottles look great in sets, especially when the color of the honey varies from light to dark. Fruited honeys look good in old-fashioned clamp-top mason jars, particularly the small squat size. Of course these special bottles and jars will cost more, but usually you don't have to do much more to it, and customers seem to recognize the added value for the added cost.

Creamed honey doesn't have to be in plastic margarine tubs. This product deserves a classier container. I use jars and so do most of the imported honeys. The jar should be shallow and wide-mouthed, and be easily distinguishable through the label or cap cover, from the regular liquid honey. Why would anyone go through the trouble of making creamed honey and then sell it as though it was just another spread?

The right tie or ribbon will make the difference as well. Select a ribbon that is comfortable with your packaging first and seasonal or gifty, second. Add-on trims can be striking if they're chosen carefully. Plastic sprigs of holly can cheapen your product while a pressed and waxed leaf or preserved eucalyptus twig applied to a jar or column candle can be a terrific touch. I used pressed oak leaves last year which were sprayed with a sealant. The color and relative flexibility were maintained and I was able to stamp my logo on them. It's a unique tag and nothing comes close to it for saying "natural" Many dried leaves and flowers are appropriate for trims, but be sure they are not too delicate and brittle. Botanic decorations treated with glycerin and water while drying remain soft and pliable.

Look around and be original. It's very entertaining to me, while traveling or working at some mindless chore, to consider the possibilities of presenting my honey in a new way. The fun comes when it's tested in the marketplace. This fall I participated in a weekend crafts show with various honeys, candles, wax polish and cakes. I thought I was prepared with gift ensembles, but sold out the first morning. I spent that evening putting up more, they sold out just as quickly the following day. I took orders for some, but lost a lot of gift business because I underestimated the potential gift market at a fall crafts show. An interesting observation is that while the honeycomb candles, as a single item did not move as well as the others, perhaps because of the relatively higher pricing, they were readily accepted as part of a gift set. I questioned some of the customers in a conversational way, thinking the replies would be of interest to this article. Most were incredulous at my lack of awareness in realizing the popularity of the ensembles. *Here is a complete gift,* they said, *not requiring further gift wrap. It's something that can be given to anyone, and it's not over $20. Besides that it's completely original and beautiful. no need to wonder if they already have one, nor to wonder if they'll like it.*

It all made perfect sense to me and I confess to feeling more than usually stupid in not realizing it, especially when I was in the midst of writing an article on the giftability of honey. Take another look at how you are marketing this precious commodity and consider how you can enhance your sales by tapping into the gift market. Then be prepared for the demand. Q

The Walter Swartz
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PHOTINIA A VERY VERSATILE HONEY PLANT

B.A. STRINGER

Versatile evergreen shrubs, Photinias can be grown for screening, hedges, background plants or as specimen trees. The coppery red new growth provides a spectacular display which can be prolonged through the season by pruning out branches for use as cut material.

In spring, the four to six inch broad flat clusters of white flowers are intensively worked by honey bees for nectar and some pollen. The color combination of deep green older leaves, bronze-red new growth and white flowers is quite eye-catching.

Photinia is part of the Rosaceae or Rose Family, and is related to Hawthorns and Pyracantha. The plants are native to the Orient, Japan and China. Their name is derived from the Greek work 'photizo', meaning 'to illuminate', a reference to the shining new leaves on the plants.

Photinia flowers. The evergreen broad glossy leaves are attractive on this well-behaved landscaping shrub.

Photinia in bloom. New growth is eye-catching scarlet.

The Photinia which is most resistant to heat and mildew is *Photinia fraseri*, an attractive espalier or specimen tree reaching about 10' in height. Like others of its genus, the shrub has showy brilliant red new growth and white flower clusters in spring. Should you prefer a smaller shrub, a new cultivar "Indian Princess" grows only half the size of *P. fraseri*, in a densely compact form.

Japanese Photinia, *P. glabra*, is native to Japan and is named for its smooth-skinned or glabrous leaves. While it may reach 10' or more, this plant is easily kept pruned to around five feet in height. Pruning provides a constant supply of cut branches for arrangements, and stimulates the production of more scarlet new leaves. Hawthorn-scented clusters of white flowers are followed by red berries which later turn black.

A third commonly used species is Chinese Photinia, *P. serrulata*. The deep green, eight inch leaves are prickly along their edges. The plant's botanical name comes from the Latin 'serrula', a small saw, referring to the serrated leaves. Bright copper new growth begins appearing in March, followed by bloom in April and May. Because this shrub begins growing earlier in spring than most broad-leafed evergreens, it should be transplanted before mid-March. Color continues through the seasons with bright red berries persisting until December, and scattered crimson leaves present through Fall and winter.

Left alone, Chinese Photinia may grow 35' high, but in a landscaping situation it is usually pruned to about 10 x 10' Cut out long straggly shoots to encourage dense, bushy growth. A more compact variety of Chinese Photinia, called "Aculeata" or "Nova", has its leaf veins highlighted in creamy-yellow, which adds more color contrast to the plant.

Common in home gardens as loose or clipped hedges, these three species of Photinia are also often used by the Oregon State Highways Division as part of their roadside beautification program. Once established, the shrubs can tolerate summer dryness and winter cold to about 10°F. Prolonged freezing may damage the tops, but the plants usually resprout from the roots.

Most Photinias develop their best color in full sun, and need good drainage. They are easy to grow, particularly in areas which receive little summer water. A continuous display of coppery foliage highlights is achieved by periodic pruning throughout the growing season to stimulate new growth.

As hedges or single plants, Photinias can add brilliant color to your yard and provide forage for honey bees.

WARM BEES

ARE very HAPPY BEES

STEPHEN F. PETERSEN

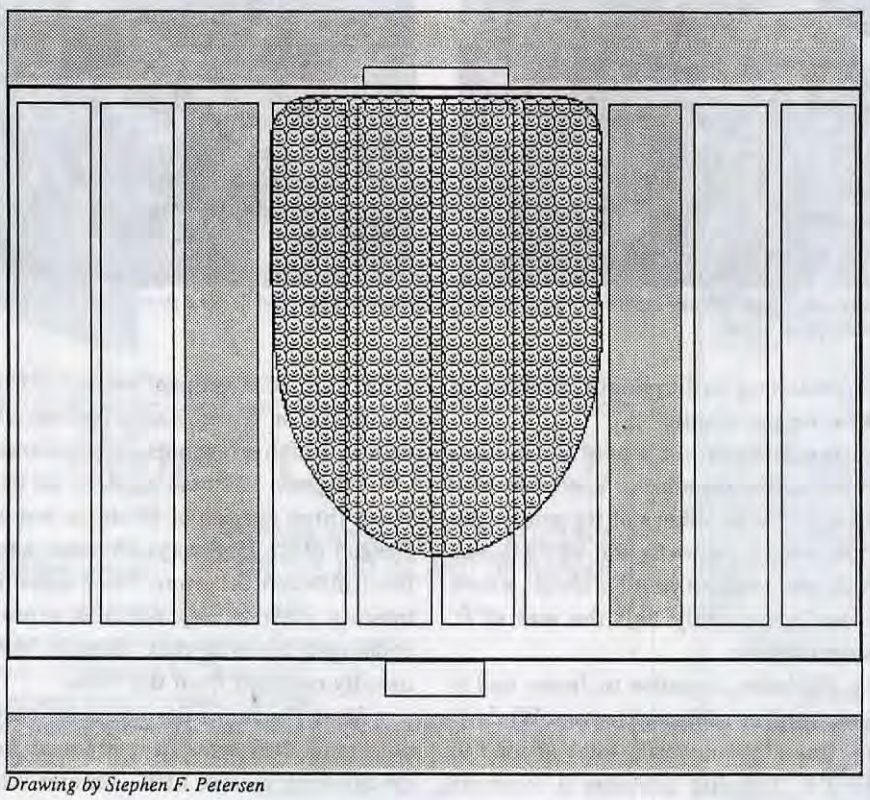
Talk of your cold, through the parka's fold,
It stabbed like a driven nail.
If our eyes we'd close, then the lashes froze,
'Til sometimes we couldn't see.
It wasn't much fun, but the only one
To whimper was Sam McGee.

from "The Cremation of Sam McGee" by Robert Service

In northern climates insulation plays as important a role for people as it does for a honey bee colony. Heat retention in the brood nest is essential for proper development of young bees, drawing wax, and other colony activities. In many cases you can enhance a hive's heat retention and give the bees the winning edge over a cool spring or a small cluster by proper use of insulation.

Most northern beekeepers are familiar with the Canadian method of wrapping hives for winter in "four-packs" (four colonies shoved together in a quad with two entrances facing opposite directions, then wrapped with an insulative blanket for winter). During a workshop conducted by Alan Tremblay, an apicultural consultant from northern Saskatchewan, Alaskan beekeepers were introduced to a new "internal" insulative trick which has already shown its merit – insulated follower boards – which allows you to keep bees squeezed into a small space where heat loss is minimized and brood production maximized. Here's how I made mine and how they are used.

Insulated follower boards placed on either side of a cluster reduces the volume of the cavity the bees need to keep warm. Although the outer "shell" of bees in a cluster acts as insulation, we can give them a helping hand in cool weather or when dealing with small clusters.



Drawing by Stephen F. Petersen

BEES INSULATION

For just over ten dollars I bought a one-inch thick (R=5.5*) 4' x 8' sheet of high-density foam board (ask for a damaged sheet if you don't need too many – you should get a good price break). Manufactured by petrochemical companies, high-density foam comes in various colors – pink, blue, or green and is sometimes referred to as "blue board" Don't use the white, lower-density "beadboard", the bees just love to chew on it. I cut my foam pieces to fit snugly inside a full depth frame (8" x 17") with a straight edge and sharp knife. There is enough material in one sheet to make up about 30 insulated follower boards if you piece together the scraps. To get a quick, even cut you can use a table saw but unless you use a very thin blade you will lose about 1/8" per cut due to material lost in the saw kerf.

After cutting the one-inch foam boards to the interior dimensions of a deep frame, I inserted them in combless deep frames, and held them in place with common 6d nails inserted through the holes in the end bars used for wiring. For first-time beekeepers using

new equipment or those without old frames, the nails can be removed easily and foundation inserted in place of the insulation when needed. There are several ways the insulated follower boards can be used.

As a first-time beekeeper, or when hiving package bees on bare foundation, cool spring weather may retard colony growth. A three pound package of bees will cover about three or four frames, but what about the other six or seven? Bare foundation has very little insulative value and a lot of heat is lost in the large volume of the box. If an insulated follower board is placed on either side of the cluster then the bees have a smaller volume to keep warm and are much more efficient in brood rearing and drawing out the foundation. The temperature within a comb-building cluster or curtain of bees is about 97°F – it is certainly easier for bees to produce wax in a small, well insulated space than a full size super. Of course you must maintain a steady feed supply in order for the bees to generate heat.

In early spring, while examining colonies which have made it through the winter but are only three or four frames strong, place a frame of stores (if needed) right next to the cluster and an insulated follower board directly adjacent to that. Again this provides the bees with a temporary reduction in volume which is easier to maintain at the proper temperature for brood rearing (93-95°F). Fewer bees will be needed to warm the colony making more bees available for foraging.

When making up two or three frame nucs you can use standard ten frame boxes with an insulated follower board on either side of the brood and stores. As the colony grows and needs more space just move the insulated follower board out one space and move a frame of drawn comb or foundation inside the nuc area. This does away with the need for extra equipment while utilizing the smaller-volume concept of four or five frame nucs. Another option is to situate the frames of brood and stores against the south wall of the hive where they can take advantage of solar gain on the wooden box and insulate the northern side of the cluster with a follower board.

Although I chose to use full depth frames to hold the insulation you may choose to simply cut the insulation just shy of the interior dimensions of your hive body and glue it to a top bar or other wooden bar. Leave a bee space in all the proper spots – the insulation doesn't have to fit snug – it will be easier to move around. As the bees draw out frames or as the cluster expands, move the insulated follower boards out a space at a time, rotating new frames for the bees to work inside the warm area. When you have a full box of bees then they can do a pretty good job of thermoregulation.

Another advantage to having insulation inside the hive is quicker response to warm sunny days outside. If insulation is on the outside of the box it takes much longer for the sun to warm the interior and the bees may figure it is still cold outside. The sun warming the exterior will soon translate into a warmer box and happier bees.

The drawing shows insulation on the top and bottom of the colony. It is a good idea in Alaska and other cold climates to provide the bees with every available advantage. Since heat rises, an insulated inner cover reduces the heat flow through the "ceiling" allowing the bees a warmer space to draw wax and raise brood. So if you're in a marginal area for beekeeping or just want to give your bees an advantage in the spring remember – "A warm bee is a happy bee"

**The "R" value is a measure of insulation. The higher the "R" value the greater the insulative properties of the material. Fiberglass insulation in a house wall 3.5" thick has an "R" value of 11.*

AFTER THE PARTY

When you've got all the time-critical (and enjoyable) tasks finished, like feeding, reducing entrances, wrapping and the like, it's time to take care of all those less than exciting jobs that need doing now.

JEFFREY L. OTT

It is this time of year we see articles telling us how to wrap up our bees, install entrance reducers, erect windbreaks and a whole carload of worthwhile and valuable suggestions. While this advice will get your bees ready for the Winter (which I've heard will be hard this year), what can you do to prepare *yourself* for the next four to five months of "down time"?

After you've put your colonies to bed for the Winter, it is a good time to look over your operation for the past year. This is where a good record keeping system comes in handy. I'll be taking a look at different record keeping systems in the January Weekender column, but right now I will identify the benefits of a good record system at this time of the year.

Take a look at the honey production of different bee yards – which yards did well, which ones didn't. If you've had bees at this yard for three or four years and you never seem to get what other area beekeepers are producing from their yards, perhaps a move is in order. But before you throw your hives in the back of your truck, read on. It usually takes several seasons to determine the value of a yard and no matter where you place your bees, some years will simply be better than others. The trick is to find the yards that give more honey, more often, than not!

Another area where good records on your colonies come in handy is when looking at your general brood production for each colony. Has a particular breed of queen done very well for you while another breed hasn't? Is one type of queen excelling at all the good queen qualities (high honey production, disease and mite resistance, wintering, temperament, etc., etc., etc.)? Look to see if there is something that might indicate a queen is not working out to your desires. It may be the type of bee you're using is just not suited to you and your location. Remember also that the general rule is to requeen every two years. By looking at your notes and records, you'll have an idea of how many queens (and perhaps what type) you will want to order next Spring.

If you prepared good records, you'll be able to determine what equipment needs to be replaced. Order what you'll need now and start to build it. As a Weekender, you know that you're always pressed for time. Avoid waiting until next Spring when the dandelion and fruit trees are blooming to order equipment and build it. I've done that and found myself taking a day or two off from work to assemble frames, wire them and insert foundation. I was doing this while other beekeepers were putting supers on hives to catch a spring flow, or making their splits. Perhaps if you are retired or have flexible work hours, waiting to Spring is O.K., but by the

How did your queen do this year? Good honey production? Brood pattern? Disease resistance? Overwintering? How old is she? Do you need to replace her next spring?

definition of a Weekender, you can't wait. Work at the equipment a few hours each weekend during the winter and by spring, you will be able to enjoy your hobby and not feel rushed and frustrated.

Everything up to this point has been determined while sitting in your favorite chair, perhaps during the commercials in a football game. This is the value of a good record keeping system. You can determine the needs of your entire operation by looking in one place, and be fairly accurate about it too!

Go through the old brood combs you removed from the hives last summer. Cut out the old black comb from each frame and melt it down to recover the wax, if you can. This time of year, the solar wax melter is not going to work in the Northern tier of states, but equipment such as the Better Way Wax Melter or Kelley's Wax Press will. Otherwise, save

Now, don't you wish you'd kept better records this year? Start now for next season.

the wax and melt it next summer. Scrape off the old burr comb and propolis from the frame and get it ready to insert new foundation. If the frame is broken, or close to it, repair the frame, if you can. Some beekeeping supply manufacturers supply replacement frame parts. If the frame is not worth saving or repairing, break it up and save it for smoker fuel.

While deciding to toss or keep some pieces of equipment don't forget other uses for it. A deep super can be repaired, or simply cut in half to make a five frame nuc, so you don't have to spend extra money for a new one. By cutting a deep in half and nailing on an appropriately sized board, you'll instantly have two nucs. If only a bottom edge of the super is rotten, or otherwise beyond repair, you can cut the deep down to the required height and make a "new" honey super of just about any size. Make sure to remove the nails first or else you'll ruin a good saw blade.

Making a nuc out of an otherwise unusable super is a good idea. They can be used to raise queens, catch swarms, make divides or to sell next spring. A little bit of time spent now can mean big returns later.

The supers that are still usable should be securely stored. That means "mouse proof" and "moth proof". Mice are terrible winter enemies of stored supers. They don't care whether the supers are full of brood comb or honey comb, they'll make a mess out of it all. The best storage place would be indoors, with a concrete floor. Locate the supers so there are no openings for mice to enter, especially along the floor. If you know mice are there, you can leave out poisons or traps, but be careful. Beeswax will absorb many different chemicals quite easily, so avoid any direct or close contact of the poison and wax. Of course, be careful with any poisons or traps around children, pets and/or unsuspecting family.

Unfortunately, wax moths thrive in the environment you just made to keep mice out – dark and warm. The only approved chemical for moth control is paradichlorobenzine. To use, stack four or five supers. On top lay a newspaper, and sprinkle a heaping tablespoon of the crystals on the paper, making sure none of the dust drops down below. Then add one more empty super and a top. The fumes from the crystals are heavier than air and flow down. Check the crystals every month or so, but they'll probably last the winter. Before you use the supers in the spring, air them out outside for a week or so and they'll be fine.

The next suggestion may seem a bit obvious, but don't overlook it because of that. Now is the time to clean your house. After you're finished uncapping and extracting all you are going to this season, clean your equipment and put it away for the winter. Clean it and store it away such that it

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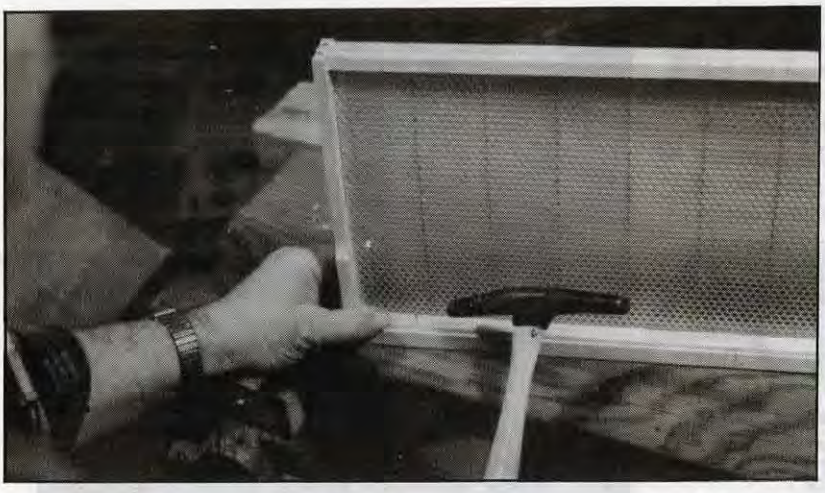

Winter slow time is the best time to get ahead on equipment repair or replacement. Buy before January, (when prices always seem to increase), and save some bucks!

AFTER THE PARTY... Cont. From Pg. 627

will be ready to use next season. If you do this now, as you have the time, you won't be rushed to do it next summer (or have to wade through, and stick to, it all winter).

Some beekeepers will take their equipment outside and let the bees clean it for them. This works to a certain extent, but you have to be careful about the spread of diseases, such as American Foulbrood. If you do this, remember that you still must scrub the equipment out with hot water and soap. If you have any tubing or piping connecting your equipment, break it all down and clean it up. Fortunately, honey cleans up quickly in water, and even faster in hot water. The hardest and most time consuming part about cleaning is working up the desire to do it.

Finally, join your state and local bee organizations. Or, if already a member, become an active member. Attend a meeting. This is where you can pick up some real pointers on beekeeping and meet other beekeepers, too. Many local groups have book and video libraries to use. There are many worthwhile videos on the market now and new releases coming out. Nothing is better than watching summer scenes of fields and bees while it's freezing or raining outside. Besides the videos, times are changing and local and state support will become as important to the beekeeper as the veil and smoker.

Don't forget the little things, like cleaning out gates and valves. Dirty gates will be frozen solid by next summer. Hot soapy water works best.

Make sure you close up your hives and follow all of the important steps you need to do to insure their survival this winter. However, this year, start early for next season and have fun while you're at it.

TOPS AND BOTTOMS

O.B. WISER

Over the last several weeks I have received a number of requests for plans to several pieces of equipment that I have mentioned in my articles. This will be the first in a series to try and share the Ultimate pieces of equipment that I have come to use after 35 years of using about everything there is.

When I started beekeeping in 1957 all of the books and information available came from the eastern part of the United states. Unfortunately all the plans for equipment back then and to a major extent even today reflect the behind the times thinking on the most important of all equipment the lid and the bottom board.

Those of you who read my articles before know I have two major pet peeves in beekeeping. I hate telescoping lids and plastic midrib foundation. I have mentioned the ultimate lid I use and the best foundation made is crimped reinforced wired foundation, six sheets to a pound.

In my first article I mentioned I have made about every mistake there is to make, and I learned from them. Now I'd like to share what I have learned from these mistakes. Luckily the big mistakes were made early on when I had only a few hives instead of later when I had 2,200 hives.

So for Ultimate Equipment Part I, I would like to talk about the lid and bottom of the hive. Telescoping lids are only good for platforms to stack supers on when painting or to use under a stack of good tops when storing them outside. Last week I bought out the last equipment of a retired beekeeper here in Utah who had been making homemade equipment for other beekeepers for years. I call his bottoms B59 landing boards – you know, the ones with a 3/4" opening with a landing strip stuck out in front

THE BOTTOM

So, let's start with the bottom board. It should be the simplist piece of equipment you have. Anyone with a table saw or even a skill hand saw or jig saw can make this piece of equipment. All you need is 3/4" thick lumber of any width that's at least 21" long. First cut your lumber into 21" long pieces and stack them ready for the rip saw. Then you set your saw to cut the first width for a three board-bottom. I have learned you want at least three boards to make up the top and the bottom, a two board top or bottom will warp.

Run through all your 21" pieces of lumber and cut every thing you can to 5-5/16" wide boards. This will make a wonderful three board bottom. Then reset your saw for a four board cut, and cut every board 4-1/16" wide. Stack these together, and reset for a five board cut which is 3-1/4" wide. Anything left from this last cut I set aside and save to make top bars or bottom bars.

Next cut the bottom cleat. I like to go to construction sites and ask to clean up scraps. Any 2"x4" or 2"x6" or 2"x10" longer than 16-1/4" is usable. Cut them 16-1/4" long. Then reset your cut to rip them to 1-5/16" thick, or a bit thicker if you like.

To put the bottoms together make a jig with scrap lumber to hold the two cleats in the right position. The cleat at the back of the bottom board is flush with the end of the bottom boards the front cleat is set one inch in from the front putting it squarely under the weight of the supers.

Now you put it together with 7-d cement coat nails putting two nails at the end of each board making sure you drive the nails in at a slant, never straight up and down. This gives more holding power when your nail goes across the grain of the wood.

THE TOP

The lid is almost as easy to build. Get 3/4" lumber and cut it to 21" long. Then rip it into 3,4,or 5 board lids. I never use 6 boards for lids.

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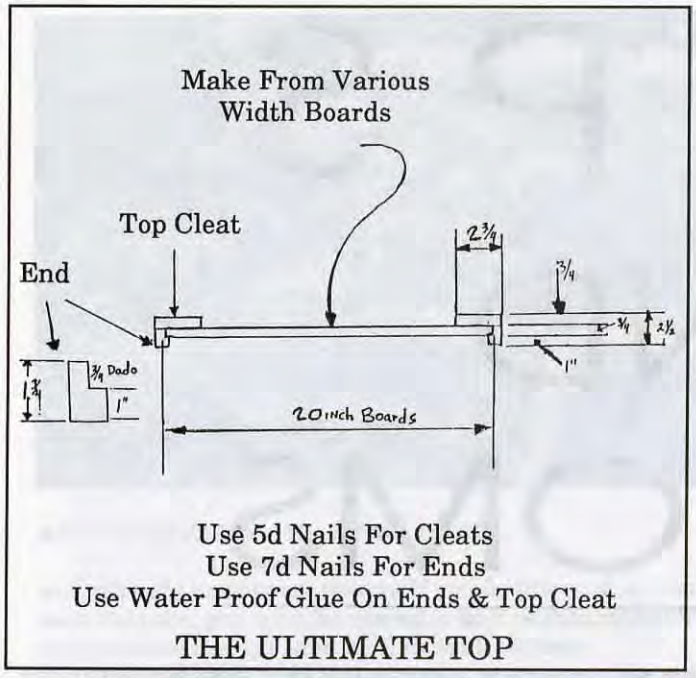
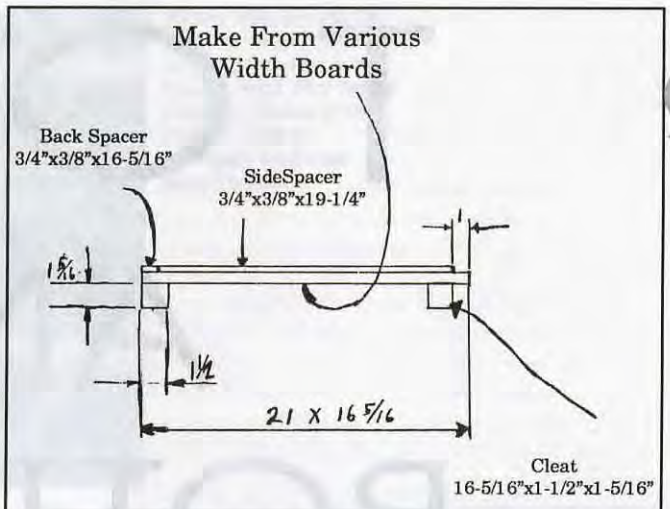


Use 5d Nails For Cleats
Use 7d Nails For Ends
Use Water Proof Glue On Ends & Top Cleat

THE ULTIMATE TOP



Use 7d Nails For Assembly
Use 1" Nails For Spacers

THE ULTIMATE BOTTOM

WISER ... Cont. From Pg. 629

Cutting cleats and **ends** is next. Cleats are used on the top of the lid ends at both the front and back of the lid. I cut the cleat 16-5/16" x 2-3/4" wide.

The ends take a bit of doing. Cut them 16-5/16" x 1-1/2" wide and set them aside for the dado cut which is 3/4" x 3/4" This dado cut must be precise so that it is smooth and even all the way along. Hold downs on your saw are needed or a jig to insure proper pressure, using C-Clamps.

The beauty of the cleat and end arrangement is different than any you can buy so that the top cleat covers the junction where the top boards and end piece meet, effectively covering, and protecting this vulnerable seam. This prevents moisture from entering the ends of the wood boards.

Many years of watching lids fall apart has shown me that when weather gets down in the usual crack that leads to the end of the top boards, dry rot sets in and you throw the lid away after a few years. With this top cleat, lids last almost forever.

Putting the lid together needs some extras, like using both 5-d cement coat nails and 7-d cement coat nails and some good water proof glue. Simply run some glue along the dado cut of the end pieces then set the boards on end and put one end with glue into the end and nail it with the 7-d nail into the ends of the wood, then do the other end the same way. The cleats are put over the top end using glue to glue them to the end piece and 5-d nails driven in at an angle of course, the nails then will stick through the top boards and can be bent over on the underside of the lid.

I used to put a sheet of aluminum from the local newspaper print shop over the main exposed wood. When using the aluminum, DO NOT EXTEND THE METAL TO THE END PIECE. Only use the metal to cover the major exposed area between the cleats. *Metal under the clean will cause the wood to sweat and dry rot.* Because of this I prefer to not use metal anymore. Instead, I paint well, and pack for winter under tar paper and straw. When I really want to go the extra mile I purchase that green wood preservative and prepare a bath to soak the completed lid in. I only soak the ends of the lid, as it is the ends that get the dry rot, not the exposed part of the top. The wood preservative will stop fungus growth and preserve the wood. The end and cleat dip is not required, except for lids you want to last 100 years. A good coat of latex paint over the whole thing is adequate. Make it two thin coats rather than one thick one.

Well that is it for tops and bottoms. Study the drawings so you know what I am talking about. This lid and this bottom are cheap and durable. They will last forever – especially if you pack

The Top .

. . and the bottom I don't need.

your bees in the winter.

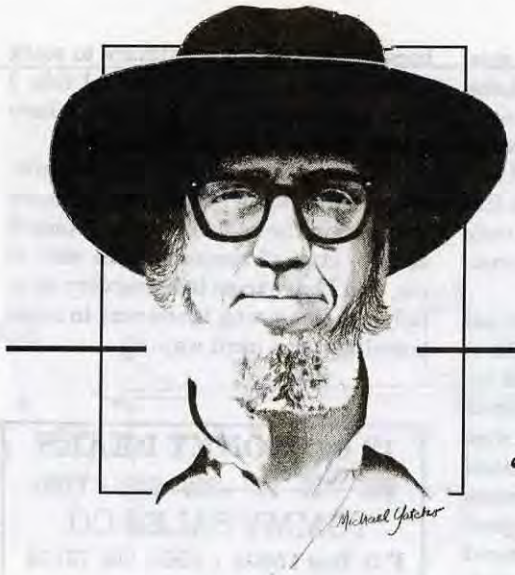
Over the last 35 years, I have used about every weird idea Utah beekeepers have come up with because I bought so many of them out as they went out of bees. I have even used, parish the thought, telescoping lids and actually tried to move one hundred hives to the almonds with those lids on. But that is another horror story.

After carefully studying the behavior of bees, I realized they do not need more than a one inch landing board. My first hive had that special hive stand that gives about 18" for them to land on. I spent many, many hours watching the bees land inside one inch of the entrance and was really disappointed that no incoming bees came to a skidding halt on my carefully crafted runway.

Heavy cleats on the bottoms give lots of wood to meet the ground and take ages to rot. By the way, you can delay that rot for decades by using a wood preservative on the bottom cleats. I use windshield pallets that do not let the bottoms touch mother earth. You may also consider the green wood preservative.

These tops and bottoms do their job well, stand up to the weather with a minimum of upkeep and they stack together right on the truck when you have to move your bees. Everything is a nice neat square package with no oversized extensions from top or bottom to mess up the space and soundness of a good hive pack. The people who recommend the telescoping lids have never considered moving colonies on a flatbed truck, because they are a nightmare to stack and tie down with those awful lids. I hate telescoping lids because I hate waste and pain for the beekeeper.

The bottom is simple, simple, simple. And, fellow beekeepers, I learned that lesson the real hard way. "Keep it simple, stupid" someone once said to me, and I have tried to listen very carefully. And listening is one way to avoid learning it the hard way.



BEE TALK

RICHARD TAYLOR

Box 352, Interlaken, NY 14847

"The Washerwoman dance, late alfalfa honey, and a dark comb controversy."

It's September when I write this, which begins the somber season, and my mood shifts to lower gear. I never can shake off the seasons. I saw the black walnut leaves begin to turn yellow – the last trees to get their foliage in the spring, and the first to shed as autumn approaches. My purple martins sensed the change, abandoning their great nesting house as if at a signal. All summer I had watched and listened to them as their colony grew and they chattered incessantly. They are on their way to South America, but they'll be back in the spring. In my apiaries the bees drift from bloom to bloom as the goldenrods, asters and knapweeds flower and I begin to sense the redolence of the hives in autumn. These things all come together, and with them, my autumn mood.

Some things, like the cycle of the seasons, mirror of the cycle of life and death, never change. But within that unchanging order some things are never the same. I have said many times that no two seasons are the same for the beekeeper. Every year brings forth its surprise. Last time I noted what this season's surprise turned out to be – a huge honey crop from the basswoods, in spite of its being the wettest and coldest summer on record. It rained almost every day. How could the bees make honey? But they did. But more surprises were in store. I've been going around to my apiaries the past several days, and the supers are filled with snow white comb honey. I've sampled it, and the honey itself is colorless. That has never happened to me this late in the season. The late honey has always been dark and delicious. The explanation? Alfalfa. I have never gotten honey from the secondary blooms of alfalfa, but this year I did – and this, in spite of the continuing cold and rain. The bees will never cease to bewilder me.

In late August and September the bees always go into their "washerwoman" dance, gathering on the front of the hive in great numbers, heads facing down, and acting as though they are all scrubbing something. This year, for the first time ever, they didn't do that. Too busy in the alfalfa fields, I guess. No one knows why they do that dance, though there has been much speculation. The "explanation" I like best, because it is so droll, is one I got from a reader long ago. He said the bees were simply limbering up their tired and aching joints after working so hard all summer!

My discovery of the colorless alfalfa honey brought my mind back to one of the controversial questions of apiculture, namely: Is honey darkened by being stored in old, dark brood combs? Or: Is there any difference at all between honey that is extracted from white, virgin combs and that which comes from the old dark combs that have been in the hive for years and have been used for brood rearing? Many readers have written in to say they could find no difference, while others have cited what seemed to them proof that the difference could be very considerable.

Well, thanks to the patience of a reader, Mr. Joe Cerwonka, of Westminster, Maryland, that question has now been resolved, once for all. And the answer is: There is no significant difference.

Mr. Cerwonka staggered light and dark combs in a super, alternately, and extracted the honey separately, spinning the honey from the light combs first, then from the dark ones. He gave samples to Dr. Gordon Allen-Wardell, at the University of Maryland, numbering the samples so that he, Mr. Cerwonka, knew which was which, but giving no indication to Dr. Allen-Wardell of this. The Pfund grader disclosed no difference in color, and numerous other tests and microscopic examinations similarly failed to turn up any difference. These tests, which I shall not describe in detail, were so precise and carefully conducted that there seems to be no doubt that honey is precisely the same, whether extracted from dark brood combs or from white virgin combs.

Of course the fact remains that, when I am emptying my comb honey supers and honey drips from broken burr combs, that honey is sometimes utterly colorless, unlike what I ever see in jars, at least in this area. The explanation of this can only be that when honey is extracted it inevitably becomes mingled with other honey, from different sources, some of them darker.

Well, thanks to Mr. Cerwonka and Dr. Allen-Wardell, that debate is now completely settled. ○

(Comments and questions are welcomed. Use Interlaken address and enclose stamped envelope for response.)

QUESTIONS? ANSWERS!

Richard Taylor

Bees, or honey?

Q. My problem concerns colony buildup in late fall. I sometimes get a queen that will not stop laying, and consequently the honey gets all used up.

Richard Steward
North Creek, NY

A. I have heard this described as a fault in some queens, but it does not seem to me to be a serious one. It is very desirable to have a large population of bees in the fall, for wintering. Any resulting demand on honey stores can be compensated for by letting the bees keep all of the fall honey.

The Best of AHB

Q. Do Africanized bees have any special resistance to Varroa and tracheal mites and are they more productive than European bees?

Roger M. Warnickey
Pensacola, FL

A. Yes to both questions. Varroa mites can be found in all the Africanized colonies in Brazil, but they are of such small significance that beekeepers there tend to ignore them. A somewhat shorter larval and pupal duration seem to be the main reason there are fewer varroa in AHB colonies. We're not sure about tracheal mite resistance, but high swarming behavior would tend to separate older and younger bees – thus breaking the cycle. And they are far more productive than European races, when managed correctly, and in the 'proper' environment.

Move It Out

Q. Bees, when smoked, engorge themselves with honey. Do they then return the honey to the combs, or do they instead consume it?

John Iannuzzi
Ellicott City, MD

A. I believe, but do not know for sure, that they return the honey to the combs. This opinion is based on the fact that bees do move honey around in the hive fairly freely. Beekeepers have noticed that supers sometimes continue to fill after the honey flow has stopped, indicating that the honey was first stored below, perhaps as nectar, then moved up. And if a super of uncapped honey is placed at the bottom, under the brood chamber, then the bees promptly move it up, with no apparent loss.

80 Proof

Q. I set aside two full-depth supers of honey to feed my bees in the spring. Little beads of honey are now appearing on the surface of the capped honey. Is this fermentation? What can be done with it?

Buddy Schmidt
Snohomish, WA

A. This *may* be caused by fermentation, but sometimes even combs of unfermenting honey tend to "weep" in this way. Even if some fermentation has set in, you can give these combs to the bees in the spring without creating any problem, although they probably will not clean the honey out unless there is a severe shortage of nectar in the fields.

Check It Out

Q. I have only two colonies. Is it worth the trouble and expense to check and treat them for mites?

Leroy S. Yoder
Flemingsburg, KY

A. There is certainly no point in checking them for tracheal mites, as this is a laborious procedure involving the microscopic inspection of at least 50 bees. Tracheal mites are of little significance except in winter, when they sometimes cause winter loss. If in spring you find a hive with no live bees, very few dead ones, and plenty of honey, you'll know that the bees probably had a mite infestation. Revive it with combs of brood and bees from another colony and requeen. As for Varroa, cross that bridge when you come to it. You'll know you have it when you inspect for, and find infected drone brood. Then will be the time to get some Apistan strips, following all label restrictions, of course.

Which Way?

Q. Is it important to have hives face in any particular direction?

John E. Palmer
New Market, NH

A. Not really. Hives should not face into a prevailing wind, but the best way to avoid this kind of stress is to locate them in a protected or sheltered area, but not at the bottom of a hill.

Propolis for Cash!

Q. What is the best way for a hobby beekeeper to use propolis? Is there any benefit to eating it?

Edward J. Reder
Bay City, MI

Propolis is valuable, and buyers advertise in the classified sections of bee journals from time to time. I once sent them a sample, and was astonished to get back a check for $22 just for the sample. Some persons claim great benefits from chewing it, sometimes for the relief of allergies.

(Questions are welcomed. Address: Dr. Richard Taylor, Box 352, Interlaken, NY 14847, and enclose stamped envelope for reply.)

?Do You Know? Answers

1. **False** The primary reason for having adequate ventilation in the overwintering hive is to reduce the condensation of moisture within the hive, thus maintaining a drier environment for the bees.
2. **True** Pollen must be available in adequate amounts and in a position readily available to a winter cluster. A wintering colony must replace its fall population with young bees and have a large, active brood nest by the time natural pollen is available in late winter or early spring.
3. **True** Individual bees and small clusters of bees become motionless when temperatures drop below 45° F and will die if exposed to these temperatures for about two days. Survival intervals are reduced as the temperatures drop.
4. **True** In the north, it is recommended that only strong colonies be overwintered. Small, healthy colonies can and do occasionally survive the winter even under severe climatic conditions, but they seldom expand sufficiently in strength during the next season to become a productive unit.
5. **True** The increase in temperatures associated with the initiation of brood rearing in the winter cluster places additional stress on the older bees of the wintering population, thus increasing adult mortality. The additional increase in body heat required to maintain the higher brood nest temperatures rapidly increases honey consumption.
6. E) 43-46° F
7. B) 7 pounds
8. D) 45° F
9. A) 57° F.
10. D) 45° F.
11. B) 23°F
12. Colonies should be checked mid to late winter to determine if the colony needs to be fed or not.
13. The bees at the center of the winter cluster generate heat. The amount of heat generated is equal to the heat radiated from the cluster surface.
14. Bees on the surface of the cluster serve as insulators forming a shell. This shell can be from 1 to 3 inches thick and workers are oriented with their heads inward.
15. Cluster contraction conserves heat by diminishing the surface area over which heat can be lost and by reducing internal convection currents.
16. Individual workers periodically consume honey to produce heat, and clusters may break occasionally to allow workers to move through the nest and feed. If conditions are too cold, colonies can die even with substantial honey reserves because workers are unable to leave the cluster to get to honey located at the nest periphery.
17. When there is no brood, the temperature in the cluster interior falls to near clustering temperature. When brood rearing starts the bees attempt to hold the cluster interior at normal brood rearing temperatures, which are 93-95° F
18. (I) B. 15-30 lbs
    (II) E. 30-60 lbs.
    (III) A. 60-90 lbs.
19. Under-supering the colonies in the fall causes the bees to consolidate their winter stores and forces the bees into the lower part of the hive.
20. A) Late Winter
21. C) Late Fall
22. D) Early Spring
23. E) Winter

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

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

GLEANINGS GLOBE

NOVEMBER, 1992 ALL THE NEWS THAT FITS

HONEY BOARD NEWS

SPOKESBEAR ADS

The traditional honey squeeze bear turns into a gourmet and a party animal this fall!

The National Honey Board's new advertisements feature the honey "spokesbear" along with simple yet elegant honey recipes. In one ad, the bear wears a bow tie and exclaims "The hardest part about these recipes is waiting for the compliments to pour in." The ad includes recipes for Honey Sweet and Sour Sauce, Honey and Nut Glazed Squash and Honey You're Good Sauce (an oriental-flavored marinade or dip).

The second ad features the bear in a party hat. The ad headline reads "During the holidays, I turn into a real party animal." The ad highlights entertaining recipes like Honey Garlic Spareribs, Honey Butter and Curried Chicken Wings.

The ads will run in September-December issues of *Better Homes and Gardens, Cooking Light, Family Circle* and *Good Housekeeping*. In addition, the holiday ad will appear in *Family Circle, Christmas Helps* and *McCall's Christmas Guide*. The combined circulation of these publications is over 22 million.

The advertisements combine the familiar, lovable squeeze bear with interesting recipes, explained Mary Humann, marketing director for the National Honey Board. "Our goal is to maintain honey's wholesome image as we increase consumers' understanding of honey's versatility in food preparation," she said. "It's a topping for biscuits and more!"

In conjunction with the advertising, honey recipes will be included in the "Fresh from the Oven" and in the "Back-to-Basics Cooking" family food ideas sections of October and November *Better Homes and Gardens*. Readers who purchase honey or other cosponsors' products can receive 50% discounts on *Better Homes and Gardens'* cookbooks.

In addition, the Honey Board's recipe brochures will be distributed with *Better Homes and Gardens* cookbooks and through special mall events sponsored by the magazines. Listings in the magazines' classified sections also give readers the opportunity to request more information about honey.

As the bear advises readers, "When you're spreading yourself too thin, keep it sweet and simple . use plenty of honey."

BRANDED!

The National Honey Board is accepting proposals from U.S. honey packers for honey promotions overseas.

Under the 1993 Branded Products Promotion program, the Honey Board provides matching government funds for U.S. companies who conduct overseas promotions of U.S. honey.

Promotions may be conducted in any country in the world (excluding the United States and U.S. territories) April 1, 1993 through March 31, 1994.

Participating firms will be charged a five percent submission fee which is based on the total amount of funding awarded. The fee is non-refundable and is not prorated if the company does not spend the full amount of the funds awarded.

Proposals must be received by the National Honey Board by Nov. 15, 1992. Send proposals to: Diego Garcia, National Honey Board, 421 21st Ave. #203, Longmont, CO 80501. For more information, call (303) 776-2337.

OVERSEAS SALES

The National Honey Board will take part in several upcoming trade shows in the Middle East: the International Autumn Trade Fair, Nov. 24 - 30, 1992; the Gulf Food and Equipment Exhibition, Jan. 10 - 24, 1993; and the Saudi Food Show, Jan 17 - 21, 1993.

"The Middle East is the largest and most promising market for U.S. bottled honey", said Diego Garcia, export director for the National Honey Board. "These shows present U.S. honey exporters with an ideal opportunity to reach the Middle East food trade."

The National Honey Board has arranged for exhibit space at these trade shows to promote U.S. honey. The Honey Board invites honey companies to display their honey products and promotional materials in the Honey Board's booth. The display space is provided at no cost. Companies will be responsible for shipping costs to Jeddah, Saudi Arabia.

If you are interested in participating in any of these shows, you will need to make shipping arrangements at least 45 days before the show. The Honey Board can assist in travel arrangements.

Join the Honey Board to sweeten the Middle East market! For further information, please contact Diego Garcia at the Honey Board office (303) 776-2337.

VARROA IN CANADA

Manitoba has joined Ontario in switching to fluvinate-impregnated plastic strips in their varroa mite monitoring program.

When monitoring began this year, Manitoba inspection teams were sampling by using high nicotine smoke in colonies and catching mites on sticky boards placed at the bottom of the hive.

The fluvinate-impregnated plastic strips – although more time-consuming and expensive – have shown to be a very sensitive means of detecting varroa at even very low levels.

Varroa was detected earlier this year in three beekeeping locations close to where the mite was first discovered in 1991. Further surveys in the area found a fourth beekeeper with varroa in his colonies.

Tobacco Smoke

	# of beekeepers (# pos. in bracket)	Total # of col. tests	# of sites tested (# pos. in brackets)
Agriculture Canada	7(1)	249	12(1)
Manitoba Agriculture	23(1)	449	27(2)
Total	30(2)	698	39(3)

Fluvinate

Agriculture Canada	3(2)	565	25(10)
Manitoba Agriculture	12(2)	445	40(6)
Total	15(4)	1010	65(16)

The most recent Manitoba Beekeepers Association report showed 44 beekeepers had been sampled, representing 31,000 colonies. Some 762 bee samples were analyzed and 14 beekeeping operations were found to have HBTM – nine for the first time.

The MBA reports that in general, infestation levels in the affected beekeeping operations remain relatively low level – in the one to four percent range. But in four operations, infestations ranged between 14 and 23 percent.

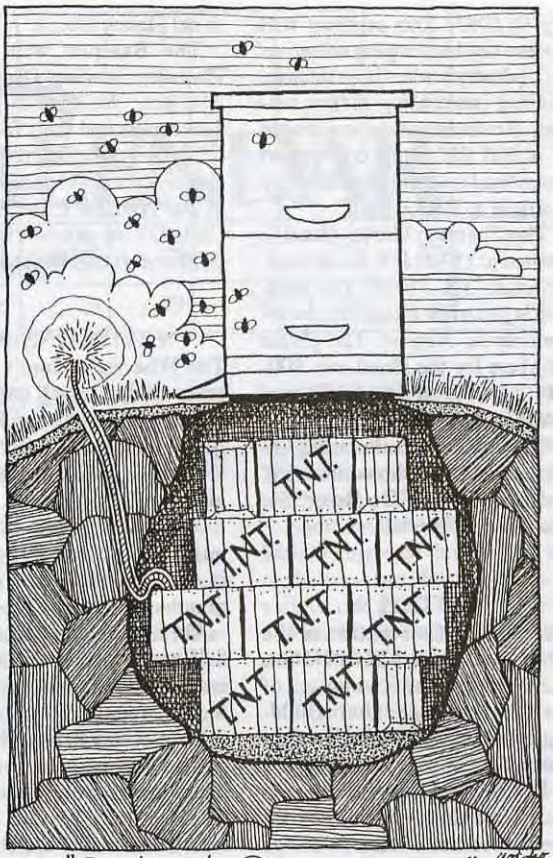
HONEY GIVEN AWAY

Distribution of honey forfeited to C.C.C. July 1, 1991 through June 30, 1992 – SCH/CACF October 1, 1992 through Sept. 30, 1992

OUTLET	TOTAL POUNDS
School Lunch Programs	37,500
Child Care Food Programs	750
Needy Families	1,677,672
Commodity Supplemental Food Programs	1,171,944
Non-Profit Charitable Institutions	45,900
TOTAL	**2,270,766**

AG EMPLOYERS & TAXES

Nearly half of all U.S. farms use hired labor. Agricultural employers need to understand Federal laws and regulations governing employment, taxes, wages, and working conditions. USDA's Economic Research Service has produced a single-source publication that summarizes these laws and regulations. "A Summary of Federal Laws and Regulations Affecting Agricultural Employers, 1992" is available for $8.00 a copy. Order by phone toll free by dialing 1-800-999-6779 and asking for the publication by its title.



"Radical Requeening"

Display Index

Small Pleasures, Dumb Work

HOWARD SCOTT

I am scraping out the silky white nests of wax moths, shaving off the matted twirls of cigar-shaped cocoons, squishing the escaping worms, gutting clean the flaky wax, chipping off clumps of wax buildup, frame by frame. Despite being repulsed by the pile of maggoty debris, I continue, because I know I goofed. A hive died and I let it stay out all summer, and the wax moths attacked it, and the only way I'll be able to have a beehive next summer is to clean it up. As I'm doing some of the dumbest work in the world, I look up to realize: an hour has passed, and I've been enjoying myself. This reminds me of the *New Yorker* cartoon, where this old fogy sitting in his easy chair perks up and says, "What is this, a whiff of contentment I feel?"

Not that this should surprise me. I remember when I had to put together twenty frames, thinking what an awful nuisance this would be. All that hammering tiny nails into each corner, inserting wax sheets through top slits, tacking on bottom caps, and pressing clothes-pin guides into the sides are such mechanical, non-thinking, and repetitive tasks. The only thing is, I enjoyed the rhythm, the pace, and the flow of the work.

What's the big deal? Here is a man who is intellectually-bent (a reader of serious literature in his leisure time; a freelance writer during his work time), an avoider of grunt work (never do something yourself that you can pay someone else to do), sitting there amid the cobwebby filth and muck, having fun. Having fun!

What gives? It gets me wondering? Is it because I do these things so infrequently that they become pleasurable? Is it because I keep bees as a hobby, and anything associated with the activity is rewarding? Is it because I'm so bored with the rest of my life that everything – even this miserable chore – seems positively exciting?

I think the truth lies beyond these explanations. First, there is a soothing peacefulness in doing repetitive work. Farmers must be similarly stirred plowing their fields, moving up and down, feeling the tractor beneath them chewing up the ground, seeing row after row of fresh earth. Hacking away with the thin, flat hive tool, satisfies. Feeling the instrument cut and grab and shave gives the motion some bite. The job involves some precision, some strength, but it's not hard. The work is straight-forward. There's a start and a finish. Stacking one frame against another is a sign of progress.

Then there's the pleasure of seeing something renewed. Take a wasted frame, cut out the moth mess, shave off the gunk, chip away the wax deposits, and you get a clean, new looking unit (sans comb, sometimes), looking fresh, almost shiny. Sure, one part of you says, "It's only a frame, something you could have replaced for a few bucks," but there is something rewarding about recovering an old frame, making it usable again.

Plus, you are doing useful work. Useful to who, someone, perhaps a vice president of a debt-laden, image-conscience corporation, might ask? Well, useful to me as a beekeeper and certainly life-supporting to the thousands of bees who will busy themselves around its cells. Just think, next spring, bees will be working furiously extending this comb, producing and caring for their young, and processing honey, continuing the great cycle of life. I will inspect the frames, check that the queen is laying eggs, observe the activity, and then return to the house and tell my wife that the hive is doing fine. That's usefulness.

Last, there's the satisfaction of working in a perfect world. A world so ordered, so routinized, that your efforts will achieve precisely desired results. It's not that things can't go wrong – witness the havoc of the wax moths – but there's a simplicity and internal logic. The frames and hive (bee space, hexagon cells, honey cappings, etc.) seem so perfected, even though partially man-made. Participating in such a universe (even if only as a maintainer) is so much more comforting than the world we inhabit. Just read the morning newspaper.

Small pleasures. That's one thing we beekeepers learn. And it's perhaps why we can have fun doing the dumbest things.

BOTTOM·BOARD