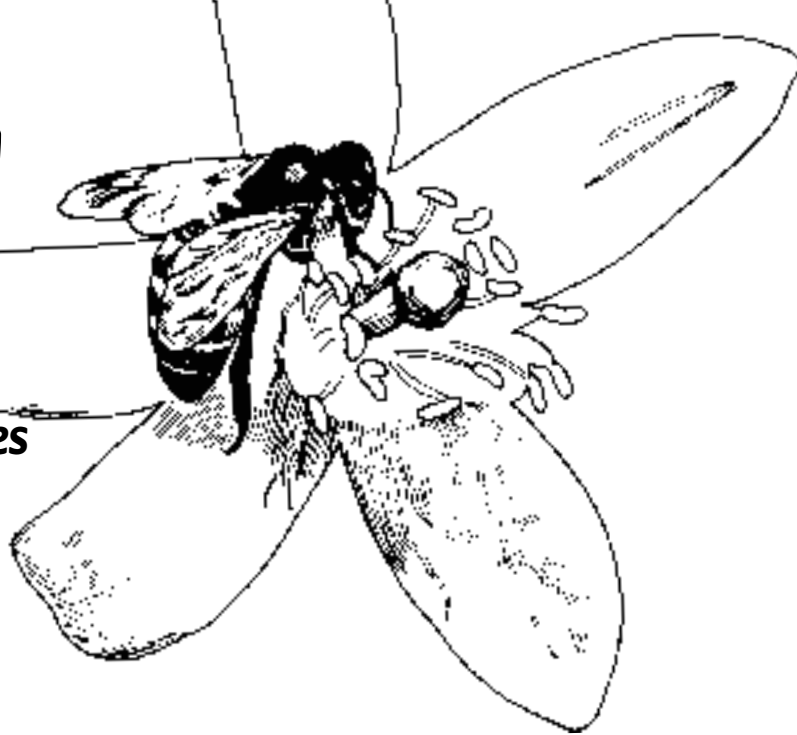


# APIS



## Apicultural Information and Issues

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## Small Hive Beetle Control Coumaphos Label to Expire

THE BIGGEST NEWS about small hive beetle at the recent meeting of the Honey Bee Technical Council is the concern that Florida's Section 18 label for coumaphos expires January 6, 2000<sup>1</sup>. The Florida Department of Agriculture and Consumer Services will soon be reviewing a proposal to renew this label. Neither passing this review and/or subsequently being approved by the Environmental Protection Agency is assured at this time. If the use expires, Florida beekeepers will be without their chief weapon for small hive beetle and Varroa mites resistant to fluvalinate (Apistan®). All beekeepers should keep abreast of these details and be ready to contact their legislative representatives on this important issue should it become necessary.

The good news is that small hive beetle appears to be controlled by most Florida beekeepers using both coumaphos in the hive and ground drench (Gardstar®). Mr. Laurence Cutts, Florida's chief apiarist has been able to document few colonies lost this year strictly because of the beetle. Many beekeepers have reported that their bees have been in exceptional condition after using these products in tandem. The small hive beetle is mostly a problem around the honey house and with smaller beekeepers who don't keep up with their colonies, delay honey extraction, or have an unsanitary honey house<sup>2</sup>.

Coumaphos cannot be counted on to control beetle populations in cold weather, according to Mr. Cutts. Thus, treating for these insects must be done when it is quite hot. Reports that it is expensive to use the ground drench appear to be groundless. At the recommended rate, the cost for applying Gardstar® with a two-foot radius is estimated to be only about \$.20 per colony. In South Africa, combs that cannot be quickly extracted are placed in cold rooms (about 40 degrees F), which arrests beetle larval activity. This is not practical for many Florida beekeepers. Thus an application to use methyl bromide as a fumigant in the honey house against small hive beetle by the Florida State Beekeeper's Association is also in the works. If approved, it would require a restricted-use pesticide license, the reason for training to be conducted at this year's Florida State Beekeepers Convention in Haines City<sup>3</sup>. ■

<sup>1</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis99/apjan99.htm#1>

<sup>2</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis99/apjun99.htm#1>

<sup>3</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis99/apsep99.htm#5>

# American Foulbrood on the Rise

MR. CUTTS also reported an observed increase in American foulbrood in the Sunshine State's beekeeping operations. Bee inspection in most states is the first line of defense against American foulbrood. In Florida, colonies exhibiting symptoms are automatically burned by the inspection service, and a small sum is indemnified to the owner for each one destroyed. The inspection service is justly proud of its recent record in keeping American foulbrood incidence well under 1 percent. Thus, any increase is disturbing.

Mr. Cutts suggested several possible explanations. One is that many beekeepers might have become complacent about treating for this disease in the face of other

management challenges posed by Varroa and small hive beetle<sup>4</sup>. Another is appearance of Terramycin®-resistant *Paenibacillus larvae* (formerly known as *Bacillus larvae*), the bacterium that causes the disease. This phenomenon was recently reported at the Sixth Ibero-Latin American Apicultural Congress held in Mérida, México in August 1998. According to H. Shimanuki and D. Knox of the Beltsville Bee Laboratory<sup>5</sup>, this was first detected in Argentina in 1989 and in the United States in 1996. They reported that in almost all cases in the United States, the problem disappeared when beekeepers switched from using Terramycin® extender patties to the traditional dust<sup>6</sup>. They concluded that it was likely the problem arose from incorrectly formulating antibiotic extender patties<sup>7</sup>.

Subsequent comments from Dr. Shimanuki on the above issues are that in more and more cases, switching to dust is less effective, and there is not yet enough information to conclusively prove the role

of extender patties in developing resistance. Mistaken or purposeful misuse of the antibiotic may be what caused the outbreak in Argentina<sup>8</sup>. That country could also be the source of resistance now found in the United States, according to Mr. Cutts, given that a healthy import market for Argentinian honey exists and the good-quality barrels it comes shipped in are being reused, generally to store corn syrup for bee feed. **This practice is extremely risky.** If barrels from Argentina are not adequately washed prior to being refilled, residual honey in them could contaminate the syrup with resistant spores.

Mr. Cutts reported that Terramycin®-resistant *Paenibacillus larvae* has now been found in some Florida operations. In response to this, the Florida Department of Agriculture and Consumer Services has trained a technician to detect resistance. Beekeepers who suspect that treatments are not working should contact their local bee inspector to take a sample for further analysis<sup>9</sup>. ■

## Economic Adulteration Survey

DR. GARY FAIRCHILD of the Food and Resource Economics Department at the University of Florida has completed a study on honey economic adulteration funded by the National Honey Board. The information is based on a survey of honey packers and interviews with other segments of the industry. The time period queried for was three years (1996-98). There was an 86 percent response rate to the survey, representing volumes of honey purchased in 1996, 1997 and 1998 of 164, 162 and 184 million pounds respectively. The United States honey crop is estimated to be 220 million pounds per year, but consumption is higher. Fifty-eight percent of respondents (88 percent of volume) routinely test for economic adulteration, principally using SCIRA<sup>10</sup>. All of those testing did it for other reasons in addition to economic adulteration; 71 percent used the same test criteria for both domestic and imported product. Cost of testing averaged 0.1123 cents per pound, with a range of 0.047 to 0.177. The cost per sample ranged from \$40 to \$50, and cost as a percentage of purchase price was 0.057 to 0.222 percent.

The principal adulterant in all cases was corn syrup. Average detected levels ranged from 7 to 23 percent (1996), 7.3 to 43 percent (1997), and 5.7 to 25 percent (1998).

Sources of adulterated product were China, Argentina, México (1996) and Argentina and China (1997). Honey from Argentina<sup>11</sup> and China revealed 70 and 25 percent adulterated product respectively in 1998. The domestic product was reported to be 5 percent adulterated that year.

ONLY 25 percent of respondents were satisfied with their ability to detect adulterants, part of the reason many don't test. Eighty-five percent of those testing were not satisfied. Reasons given include the need to detect more than corn syrup and lower levels of adulteration. Cheaper, more accurate, appropriate, and simple tests, therefore, are required if voluntary detection efforts are to increase.

Over half of respondents believed economic adulteration created unfair competition. There were reports of unscrupulous dealings from all industry segments (producer, packer, importer). Honey buyers are becoming much more particular in their purchasing, relying more on reputation and importance of relationships. In the final analysis, most agreed adulteration hurt not only competitiveness, but the industry in general. They suggested the following measures to help control economic adulteration: more and better testing measures,

“

Ensuring quality is the only viable option for a high-value, image-oriented product like honey.

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standardized protocols (domestic and international), random testing, and public and buyer education.

Seventy-five percent of those responding said economic adulteration was a very important issue because it damages the product's image, expands the supply and decreases the price. Firms not affected believe the problem resides elsewhere. Observations by those contacted ranged widely as to how important the issue was to the industry. Seventeen percent of respondents indicated economic adulteration was somewhat important, and 8 percent said they didn't know. Most agreed confusion resulted from lack of adequate tests

and protocols. Others indicated the problem had diminished in recent years; respondents in fact reported adulterated honey as a total of volume purchased was decreasing. It was 2.6 percent in 1996, 1.3% in 1997, but only 0.8% in 1998. This could result from generally declining prices, which reduce the economic incentive to adulterate, and/or adulterating honey below detectable levels.

Dr. Fairchild has estimated how honey price affects quantity; or has what economists call "elasticity." Thus, at the retail level a 1 percent price increase results in a 0.26 percent reduction in sales volume; at the producer level the volume reduction is 0.2 percent. Price flexibility also exists; a 1 percent increase in supply results in a price reduction of 3.9 percent at the retail level and a whopping 5.1 percent decrease at the producer level.

According to Dr. Fairchild, income elasticity also affects sales; a 1 percent income increase results in a 2.5 percent increase in purchases. Honey is basically a luxury good, and sales correlate with income. The importance of quality and image, therefore, cannot be overemphasized, nor can implications of negative publicity. Tastes and preferences for honey, according to Dr. Fairchild, are increasing, but at a decreasing rate, emphasizing the need for increased promotional efforts. Consumption is also highly seasonal; December sales are traditionally highest. For an earlier analysis of honey marketing see the study by Shehata<sup>12</sup>.

The effect of adulterated product in the marketplace is significant, Dr. Fairchild says, as the resulting increase in supply affects all levels of the industry. Thus, a 1 percent increase in quantity or supply (adulterated or not) results in a producer price decrease of 5.07 percent and a retail decrease of 3.88 percent. Just a 5 percent quantity increase results in a 25.35 percent lower price for the producer and a 19.40 percent reduction for the retailer. A 10 percent increase in quantity will result in over a 50 percent price decrease at the producer level and 38.80 percent at retail.

Florida orange juice is another product in the same league with honey, Dr. Fairchild says. Both compare favorably, having a healthy, natural, and pure image. The Florida Citrus Commission<sup>13</sup>, however, has a 50-year head start over the honey industry (National Honey Board<sup>14</sup>) in promotional efforts. The Commission's annual budget is \$75-\$80 million, and so citrus

has more than 20 times more resources annually to influence consumers. Both products are economic-adulteration targets and can learn from each other's efforts in this area.

**E**NSURING QUALITY, Dr. Fairchild concludes, is the only viable option for a high-value, image-oriented product like honey. This has been seen in other industries. For example, businesses that have achieved quality assurance certification through ISO-9000<sup>15</sup>, have shown an increase in profitability (48 percent), operational efficiency (89 percent), marketing opportunities (76 percent) and export sales (26 percent). However, these gains have not been accomplished without effort and investment. Thus, the honey industry must be proactive in ensuring quality, by taking the offense rather than reacting on defense, continually preparing for potential crises (from increased economic adulteration to contamination), and realizing that this is a long-term, never-ending effort.

Dr. Fairchild's personal note, coming from long experience with the orange juice and now honey trade, is an eloquent testimony to his conclusions:

"Where financial incentives can be found, economic adulteration will surely abound,

For the enchanting siren-call of money, is bound to yield some funny honey.

So, will you merely carp and scorn those who stoop to substitute corn?

Or will you rise and take a stand to support a quality assurance plan?

The choice is simple, it's up to you. No one can tell you what to do.

But to simply shrug and sigh, is to kiss your future good bye." ■

## Consolidation, Diversification and Research: New Publications

THE OCTOBER 1999 issue of *FloridAgriculture*, voice of the Florida Farm Bureau, discusses how hogs are going the way of chicken and beef<sup>16</sup>. Consolidation with a vertically integrated organization appears to be the only way hog farmers can stay afloat. The same could be true of citrus farmers in Florida, who are under pressure to become larger and more efficient. All this runs counter to the emotional appeal of the family farm, according to Pat Cockrell, director of the Agricultural Policy Division, as partnerships and alliances are being formed and deals arranged. It lends credence to the idea that farming as a way of life continues to be threatened by the realities of the modern marketplace<sup>17</sup>.

The sustainable Agriculture Network of the National Agricultural Library in Beltsville has published some resources to help those interested in maintaining a viable farming enterprise. A 235-page legal guide for direct farm marketers will help answer pressing legal questions. It costs \$20. To order call Drake University Agricultural Law Center, ph 515-271-2974. Another resource is *Put Your Ideas to the Test: How to Conduct Research on Your Farm*<sup>18</sup>, available free by calling 301-504-6422 or by e-mail: aadeyemi@nal.usda.gov. ■

<sup>4</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis96/apmay96.htm#2>

<sup>5</sup> <http://www.barc.usda.gov/psi/brl/brl-page.html>

<sup>6</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis98/apnov98.htm#2>

<sup>7</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis97/apsep97.htm#3>

<sup>8</sup> <http://www.ifas.ufl.edu/~mts/apishtm/papers/FIFTH.HTM#5>

<sup>9</sup> <http://doacs.state.fl.us/~pi/bees.html>

<sup>10</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis98/apsep98.htm#5>

<sup>11</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis98/apsep98.htm#4>

<sup>12</sup> [http://edis.ifas.ufl.edu/scripts/htmlgen.exe?DOCUMENT\\_AA243](http://edis.ifas.ufl.edu/scripts/htmlgen.exe?DOCUMENT_AA243)

<sup>13</sup> <http://www.floridajuice.com/floridacitrus/intro.html>

<sup>14</sup> <http://bee.airoot.com/beeculture/digital/1999/column10.htm>

<sup>15</sup> [http://fox.nstn.ca/~cottier/overview/ISO\\_9000/iso.html](http://fox.nstn.ca/~cottier/overview/ISO_9000/iso.html)

<sup>16</sup> <http://www.fb.com/flfb/flag/octview.html>

<sup>17</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis99/apapr99.htm#2>

<sup>18</sup> <http://www.sare.org/san/onfarm99/index.htm>

# 1999 Pacific Northwest Honey Bee Pollination Survey

THIS IS THE 13TH YEAR Oregon State University has reviewed commercial pollination activities in the Pacific Northwest (PNW). It is also the sixth year for analysis of combined data from both Washington and Oregon. According to the author, Dr. Michael Burgett, several trends are apparent as reported in *The Speedy Bee*, Vol. 28, No. 6, pp. 9-10, June, 1999. For 1998, the average commercial beekeeper received nearly 65 percent of annual operating gross income from pollination, down from the record high figure of 72 percent in 1995. For the previous five years, the average size of an individual operation had increased, but stopped in 1998. The average operation reported 1,153 colonies being managed for pollination, a 23 percent decrease from that reported in 1997<sup>19</sup>.

As in past years, surveys were sent to all Washington and Oregon beekeepers that registered more than 25 hives with their departments of agriculture. A total of 16 commercial and 12 semi-commercial beekeepers returned surveys. The results for these groups show the following:

## **Sixteen commercial beekeepers:**

Average colony placed in 2.8 pollination sets with an average rental fee of \$29.65, resulting in a per hive income of \$83.

Average operation maintained 1,153 colonies and grossed \$95,700 in pollination income.

## **Twelve semi-commercial beekeepers:**

Average colony placed in 0.94 pol-

lination sets with an average rental fee of \$32.85, resulting in a per hive income of \$30.90.

Average operation maintained 115 colonies and grossed \$3,550 in pollination income.

**U**NFORTUNATELY, the figures show the average 1998 pollination fee for commercial beekeepers to have dropped from the 1997 level of \$31.05, a second straight year of decline. This is a reversal of the trend showing fees rising from \$16.05 in 1994 to a high of \$31.55 in 1996. This phenomenon is troubling, especially when these numbers are compared with a calculated average of \$114.85 to maintain a colony in the region for a year. Thus, in order to break even, commercial operators would need almost four pollination sets.

The combined colony numbers of those commercial beekeepers who responded to the survey represented about one-third of commercial hives in Oregon and Washington. Calculations by Dr. Burgett indicate that when the pollination income of these colonies (\$3.08 million) is multiplied by three, the resulting number (\$9.26 million) is still less than 1.5 percent of value of PNW crops requiring and benefiting from managed pollination. Major crops and income from pollination fees in the PNW in 1998 are pears (\$299,822), cherries (\$233,700), apples (\$607,801), and vegetable seed (\$211,211).

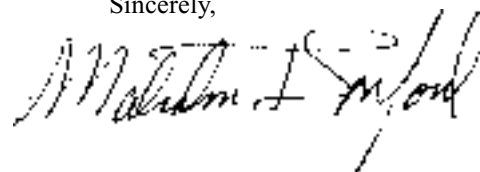
As in 1997, Dr. Burgett concludes that

pressures from escalating costs and parasitic mites continue to create a condition such that every living colony of bees now possesses a greater potential economic value than in the past. Many of the same conditions prevail in other parts of the country. Thus, it continues to make sense that beekeepers everywhere carefully explore how the pollination enterprise can help them keep their industry relevant and strong into the next century. For a list of resources, see the July 1995 *APIS*<sup>20</sup>. As a service to the industry, *Bee Culture* has put the full text of the pollinator's bible, *Agriculture Handbook 496, Insect Pollination of Cultivated Crop Plants* on the World Wide Web<sup>21</sup>.

## **Unique Christmas Gift**

THOSE wracking their brains about how to purchase a Christmas gift for the person who has everything might consider one offered by Heifer Project International. Why not give a honey bee colony in the person's name to a deserving family? For \$30, a colony of bees, along with assistance on how to care for the insects, is delivered to a needy family. A card describing how the gift will bring joy to the hungry during the yuletide season is mailed to the recipient. To order, call 800-422-9755, or do it online<sup>22</sup>.

Sincerely,



<sup>19</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis98/apjun98.htm#6>

<sup>20</sup> <http://www.ifas.ufl.edu/~mts/apishtm/apis98/apjun98.htm#6>

<sup>21</sup> <http://www.airoot.com/beeculture/book/index.html>

<sup>22</sup> <http://catalog.heifer.org/bees.cfm>

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