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New Disease Booklet

USDA ARS researchers Hachiro Shimanuki and David Knox recently completed work on a new, 57 page booklet titled "Diagnosis of Honey Bee Diseases." The new booklet

is very extensive, compared to its predecessor. Topics covered include American and European foulbroods, powdery scale, septicemia, spiroplasmosis, chalkbrood, stonebrood, Nosema and Amoeba diseases, other protozoans, sacbrood, chronic bee paralysis, filamentous virus, acute paralysis and Kashmir bee viruses, disease interactions; Varroa, Acarapis, and Tropilaelaps mites, wax moths, small hive beetles, bee louse, neglected brood, overheating, genetic disorders, plant poisoning and pesticide poisoning. The text does not include any information on controlling these problems. It is designed simply for determining what the problem is. The text includes three tables and twenty figures of disease organisms and

pests. For those desiring more in-depth details, there are 68 scientific references at the end.

While supplies last, free copies of Agriculture Handbook Number 690 are available from the Bee Research Laboratory, Building 476, BARC-East, Beltsville, MD 20705. Copies of the booklet also may be purchased for \$27 plus \$5 shipping and handling (per order) from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, telephone: (703) 605-6000. They will take credit card orders.

Fire Ant Publication

Anonymous USDA APHIS authors recently completed a publication titled, "Beekeepers: Don't Transport Imported Fire Ants." This is a nine page, full color, 8.5X11" pamphlet describing the distribution of the pest and how not to increase its distribution through beekeeping activities.

The publication includes a multi-color map of southern U.S. states showing year-by-year expansion of the infested area (including a county in New Mexico and California). Figures 2 and 3 show ant mounds up against beehives. The text states that, "Worker ants from imported fire ant colonies can invade beehives and feed on developing bee larvae and pupae, occasionally destroying weakened colonies."

Among the tips to "Avoid Transporting Ants" is: "Use high-pressure hoses to wash away fire ant nests from bottom boards, wooden pallets, and similar shipping materials. Do this prior to loading the beehives onto trucks for transport to non-infested areas." The publication also lists up-to-date telephone contact for all the offices of the state apiarists.

To receive as many copies of Program Aid No. 1670 as you desire, FAX your request (be sure to include the number of copies and your full mailing address) to: (301) 734-8455, which is the APHIS Publication Distribution Center.

Strawberry Pollination

We don't often look at state or provincial beekeeping association publications for scientific papers, but there is one in the Spring 2000 issue of "Manitoba Beekeeper," published by the Manitoba Beekeepers' Association. Keith Todd and Rheel Lafreniere, of Manitoba Agriculture, devised experiments to determine the effect of insect pollination on a strawberry variety that was capable of self-pollination.

Some plants were caged with screen meshes that blocked all pollinators or that let pollinators smaller than honey bees inside. Pollen traps were used to determine what plants were being visited for pollen and berries in the cages were compared to those just outside the cages. Fruits were separated into two groups: marketable (good size, no defects) or unmarketable (too small or over ripe, monkey face, animal damage, rot or anthracnose).

Flies and bees visited the flowers, but the flies only touched some flowers, briefly. Although the bees appeared to be moving pollen on the flowers better, no strawberry pollen pellets were collected in the pollen traps. During late May and early June, varied mixes of pollens were being collected. Then brassica pollen, probably canola, became predominant.

Quality of berries increased from no pollinators, to some small pollinators, to open pollination. In the open pollinated plots, 27 to 29% of berries showed some monkey-face. That increased to 40% in partially excluded cages and 59% in totally excluded cages. Many strawberry researchers still adamantly deny that monkey-faced berries have anything to do with pollination.

Honey Quality

To most beekeepers in the U.S., the only flaw that their honey may have is an unacceptable, poor flavor. Otherwise, honey is honey. However, the rest of the world is much more suspicious of what they are getting in that jar, tin, or

barrel. Decades ago the Codex Alimentarius was developed to describe acceptable parameters of components found in foods. It includes a "Standard for Honey" that is being reviewed. The European Union (EU) also has developed standards for honey, and those are facing revision. So an International Honey Commission was formed in 1990 to harmonize the standards.

Just as an idea of some of the criteria being discussed, we find moisture content (must be 21% or less); reducing sugar (65% or more, except honeydew which can be lower); sucrose (less than 5% with a few exceptions); diastase activity (8 or greater on Schade scale); HMF (less than 60 or 40 ppm, depending on which standard); proposed electrical conductivity (below 0.8 millisiemens/cm for honey; above for honeydew); and invertase activity, proline content and specific rotation are being considered.

For more detail, read the article by Stepfan Bogdanova (Honey quality and international standards: review by the International Honey Commission) in Bee World 80(2): 61-69 (1999).

Web Marketing

This is a relatively new way to conduct business, so Bee Ware. However, I have been getting e-mails about web sites for selling honey. Here are a couple you might wish to pursue, but remember not to give out any personal information until you are real sure of the integrity of the people at the other end.

Local Honey for Sale - operated by Terence Golla, it could put your honey right at your neighbors' fingertips (for a price? it says, "FREE"). Try <http://LocalHoneyForSale.com>.

Local Harvest - operated by Michael Straus of Beyond Organic - Public Relations & Marketing for Progressive Agriculture, 22890 Highway 1, Marshall, CA 94940 [(415) 663-8343] or FAX [(415)663-8346]. This site ("not for profit," but is it free?) "helps consumers and travelers find fresh, locally-grown foods in neighborhoods throughout the US, via Farmers' Markets, CSAs, U-Picks and more." If this doesn't cost much, what do you have to lose advertising the availability of your honey to the world? The site is: <http://www.LocalHarvest.org> or you can e-mail: info@beyondorganic.com.

Loosening the Restrictions

There has been a trend at the federal and state levels to relax, a little, the tight restrictions on what can be used for health and pest control purposes. Although no claims are allowed to be made for medicinal effects of many folk remedies, they are flooding the market with little doubt as to what they are supposed to do for you. There is little to no control over what is in the bottle, but the government only will become involved only if some sort of health problem develops.

With pesticides there have been a few chemicals that were designated "Generally Regarded as Safe" (GRAS) and could be used

without a pesticide registration. Recently changes were made to Title 3, Division 6, Chapter 2, Article 1 of the CA Code of Regulations making certain substances exempt from registration, as long as EPA doesn't change its mind. The exemptions include a number of things of little importance to bees but others pertain to our interests. Those exempt are: pheromones, pest baits that contain no active ingredients, and repellents, except those labeled to repel ticks. The following listed products: castor oil, cedar oil¹, cinnamon, (Continued on page 5)

CALIFORNIA STATE BEEKEEPERS' ASSOCIATION
112th Annual Convention
The Pines Resort
Bass Lake, CA (800) 350-7463
November 13-17, 2000

Monday, November 13

3:00 pm Board of Directors' Meeting

Tuesday, November 14

8:00 am Registration and Commercial Exhibits Open
9:00 Opening Ceremonies and Committee Reports
10:00 Exhibitor's Break
10:20 Continuation of Committee Reports
11:00 Representative from Madera County Ag Commissioner's office
11:15 "Results of CSBA Funded Research" - **Eric Mussen**, UC Davis
12:00 pm **Research Luncheon** - "Pesticides and Bees" - **Dan Mayer**, Washington State University
2:00 Poured Beeswax Candle Making Workshop - Liz Vaenoski, Clinton, WI
2:00 "Confirm, Insect Growth Regulators, and Bees" - **Nick Higgins**, Rohm and Haas Co.
2:30 "Furadan and Bees" - **FMC Corporation Representative**
2:45 "Warrior and Bees" - **Louis Hearn**, Zeneca Ag Products Representative
3:00 "Success and Bees" - **Mike Lees**, Dow AgroSciences
3:15 Exhibitor's Break
3:30 Pest Control Advisors' Panel - **Vern Crawford** and others
4:00 "Modernized Language in Apiary Protection Act" - **Roy Rutz**, CA Department of Food and Ag

Wednesday, November 15

8:00 am Registration Continues, Exhibits Open
8:00 "Varroa Control Using Various Smoker Fuels" - **Frank Eischen**, USDA ARS, Weslaco, TX
8:30 "National Honey Board" - **Gene Brandi**
9:00 "Marketing of Our Industry" - **Bill Rice**
9:45 "Report from the Almond Board" - Representative, Almond Board of California
10:15 Exhibitor's Break
10:35 "Honey Market Discussion" - **Pat Heitkam** (ABF) and **Richard Adee** (AHPA)
11:05 TBA
11:45 Early Lunch

Leave for **Yosemite Tour** (or Free afternoon and evening)

Thursday, November 16

6:45 am **Fishing Derby** (Free) - Pines Resort Shoreline
7:00 Sioux Bee Members' Business Meeting
8:00 Registration Continues, Exhibits Open
9:00 Information from Agricultural Crimes Unit - **Detective Deavers**
9:30 "Toxic Indigenous Plants of California" - **Joanna Clines**, CA Department of Forestry
10:00 "Red Imported Fire Ants" - **Ray Bingham**, CA Department of Food and Agriculture
10:30 Exhibitor's Break
10:45 "Tracheal Mite Control" - **Mike Burgett**, Oregon State University, Corvallis, OR
11:20 "Bear Problems" - **Bob Stafford** and/or **Dana Finney** - CA Department of Fish and Game
12:00 pm **Lunch**
1:30 CSBA Annual Business Meeting
3:30 Auction
6:45 Social Hour
7:30 Annual Awards Banquet

Friday, November 17

8:00 am Board of Directors (Breakfast Meeting)

cinnamon oil¹, citric acid¹
citronella (non-topical uses
only), citronella oil (non-
topical uses only), cloves¹,
cloves oil^{1, 2}, corn gluten meal,
corn oil, cottonseed oil, dried
blood, eugenol^{1, 2}, garlic, garlic
oil¹, geraniol², geranium oil²,
lauryl sulfate¹, lemongrass oil¹,
linseed oil, malic acid¹, mint,
mint oil¹, peppermint², peppermint
oil^{1, 2}, 2-phenethyl propionate (2-
phenylethyl propionate)¹,
potassium sorbate oil¹, putrescent
whole eggs solids, rosemary²,
rosemary oil^{1, 2}, sesame, sesame
oil, sodium chloride, sodium
lauryl sulfate^{1, 2}, soybean oil,
thyme², thyme oil^{1, 2}, white
pepper¹, and zinc metal strips

¹Products containing 8.5% or more
of this active ingredient in the
formulated product must at a
minimum bear the signal word
"CAUTION," the phrase "Keep Out
of Reach of Children,"
appropriate precautionary
language, and a requirement for
appropriate protective eyewear
and gloves

²Products containing this active
ingredient intended for topical
application to human skin must at
a minimum bear the signal word
"CAUTION," the phrase "Keep Out
of Reach of Children," a dermal
sensitization precautionary
statement, a prohibition against
application to the hands of
children, and use directions
requiring adult supervision
during application to children.

Products marketed without
registration must: 1. be labeled
with the name and amounts of
active ingredients; 2. cannot
claim to mitigate arthropod
vector-borne disease problems for

humans, and 3. cannot include any
false or misleading labeling!

Companies currently marketing
these products can request
voluntary cancellation of CA
pesticide product registrations.

CA Organic Farming

The following article is the
text of a presentation delivered
in Basel, Switzerland, two months
ago by Dr. Desmond Jolly,
Director of the U.C. Small Farm
Center. Bee-
keeping is not the only industry
to feel the effects of
"globalization" and "economy of
size."

From Cottage Industry to Conglomerates: The Transformation of the U.S. Organic Foods Industry

Organic agriculture developed
during the 1960s and 1970s as
part of the counter-cultural
response
to the conformist, bland, middle-
American culture of the 1950s.
In its early incarnations, it was
essentially a cottage industry
comprised of very small-scale
operations. It took some time
for the values of organic
production to penetrate
mainstream consumers, but a
recent marketing survey revealed
that about a third of U.S. food
consumers purchase organics with
varying degrees of frequency.

Organic products now represent
a \$3.5 billion market, growing at
a rate of 15-20 percent per year.
Clearly, this represents an
important economic opportunity
that has begun to attract
attention from serious business
interests that will eventually
"mainstream" organic foods while
possibly marginalizing the small-

scale farmers that nurtured the industry in its infancy and growth. California's organic industry is the most developed among the U.S. states and territories, and the evolution of the structure of farm production is likely predictive of the pattern that will evolve in the U.S. as a whole.

Structural Trends and Prospects

A survey of California organic growers covering 1992-1995 concluded that "...registered organic agriculture was highly concentrated. Two percent of all registered farms, those who grossed over \$500,000 annually, captured over half of the state's total sales. Less than 3 percent of all growers, who grossed between \$250,000 and \$500,000 annually, gained another one-sixth of total revenue. At the low end of the scale, two-thirds of all farms, which grossed under \$10,000 per year, realized less than 5 percent of all sales in the state." Statistical Review of California's Organic Industry, 1992-1995, University of California Agricultural Issues Center, (1998).

Table 1 (on page 7) shows the number and percentage of California farms that were certified and registered between 1992 and 1995.

From Table 1, we observe that as the size of the operation increases, the probability that the operation will be certified and registered as organic increases, and there is a high and direct correlation between size of operation the probability of being certified. If certification becomes a

significant marketing element, which it is almost certain to become, then the smallest producers may become increasingly marginalized.

The paradox in the growth and penetration of organics into America's consumption mainstream is that small-scale producers were among its most articulate advocates and supported a national organic standard. But the costs of certification, along with the transaction costs that marketers seek to minimize, means that small-scale producers will not be meaningful players in the organic industry as such.

As mainstreaming continues, the role of health food stores is decreasing and natural food supermarkets are developing, mimicking conventional supermarkets in all but their product lines. Two major supermarket chains have evolved, both listed on the stock exchange. A report in the January 1997 issue of Natural Foods Merchandiser magazine is indicative of trends in retail and wholesale marketing. According to the article by Matthew Patsky, "Consolidations, mergers, acquisitions and public offerings were common themes among businesses making up what we call the Healthy Living category. On average, these companies comprised of publicly traded companies in the natural products industry, posted almost 50 percent gains in 1997."

"The largest industry players, including Pittsburgh's General Nutrition; Austin, Texas-based

Whole Foods Market; and Wild Oats Markets in Boulder, Colorado; all saw their stock prices more than double during the year. The total equity value of publicly traded industry players (market capitalization) surpassed \$10 billion for the first time. As a result, industrial money managers met this milestone by including these

stocks in the portfolios at most major mutual funds houses. Not surprisingly, some of the best performing funds for 1997 held large positions in this sector."

Patsky's article describes one acquisition by Whole Foods, which acquired Amrion for \$160 million.

Table 1. Percentage of California Farms Certified and Registered between 1992 and 1995.

Sales Class	Registered Organic		Certified Organic	
	1992-93	1994-95	1994-95	Certified/Registered Organic
\$0-10,000	740	907	188	21
\$10,001-25,000	142	149	72	48
\$25,001-50,000	93	97	66	68
\$50,001-100,000	73	90	78	87
\$100,001-250,000	56	65	54	83
\$250,001-500,000	32	34	29	85
\$500,001-1,000,000	13	13	13	100
\$1,000,001 and above	8	17	17	100
Total Number of Growers	1,157	1,372	517	38

Source: University of California Agricultural Issues Center, Statistical Review of California's Organic Agriculture, 1992-1995

Further, "...both Whole Foods and Wild Oats continued to acquire well positioned retail operations in target markets such as Chicago and southern Florida." The Hain Food Group acquired Westbrae Natural in Carson, California, and entered the \$100 million sales category.

In the food processing and product fabrication arena, a similar trend towards increased consolidation can be witnessed. For example, Shamrock Holdings, a venture capital company operating

the Disney family money, now owns Fantastic Foods and Cascadian Farms, a former independent organic food company. Other venture capital companies own Health Valley Co. and Breadshop's Natural Products. As Patsky notes, "All of these companies are well-positioned to grow rapidly. They have the financial resources and the commitment of their venture owners; they will continue to acquire other natural products brand name companies. Any brand

with more than \$10 million in revenue is a potentially attractive acquisition for any of these four growing companies.

Conclusions

To date, the evidence on farm structure of the California organic industry strongly suggests that small-scale family operations will be increasingly marginalized from mainstream organic markets. And based on the trends in the food fabrication and marketing segments of the industry, small health food stores will either be absorbed as parts of national retail chains or themselves be marginalized as small players in the burgeoning natural foods and organic foods industry. As of December 1999, Wild Oats owned 105 stores, having gone on a store-buying binge. Drawing inferences from the performance of the conventional food production and marketing system, we can predict that over time, prices of organic fresh products may decrease somewhat in terms of the differentials from their conventional counterparts.

Additionally, the farm share will decline, while the marketing share will increase. Farmers will supply raw product, and food companies will be responsible for the value-added component. Branding and labeling, promotion, advertising and other selling costs will take on greater and greater significance and present

significant barriers to entry. The level of competition will decline as the industry becomes more characterized by monopolistic competition and eventually, perhaps, oligopoly.

Small scale farmers will need to even more keenly develop relationship marketing systems based on direct exchanges with consumers, grounded in trust and intimacy. They may need to develop new mechanisms of product differentiation to compete with larger entities. If they are successful in this direction, many can continue to be viable operations for at least the next couple of decades.

References

Patsky, Matthew. Growth, consolidation, 1997 highlights. Natural Foods Merchandiser, January 1998, 1-4. University of California Agricultural Issues Center. Statistical review of California's organic industry, 1992-1995, July 1998,

Sincerely,

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