

January/February 2008

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Honey-Do’ List at Laidlaw Bee Facility Now Shorter, Thanks to \$100,000 Donation from Häagen-Dazs

By Kathy Keatley Garvey (Entomology – UCD)

DAVIS--The “honey-do” list at the newly revitalized Harry Laidlaw Jr. Honey Bee Research Facility at the Department of Entomology, University of California, Davis, is now shorter, thanks to a \$100,000 research donation from Häagen-Dazs to address the bee population decline.

The funds will benefit sustainable pollination research, target colony collapse disorder, and support a postdoctoral researcher, said Dr. Walter Leal, professor and chair of the UC Davis Department of Entomology.

“Honey bees are in trouble,” Leal said. “One-third of our nation’s food supply depends on bee pollination, but bees are vanishing in massive numbers. This gift will help us to rebuild and revitalize our honey bee program.” Retirements and budget cuts decimated the program during the 1990s. Häagen-Dazs officials will launch a national campaign on Tuesday, Feb. 19 to create awareness for the plight of the honey bee.

Nearly 40 percent of Häagen-Dazs brand ice cream flavors are linked to fruits and nuts pollinated by bees.

As part of the “Häagen-Dazs Loves Honey Bees” campaign, the company created a new flavor of ice cream, Vanilla Honey Bee, available starting Feb. 19; committed a total of \$250,000 for bee research to UC Davis and Pennsylvania State University; formed a seven-member scientific advisory board; and launched a Web site, www.helpthehoneybees.com to offer more information on the “unstung heroes.”

Leal said that half of the gift will be used to hire a Häagen-Dazs Postdoctoral Research Fellow in honey bee biology. “We will immediately conduct a high-profile international search and the successful candidate will work at the Laidlaw facility for one year conducting problem-solving research in honey bee biology, health and pollination issues.”

Häagen-Dazs will fund the salary, while the UC Davis Department of Entomology will provide partial matching funds to support other expenses. Leal said the renewal will be contingent on research progress and availability of funds.

Häagen-Dazs brand manager Josh Gellert said that without honey bees, it would be “tough to source and produce” ice cream. By working with UC Davis and Penn State, “we hope to take steps toward finding ways to increase the honey bee population and educate consumers on how they can take part in helping save the honey bees.”

The Vanilla Honey Bee flavor will include a trademarked “Häagen-Dazs Loves Honey Bees” icon, as will all other flavors linked to bee pollination. A portion of the sales will be

used to help the honey bees through university research.

Colony collapse disorder (CCD) is a phenomenon characterized by bees unexpectedly abandoning their hives, said apiculturist and Cooperative Extension specialist Dr. Eric Mussen of the Laidlaw facility. “Of the 2.24 million colonies in the United States, beekeepers routinely lose 20 to 25 percent annually, but CCD has increased the numbers.”

Mussen said the Apiary Inspectors of America conducted a survey of the nation’s registered beekeepers to determine how much of an impact CCD had on their bee colonies from the fall of 2006 to the summer of 2007. “Twenty-three percent of the respondents reported increased losses that appear to be CCD-related,” Mussen said. “Many beekeepers reported losing 30 percent of their colonies. A few lost 60, 80 and 100 percent of their colonies.”

The Harry Laidlaw Jr. Bee Biology Facility team is growing, Leal said. “We just finished conducting interviews Jan. 31 for a bee pollination biologist.” The new hire will join Mussen; bee breeder-geneticist Susan Cobey, Laidlaw facility manager; and native pollinator researcher and emeritus professor Dr. Robbin Thorp. Cobey joined the team last May.

The Laidlaw teaching and research facility is considered one of the finest and oldest in the country. Active bee research began on the UC Davis campus in 1925. Today UC Davis serves as a key center of research, teaching, graduate training and extension activities in apiculture and bee biology in the UC system, Leal said. The Chronicle of Higher Education ranks the UC Davis Department of Entomology No. 1 in the nation.

The 8200-square-foot facility, located two miles west of the central campus, is named

for UC Davis entomologist Harry Hyde Laidlaw Jr. (1907–2003), recognized as the "father of honey bee genetics" for perfecting artificial bee insemination technology.

Honey bee geneticist Dr. Robert Page, former chair of the UC Davis Department of Entomology and now the founding director of the School of Life Sciences, Arizona State University, worked closely with Laidlaw. "All of us who have made our careers studying the genetics of honey bees stand on the shoulders of Harry Laidlaw," he said. "Harry was totally dedicated to honey bee breeding and apiculture from the time he opened his first hive of bees when he was 5 years old, until he died at 96."

The newly formed Häagen-Dazs Ice Cream Bee Board includes three UC Davis scientists: Mussen, Cobey and Dr. Michael Parrella, professor of entomology and associate dean, College of Agricultural and Environmental Sciences. The board will advise company officials on scientific issues; announce new research findings; and educate the public on ways to help save the honey bee.

Mussen noted that honey bees are responsible for pollinating more than 100 U. S. crops, including fruits, vegetables, nuts and seeds. California produces 99 percent of all the almonds grown in the United States. Growers need two hives per acre to pollinate the state's 700,000 acres of almonds, valued at more than \$2 billion, Mussen said.

Said Parrella: "The Häagen-Dazs brand and UC Davis have a shared goal of preserving our local natural ingredients in a sustainable future, and their donation to the Laidlaw facility will help us reach our goals through advances in research and community awareness programs."

California State Beekeepers' Association president Jackie Park-Burris of Palo Cedro,

Shasta County, California, described the Häagen-Dazs gift as "just awesome."

"We're so happy that industry is recognizing the issues that the bees and beekeepers face," Park-Burris said. "Last month at our national beekeeping conference, we gave a standing ovation to Häagen-Dazs for stepping forward to help us. This is an example of what a business can do, and maybe more businesses will get involved."

"It's exciting that the honey bee program at UC Davis is being rebuilt and revitalized," Park-Burris said.

Dori Bailey, director of consumer communications for Häagen-Dazs, received the standing ovation at a UC Davis dinner on Jan. 10 when she outlined her company's support for honey bees to the American Honey Producers' Association, American Beekeeping Federation, American Association of Professional Apiculturists and the Apiary Inspectors of America.

"It was a great presentation," said Park-Burris, who noted that the beekeepers were the first (outside the company) to sample the new Vanilla Honey Bee ice cream. "You could really taste the honey. It's excellent."

Beekeepers say the general public can help save the honey bees by planting a bee friendly garden; educate others about the honey bee decline; buy U.S. honey; and support research to help preserve the nation's food supply.

IVDS Instrument

What started out to be a relatively easy project, to temporarily house the new virus detection and identification instrument at the Dr. Harry H. Laidlaw, Jr. Honey Bee Research Facility, turned out to be a much more complex task than imagined.

Most of the complexity centered around the fact that the instrument uses a bit of radioactive material to charge the virus particles before they are analyzed. That brought the US Nuclear Regulation Commission and UC Health Services into the picture.

We thought that we might be able to get around that by placing the instrument in a lab already staffed by personnel trained in safely handling instruments containing radioactive components. Unfortunately, all the equipment in that lab runs in refrigerated rooms, and the IVDS runs “hot” (in their terms – room temperature to you and me).

Time was running low and Dr. Bromenshenk really wanted to get the instrument up and running. So, he rented space and will have the instrument operating in Montana this spring. It has been suggested that it might be nice to have the instrument on the Davis campus in August and September, to determine the virus loads of bees heading into winter. Actually, it probably will be easier to send refrigerated samples to Montana for processing. Besides our inability to locate an appropriate lab in which to use the instrument on our campus, if the instrument is moved from the assigned building and room on the federal paper work, the capsule containing the radioactive material has to be returned to the manufacturer for a safety check and then sent to its next destination. You cannot simply pack up the IVDS and bring it to the next spot.

We are holding a significant number of bee samples for Dr. Bromenshenk in our freezers, because until more freezers are delivered in Montana, he has no place to store further samples.

Blueberries Around Sacramento

As you are well aware, blueberries have joined grapes (wine) as the little fruits

packed with health promoting nutrients. While not increasing to the magnitude of almonds, plantings of blueberries around the state are increasing significantly. The following information is just some of the highlights from an article, written by UC Farm Advisor Chuck Ingels and printed in the February 2008 issue of the Tree and Vines Newsletter from Sacramento County Cooperative Extension.

Most CA blueberries are produced on smaller farms. There are no blueberry processing facilities in CA, so the crop is sold fresh or frozen.

Establishing the plantings can cost between \$10-15,000.00 per acre. Yields by the fifth year may approach 5-8 tons per acre. That is significantly lower than the 10 tons per acre expected in the Pacific Northwest.

Soils that drain well and have high organic matter (at least 3%) are essential. “Use berms and incorporate 2-4 inches of sawdust, wood shavings (not cedar), or finely ground wood chips. Peat moss is beneficial to add to the planting hole, and compost can also be used. Some form of nitrogen must be added, but not too much; many plantings have suffered greatly from excess nitrogen.”

“The other key is to lower the pH to 4.5-5.0. pH can be lowered quickly with sulfuric acid or urea sulfuric acid materials, but elemental sulfur is much slower.”

While blueberries are very shallow rooted and do not tolerate drought well, they should not be planted on heavy clay soils. Frequent watering is required, and drip or microsprinklers work best. The water must be acidified. A wood chip or landscape fabric mulch is needed to keep the soil damp and the weeds subdued.

After the initial choice of varieties (there are many of them), weeds, birds, and plant nutrition are the most serious concerns over time.

If you desire to learn more about the potential of commercial blueberry growing, there is a Blueberry Field Day and Tasting on Wednesday, May 21st, 2008, at the Kearney Agricultural Research and Extension Center in Parlier, CA. Closer to northern California residents, there will be a Blueberry Workshop at the Fair Oaks Horticulture Center (www.cesacramento.ucdavis.edu) on Saturday, May 3rd, 2008.

Also drawing attention to blueberries is an article in the Volume 3, 2007, issue of Small Farm News, published by the Small Farm Center at UCD. It states that 2,300 acres were harvested statewide in CA in 2006, with estimated planted acreage at 4,500 to 5,000. [That's faster increase than the percentage growth of almonds or seedless citrus!]

The article cautions that while coastal growers may be able to realize \$10-12 a pound from March to mid-May, valley growers can expect a significant drop to about \$3-4 a pound after mid-May. Then, there is another peak, at around \$15 a pound, as the season ends in mid-October.

Tidbits from the National Honey Board

"The Story of Pollination" is a very attractive, full color, fold out brochure on crop pollination as it is conducted in the U.S. The information includes a map showing the major migratory routes of commercial beekeepers. More people should see this!

Where do some of the top 40 honey packers say that their honey goes? According to Honey Board stats, about 45% goes

into bulk sales, 42% onto retail shelves and 13% into the food service industry.

And, how does the Honey Board spend its money? About 58% goes into marketing and promotion, 15% into administration and depreciation, 13% into research, 9% into industry services and 5% is held available for emerging opportunities. This last year, the Honey Board made substantial donations from the last category to help support research efforts on colony collapse disorder.

Contact the Honey Board at:
www.honey.com.

Other Tidbits

Do you wonder what having extra brood pheromone in your hives at various times of the year may do? You can find out by trying SuperBoost[®]. The product originates from Pherotech, the same company that sells BeeBoost[®] and FruitBoost[®], based on queen mandibular pheromone. They also are promoting new products with the cover name of PheroBee, subdivided into VarroaTrap (sticky board and plastic mesh screen), PseudoQueen, and SwarmCatch.

The brood pheromone, SuperBoost, is sandwiched between membranes in a 35 mm slide mount. The slides and their holders should be available through Mann Lake Ltd. by now.

A West Palm Beach, Florida, Company, called Sprouts, Inc., is joining Häagen Dazs as a supporter of honey bees by starting their "Bee Kind in 2008" program. "Sprouts uses handmade 100% recycled linen paper, embedded with flower seeds, to create a variety of products including note cards, post cards, bookmarks, and invitations. Instead of contributing to landfill waste, Sprouts paper can be planted in the earth and

flowers will grow forth.” [Editor’s note: Means more food for *Apis* and non-*Apis* bees.]

You can obtain more information at: www.Sproutem.com.

The Xerces Society has recently published two very attractive publications directed toward pollinator protection at the global level, with emphasis on non-*Apis* bees. However, many of their pollinator conservation ideas would be very good for honey bees.

The first publication is a 145 page paperback book titled, “Pollinator Conservation Handbook. In the foreword Dr. Charles Michener writes, the publication “describes how you can help protect and re-establish populations of pollinators that are diminished or locally extinct as a result of human activities.” The text is very comprehensive and includes beautiful color pictures. I believe my copy cost about \$20.

The second publication is a 44 page, 8.5X11” paperback booklet, titled: Farming for Bees: Guidelines for Providing Native Bee Habitat on Farms. Again, it is very well illustrated and contains many examples of what has worked on various farms across the country. I believe my copy cost about \$10.

You can contact the Xerces Society for Invertebrate Conservation at: www.xerces.org to purchase these and other Society publications.

Almond shipments continue to increase annually, and prices seem to be holding pretty well. The Jan/Feb issue of Almond Facts, produced by Blue Diamond Growers, has a graph of the current price per pound of various nut meats to the producer. Almonds are least expensive, at about \$2.65;

pecans at \$3.55; pistachios at \$3.70; hazelnuts at \$3.75; and walnuts at \$4.25.

Bee Schools

SPECIALIZED CLASSES TO PROMOTE STOCK IMPROVEMENT, taught by Susan Cobey, will be offered at the Harry Laidlaw Honey Bee Research Facility at UCD, in Davis California.

1. THE ART OF QUEEN REARING WORKSHOP, March 25 & 26, 2008, is designed to provide an understanding and appreciation of what it takes to rear high quality queens. The basic biology and principals of queen rearing will be presented. Beekeepers will be involved in going through the various steps of the process including setting up cell builders, grafting, handling queen cells and establishing mating nucs. The importance of drone production and establishing mating areas will also be presented. The class will consist of a combination of classroom and hands on beekeeping. Two basic queen rearing systems will be demonstrated, a queen right system and a queen less system.

For those who would like to see large scale commercial queen production, an optional one day tour, March 27, will be offered. We will visit several northern California producers during their busy spring season. You will observe a diversity of techniques and systems of queen production. Registration Fees \$200, Optional Tour \$50.

2. INSTRUMENTAL INSEMINATION & BEE BEREEDING WORKSHOP, April 15, 16 & 17, 2008, is designed for commercial beekeepers who are involved in a breeding program and for laboratory personnel requiring the skill for research purposes. A practical hands-on approach to instruction is

provided with emphasis on individual attention, therefore classes are kept small. Detailed instruction and hands-on practice of semen collection and insemination of queens will be emphasized and facilitated with the use of a video camera and monitor. Various types of insemination instruments are displayed and reviewed. The preparation and care of virgin queens and drones will be presented. Basic bee genetics and various breeding systems will be reviewed. Demonstration materials, virgin queens and drones will be provided for the class.

Knowledge of queen rearing is required. Beekeepers must provide their own insemination equipment. Microscopes will be provided for use upon request. .
Registration Fees \$400.

3. ADVANCED WORKSHOP ON THE TECHNIQUE OF INSTRUMENTAL INSEMINATION, April 29, 30 & May1, 2008, is designed as a follow-up to the Instrumental Insemination course. The focus will be perfecting insemination techniques and solving individual problems in the laboratory and in the field. Therefore it is recommended to take this class after some experiences has been gained. Demonstration materials, virgin queens and drones will be provided.

Experience in queen rearing and familiarity with instrumental insemination are required. Beekeepers must bring their own insemination equipment and a bee veil. Microscopes will be provided for use upon request. Registration Fees \$400.

For Information:

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INTRODUCTORY BEEKEEPING COURSE

University of Guelph Apiculture Field Laboratory

April 26 and 27, 2008

Cost: \$225, Ontario Beekeeping Manual⁺, lunches, and tax included

- * Combination of lectures, demonstrations, and hands-on experience with bee hives
- * Small group format
- * Topics include basic bee biology, getting started in beekeeping, equipment, site selection, colony inspections, seasonal hive management, extracting and processing honey, disease and pest control, and beekeeping regulations.
- * Instructors: Paul Kelly (Staff Apiarist), Dr. Ernesto Guzman (Apiculture Professor), Les Eccles (U. of G. Apiary Employee), Janine McGowan (U. of G. Apiary Employee).

To obtain a course registration form or further course information, please contact: Paul Kelly, Department of Environmental Biology, University of Guelph, Guelph, ON, N1G 2W1, (Tel) 519-836-8897, (Email) pgkelly@uoguelph.ca. If you request a course registration form, please provide your full postal address.

⁺ \$200 if you already have the Ontario Beekeeping Manual.

After we receive your registration and fee, an acknowledgement letter, schedule, accommodation listing, and map will be sent out with your receipt.

Classes on Restoration Ecology, Pollination in the Urban Environment, and

the Guelph Pollination Park are being held real soon. A meeting on the Guelph Pollination Initiative is scheduled for March 7th, and the Canadian Pollination Protection Initiative Meeting for March 8th. The meeting will be held at the Guelph Music Centre, 75 Cardigan Street.

To obtain more information on the meetings or reserve a spot at these meetings (\$5.00 per registration, including lunch), please contact: pollinateguelph@gmail.com.

Sincerely,

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