MAY 2014

ucanr.edu/sites/was2

w.a.s. journal

The Journal of the Western Apicultural Society of North America

Honey bees on hazelnut leaf. Photo by Christine Yahn, Nelson BC (See her article beginning on page 23).

2014 memberships became due January 1st. If you have not already renewed, please do so now. Officers and regional reps especially are reminded that their office requires their memberships being maintained during their term, as per the by-laws. Membership form page 31.

Western Apicultural Society of North America

2014 EXECUTIVE & BOARD OF DIRECTORS

President
Jerry Bromenshenk
200 Rimrock Way
Missoula MT 59803
406-544-9007
waspresident2014@gmail.com

Past President
Melanie Kirby
PO Box 317
Truchas NM 87578
505-929-8080
ziaqueenbees@hotmail.com

1st Vice President
Scott Debnam
Division of Biological Sciences
32 Campus Drive, HS 110
University of Montana
Missoula MT 59812
406-243-5648
Scott.Debnam@umontana.edu

2nd Vice President
Beth Conrey
1617 White Water Ct.
Berthoud CO 80513
970-213-3099
coconrey4@msn.com

Secretary
Betty Farber
3249 Schubert Rd,
Kamloops BC V2B 6Y4 Canada
250-579-8518
ian_farber@telus.net

Treasurer
Sherry Olsen-Frank
PO Box 5274
Twin Falls ID 83303-5274
208-735-5353
magicvalleybees@gmail.com

DIRECTORS

Alberta
Bob Keenan
11 Sunset Park
Cochrane AB T4C 0N4 Canada
403-981-1657
keenanr@shaw.ca

British Columbia
Ian Farber
3249 Schubert Rd,
Kamloops BC V2B 6Y4 Canada
250-579-8518
ian_farber@telus.net

Saskatchewan
Alvey Halbgewachs
3047 Lacon St,
Regina SK S4N 3A9 Canada
306-757-3147
cechalb@sasktel.net

Yukon
VACANT

Alaska
Dr. Joe Carson
9340 Hwy 99E
Los Molinos CA 96055
907-727-8200
dr.joecarson@gmail.com

Arizona
Zack Funke
9 E. Redondo Drive
Tempe AZ 85282
480-399-1169
zackfunke@gmail.com

California
Archie Mitchell
1520 N B Court
Lompoc CA 93436
805-291-3279
archibald_178@hotmail.com

Colorado
Miles McGaughey
936 Alta
Longmont CO 80501
720-771-4304
mmcgaughey1@live.com

Hawaii
Jenny Bach
PO Box 65
Papaaloa HI 96780
808-640-0278
jenny@beelovehawaii.com

Idaho
Sherry Olsen-Frank
(See Treasurer)

Montana
Scott Debnam
(See 1st Vice President)

Nevada
Debbie Gilmore
4 Cottonwood Lane
Yerington, NV 89447
775-220-5567
dgilmore88@yahoo.com

New Mexico
Jessie Brown
101 Forrester Ave NW
Albuquerque, NM 87102
505 710-3277
brownsdowntownbees@hotmail.com

Oregon
Dr. Dewey Caron
15965 Queen Victoria Place
Portland, OR 97224
302-353-9914
dmcaron@udel.edu

Utah
VACANT

Washington
James K. Smith
19909 122nd St.
Bonney Lake WA 98391
253-222-4824
jksmithpe@comcast.net

Wyoming
VACANT

Journal Editor/Historian: Fran Bach
PO Box 397, Selah WA 98942-0397
Phone 509-573-4245
febach3@gmail.com

President's Message

By Jerry Bromenshenk

36th Annual Meeting of the Western Apicultural Society
September 17-20, Missoula, Montana
This is Not your Grandfather's Bee Conference!

I'm writing the President's message on a hotel desk in Corning, California. Time to work with bees and enjoy a break from Montana's winter, which was unexpectedly long, cold, and severe. We had an avalanche in town that destroyed two houses, buried two children and a neighboring couple. First Responders got the kids out before any serious injury. A colleague of mine was pretty banged up. Unfortunately, his wife, Michele, did not survive. So, we're more than ready for spring.

New WAS Treasurer

First, a big thank you to Sherry Olsen-Frank in Twin Falls, Idaho for taking on the treasurer's position after a thorough review of the books. Sherry is a Certified Public Accountant and also the Idaho rep to WAS.

2014 WAS conference

I've been working on the 36th Annual WAS Conference. It's shaping up to be a big EVENT, with several other events occurring concurrently. The WAS meetings, with a wide variety of Speakers and the Trade Show, will begin on Wednesday, September 17, and conclude on Saturday, September 20. The main program will convene on campus in the University Center of The University of Montana-Missoula. Plan on a full program on Thursday and Friday, with a banquet Friday evening. Saturday morning, we will have a variety of workshops distributed across campus in classrooms and outdoors, covering topics from candle making to queen breeding, open to both WAS members and the community.

In addition, the 2nd International Workshop on Hive and Bee Monitoring will occur on Wednesday, September 17. The 1st Workshop was held at EAS in Vermont, two years ago.

Also, there will be three fun activities that just happen to be scheduled for the campus the same week. I expect many of you may want to participate in them. First, the Kyra Jean Williams Farm to College Fall 'Feastival' will occur on Sept 18, and weather permitting, will have an open air dinner on the campus. The organizers will not be able to give us a price for the dinner until early September, but promise it will be a really good deal. Check their website (http://life.umt.edu/dining/) at that time for more details.

Secondly, our new University Director of Campus Recreation has scheduled a Color Run for Saturday morning, September 20. The course starts and ends on the UM campus. He expects 3-5,000 runners to be in Missoula for the run from about 7 am till 11 am. Bring your running or walking shoes – apparently these runs focus on having fun, not necessarily winning races. And then, starting late morning and running until early evening, we will have the Missoula Honey Harvest Festival on the Oval on campus. Based on previous festivals, I expect 2,000 people or more. Besides attending the Honey Festival, I expect that some of you may wish to bring honey and bee-related merchandise and set up a table or sales booth. The basic theme for the Honey Harvest Festival is Honey, Education, and Family Fun. There will be opportunities to sell and buy honey and bee-related items, a variety of presentations and demonstrations, many aimed at kids, and good food.

As an aside, the new Recreation Director didn't know about WAS, and I didn't know about the Color Run. At UM, any activity on the Oval in the Center of the Campus requires the permission of the University President. I knew that and had reserved the Oval for the Missoula Honey Harvest Festival. Then we each found out about the other's event when the Campus Rec Director was told he had to schedule use of the campus – the good news it's all in good fun. The run is in the morning, the honey festival later in the day. We had a big meeting with all of the organizers and campus security and safety. We had to make sure that the runners didn't trample WAS attendees, and we didn't want the WAS workshops interfering with the runners – although we could probably add some incentive to run faster if we brought live colonies onto the campus. We ended the meeting agreeing that the runners were likely to be thirsty and hungry, so they might as well plan on coming to the Honey Festival, which will be open to campus students and the community.

When I talked to UM's President, Royce's only concern was that the two events would coordinate. When I asked if he'd sign off on use of the Oval for a Honey Harvest Festival, his response was "Certainly, What's Not to Like?"

Because of all of the activities for the week, plan on making room reservations early. The primary conference hotel will be the Doubletree by Hilton Hotel Edgewater, just across the river from the campus via a footbridge. This is a full service hotel, with a Finn and Porter restaurant, situated on the bank of the Clark Fork River (see missoulaedgewater.doubletree.com) – bring your fishing pole, or rent one across the street at one of Missoula's Fly Fishing shops. There are several motels/hotels in the area near to the campus, which is on the east side of Missoula and lots of restaurants, from gourmet to fast food in the area, and the University Center itself has stores and food services.

Hotels and local transport

Parking can be difficult near the campus. The Doubletree has free shuttle service from and to the Missoula airport – it's a short ride. Many of Missoula's newest hotels are on the west side of town on Reserve Street or near the Airport. These offer a good array of lodging options and prices, but all are too far from the campus to walk. Plan on taking one of Missoula's buses or renting a car, if you choose one of these for lodging. Remember, if you rent a car, you'll have to find a place to park it. The University will be back in session by September, so campus lots are likely to be full.

The dates for the conference were driven by external factors. Prior to Labor Day, lodging rates are high, since Missoula is a Resort Town. September provides better rates, but runs into Football season. There are three home games in September, one for every week other than Sept 17-20.

Conference Program

Finally, a few notes on the Conference Program. We've a great group of speakers. US and Canadian researchers will cover topics such as the newest research, pest management, bee diseases, and pesticides. I've also asked several UM experts to organize forums on topics including what beekeepers should know in order to adjust bee management in changing climates, native and urban plants for honey bees and native pollinators, and marketing, use, and cooking with honey.

Dr. Steve Running's research team will describe the climate changes they have seen in western states and provinces and how they expect these fluctuations to affect timing of plant bloom and bee management.

Marilyn Marler, UM's natural areas specialist and Chair of the Missoula City Council, will lead discussions by a group of urban and native plant experts, including our own campus landscape horticulturists, who plant and maintain the State's Arboretum and various plantings across the campus and around the UC Center.

UM's Food Services Director, Mark LoParco, recipient of the International Foodservice Managers Association (IFMA) 2014 Silver Plate Award in the highly competitive College & Universities category, and his team (https://life.umt.edu/dining/) will talk about their Farm to College Program which focuses on purchasing local produce and encouraging sustainable agriculture; while the Culinary School of UM's Missoula College will describe their Culinary Arts Certificate Program and Food Service Management Degree Programs (http://www.mc.umt.edu/businesstech/culinaryarts/). Courtney Fullerton, a Montana Commercial Beekeeper, will profile the unique marketing approach that Glacier County Honey Company (www.glaciercountyhoney.com/) is taking in retail marketing of honey,

WAS Presidents to date

1978 Norman Gary (California)
1979 Lucien Alexander (Oregon)
1980 Randy Barker (British Columbia)
1981 Charles Duncan (California)
1982 William P. Nye (Utah)
1983 John Edwards (Washington)
1984 Eric Mussen (California)
1985 Mike Burgett (Oregon)
1986 Doug McCutcheon (Br. Columbia)
1987 Tom Muncey (Nevada)
1988 Dan Mayer (Washington)
1989 Stan Williams (California)
1990 Mark Shelton (California)
1991 William P. Nye (Utah)
1992 Mike Burgett (Oregon)
1993 Mark Winston (British Columbia)
1994 James Bach (Washington)
1995 Eric Mussen (California)
1996 Russell Messing (Hawaii)
1997 Eric Erickson (Arizona)
1998 Steve Sheppard (Idaho)
1999 Leonard Joy (Nevada)
2000 Fletcher Miller (Alaska)
2001 Mike Burgett (Oregon)
2002 Eric Mussen (California)
2003 Jaquie Bunse (British Columbia)
2004 Jerry Bromenshenk (Montana)
2005 Steve Sheppard (Washington)
2006 Adrian Wenner (California)
2007 Diana Sammataro (Arizona)
2008 Mark Pitcher (British Columbia)
2009 Eric Mussen (California)
2010 Dewey Caron (Oregon)
2011 Jenny Bach (Hawaii)
2012 James K. Smith (Washington)
2013 Melanie Kirby (New Mexico)
2014 Jerry Bromenshenk (Montana)

wax, and candles. Look to also see our Food and Culinary Services folks demonstrating cooking (with honey and fresh, local produce) and providing food services at the Conference and the Honey Harvest Festival.

In addition, in conjunction with the 2nd International Workshop and Hive and Bee Monitoring, I've asked Joe Fanguy, Director of UM's Office of Technology Transfer, and Dr. David Firth, an Information Technology Expert in UM's School of Business, to lead a Panel to address issues of Innovation and Entrepreneurship, as well as opportunities for small businesses in today's economy. Part of this will include partnering with universities and we will cover the U.S. Small Business Innovation Research (SBIR) program. Through a competitive awards-based program, SBIR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization. Simply stated, although highly competitive, each year US federal agencies make significant financial awards to small companies to conduct Research and Development projects.

Tour

We are offered a tour of an indoor over-wintering operation at Darby, Montana, about 65 miles from Missoula, if there is enough interest. The only time slot the tour can happen in is Saturday morning, at the same time as the workshops. See page 8 for more on this an other as-yet incomplete items.

I'll include more about the WAS Conference program in the next newsletter. We're planning on almost a week of activities focused on bees, honey, sustainable agriculture, and small businesses. As I've said before, plan on coming to Montana for an engaging and informative meeting and for a mini-vacation. Missoula, Montana is a University and Outdoor Recreational town located in the Rocky Mountains of the USA. We are 3 hours from Glacier National Park, about an hour from the National Bison Range and Flathead Lake, and 4 hours from Yellowstone National Park. The local brewery scene in Missoula is thriving (there are 6 and counting) and there is a local distillery right by the river in town too. Fall in Missoula is spectacular, with plenty of outdoor activities for the entire family (http://www.makeitmissoula.com/things-to-do/)

Watch the WAS website (ucanr.edu/sites/was2/Conference_Information) for more details as they become available. AND BOOK YOUR ROOMS AS SOON AS POSSIBLE. THERE IS A LOT GOING ON IN MISSOULA THAT WEEKEND AND ROOMS WILL SOON BE HARD TO GET.

Registering for WAS 2014

September 17 - 20, 2014, University of Montana - Missoula

The 2014 WAS conference is being held at the University of Montana - Missoula and incorporates several additional events at the University. Key accommodations will be at the Doubletree Inn Edgewater where the Awards Banquet will also be held. Since neither the University nor the hotel are able to give us firm prices yet for some of the optional events, mainly the Awards Banquet and the Farm to College Feastival Dinner, we are not including a REGISTRATION FORM in this issue. As soon as all costs can be firmed up, a form will appear on the WAS website (ucanr.edu/sites/was2/Conference_Information), a link will be provided to an **on-line registration site where you can register and pay electronically**, and a registration form will also appear in the next Newsletter. Here then is a list of what costs are known and what else is on the agenda that you can choose once the costs are known.

Basic Conference Costs:

- **FULL CONFERENCE PACKAGE: (2nd Int'l Workshop on Hive & Bee Monitoring (Wednesday), Bee Buzz Social (Wed. evening), WAS Speakers (Thurs. & Fri.). Lunch on your own - lots of choices on and near campus**
  - Early registration (mailed by August 31st) $150.00
  - Delayed Registration (after August 31st) $175.00
- **ONE-DAY REGISTRATION -**
  - ➛2nd International Workshop on Hive & Bee Monitoring, WAS Pre-Conference on Wednesday $75.00
  - ➛WAS Conference Program on Thursday or Friday $65.00
- **PART-DAY REGISTRATION -**
  - ➛Students only (with valid student High School/College cards), Wednesday, Thursday or Friday $25.00
- ➛**BEE-RELATED WORKSHOPS and SHORT COURSES** (Saturday morning) *(Choices TBA)* $30.00
- ➛**MISSOULA HONEY HARVEST FESTIVAL** (Saturday afternoon) **FREE**

Dinners, Tour, T-shirt, and Membership Costs:

- **KYRA JEAN WILLIAMS FARM TO COLLEGE FALL "FEASTIVAL" DINNER** (Thursday evening) - dinner outside on the UM Campus Oval. weather permitting - $15 to $20 range
- **WAS AWARDS BANQUET** (Friday evening at the hotel) - $45 range
- **DARBY TOUR** - We have an offer to tour an indoor over-wintering BeeSHED at Darby MT, 62 miles south of Missoula. The route is through Hamilton and the Bitterroot Valley. This will have to be Saturday morning at the same time as the workshops if there is enough interest. A bus could leave at 8, arrive at the bee shed at 9:30 and be back at Missoula around noon, just in time for the Honey Harvest Festival and lunch.
- **TEE-SHIRTS** - As in previous years, a souvenir tee-shirt will be available. Last year's price was $16.

Coincident with the WAS Conference:

- **UM Saturday Morning COLOR RUN** - Details at http://thecolorrun.com, click "See All Cities", then on Missoula by name or on the map. Team (4+) Runners $30.00/person/$40.00 starting July 1st; Individual Runner $35.00 /$45.00 starting July 1st. NOTE: Register and pay on your own through the Color Run website.

Membership dues:

NEW memberships can be paid with registrations. This allows a one-time 15-month membership in time for voting privileges at the current annual meeting. Rates will be on the registration form and can also be found on page 30 of this issue.

Contacts for more information: President Jerry Bromenshenk 406-544-9007 or waspresident2014@gmail.com
Communications/Journal Editor Fran Bach 509-573-4245 or febach3@gmail.com

About Missoula & Things to Do There:

Destination Missoula http://www.destinationmissoula.org
Missoula Downtown http://www.missouladowntown.com
Make it Missoula - Outdoor Recreation http://www.makeitmissoula.com/things-to-do/recreation
Missoula Artists http://www.montana-artists.com/Cities/Missoula.asp
Missoula Chamber of Commerce http://www.missoulachamber.com
University of Montana – Missoula http://www.umt.edu (Live Cam – Missoula http://www.umt.edu/grizcam)
Missoula I-Cam http://www.ktvq.com/pages/cameras-missoula-eyecam
Missoula MT http://www.ci.missoula.mt.us

Betterbee

Betterbee Sweet Honey Candy

These little candies make a great treat. Made with pure honey and all organic ingredients! Available in 1 pound bags of honey, apple, lemon, pomegranate and assorted flavors.

Exclusively available at Betterbee!

New this year, Betterbee sweet honey candy comes in convenient 4 oz bags with attractive pegboard hanger label. Great for farmers' markets or demonstrations.

Call Betterbee for all your quality beekeeping equipment, candle making, soap making and gift items!

8 Meader Road, Greenwich NY 12834
1-800-632-3379 www.BetterBee.com

Editorial -

Let's talk about ... censorship!

By Fran Bach, WAS Editor, and Clare MacQueen, Northwest District Beekeepers Newsletter Editor (WA state)

This editorial piece came about following an exchange between Fran and Clare at the beginning of April after Fran added a disclaimer in one of the emails she distributed to beekeepers, stating: "These items are circulated as being of interest to beekeepers. The sender has no vested interest in them, pro or con, and does not engage in censorship of what information beekeepers should or should not have access to."

This was in response to a few thoughtless emails from a handful of readers objecting to items about Bayer bee activities and — at the opposite end of the scale — about including the Beyond Pesticides conference information. Clare has had similar experiences and is as clear as Fran that this sort of activity has no place in beekeeping communication circles.

Barring legitimate information from others is, very literally, CENSORSHIP! It is a form of bullying, engaged in by a small minority, in an effort to keep only their own point of view available for consideration. It is discourteous and counterproductive. Most of us don't read every article in every newspaper or journal, and most of us don't rail against the local editor for printing items we don't like. So we suggest treating beekeeping communications the same way — just skip what doesn't interest you. Do not presume to decide for other beekeepers what they should be allowed to read. They have minds of their own and prefer to decide such things for themselves.

Harsh words for the perpetrators perhaps, but sometimes subtlety doesn't get the message across. As Grandpa used to say, "Sometimes ya gotta tap the mule up-side the head with a two-by-four to get its attention."

On the other hand, the many emails we get commending the variety and quality of information we distribute, often with a cheerful "Keep it coming!" at the end, convinces us that our stand is not only professional but also understood and concurred with. Thank you to all who appreciate how much effort goes into communications — whether the newsletters/ journals or email info pieces. Your positive feedback encourages and energizes us.

A plea for courtesy and common sense ...

In this issue of the Journal, you may notice a lot of information about Bayer activities. The same conditions apply as in the censorship piece! This information is included because Bayer is highly newsworthy right now. The bee care tour and the opening of the new bee research center in North Carolina are great opportunities for the beekeeping industry to broaden their horizons and get down to some positive interactions with companies such as this. We can and need to work with them.

Yes, most of us love to hate big companies and we'd love to lay all the blame for bee losses on neonics and therefore at Bayer's door. A better-informed person realizes that it isn't the car that is to blame for an accident; it's the nut behind the wheel. We don't ban cars despite the road carnage involving them. Human misuse of pesticide products is at issue, not the products themselves. The products are on the market because there is a demand for them in crop agriculture in the same way as there is in apiculture.

Pesticides are used by beekeepers in their hives and pesticides are used by farmers on their crops — for the same reasons. If certain pests and diseases are not treated, both risk losing their livelihood. Bees are insects and all insecticides will have some effect on bees. That is hard reality. Neonics are the softest class of agricultural chemicals ever produced. No one pretends it is an ideal situation, but pesticides are not going away anytime soon and we don't want to be stuck with the older, much harsher ones. Or force the issue to where producers resort to using illegal products with known or unknown negative results. This has happened in beekeeping where many — yes, many — beekeepers have resorted to illegal products in a frantic effort to save their colonies. Is it so hard to understand the crop farmers' need to act in the same way under similar conditions?

The work not yet done is this: to bring users to the point where they are stringent in their application procedures and so cognizant of pollinator issues that their planning is done with scrupulous attention to looking after the bees. The bee industry has a very large stake in this, and it isn't helped by antagonizing "the other side."

On our side, we need to do the testing to be sure pesticides is the real issue. Courts of law require proof. So do we or we will never know when we might have slipped up in our management and thus laid unfair blame where it doesn't belong. Fair is fair, all in the interest of getting at the truth.

Legislating through labeling (EPA, for example) is too slow and too prone to be ignored for dependable control, though there is certainly a place for it as an accepted minimum standard But we also love to hate being given orders by government and quasi-government offices, so there is always going to be built-in resistance. Without WILLING compliance, however, driven by a thorough understanding of the issues and responsibilities of all parties, there is not much hope that we can make progress. Confrontation only polarizes the situation further. Ignoring the needs and sensitivities of the other side does the same.

Canada has just embarked on an extensive national round-table of more than 30 groups - farmers, beekeepers, pesticide manufacturers, government and other stakeholders - to address these issues in a cooperative way. No one is pretending it will be easy. In the same spirit that your editors refuse to engage in censorship and instead continue to search out information to better serve beekeeping, surely beekeepers can join the rest of agriculture as active partners instead of continually playing the blame game. The first step is educating ourselves fully about the hard realities of crop farming and then to make good friends of our farmer neighbors. Only then can we start to find the common ground necessary for us all to move forward responsibly.

Fran Bach, editor

12 May 2014


THE KEY TO SUCCESSFUL BEEKEEPING
Dadant
FRESH QUALITY FOUNDATION MAKES GOOD PRODUCTIVE COMBS
Foundation
DURAGILT
DADANT RESEARCHED—DADANT DEVELOPED
Plastic Inner Core
Beeswax
Metal Edges Reinforce and Strengthen
Saves Labor—Easy To Use
Deep Worker-Sized Cell Imprints
Precision Milled
No Additional Cross Wires Needed
Communication Holes
DEVELOPED BY DADANT & SONS
COPIED BUT UNEQUALLED
Steel Hook Fits Behind Wedge In Top Bar
9 Vertical Crimped Steel Wires Radiate Strength
Perfectly Milled Cells
Deep Exact Walls
We Recommend Adding Cross Wires In Deep Frames
CRIMP WIRED
MEDIUM BROOD
OUR LOWEST PRICED FOUNDATION
THE ORIGINAL 100% PURE BEESWAX FOUNDATION
Precise Even-Milled Worker Sized Deep Walled Cells
We Recommend Cross Wiring Frames With Medium Brood Foundation
Slightly heavier than thin surplus for easier handling.
Cut Comb For Chunk Honey and Comb Honey Cut From The Frame
The thinnest beeswax sheet for finest comb honey.
Thin Surplus For Square and Round Section Comb Honey
Your Customers Appreciate Comb Honey With Dadant Foundation
CUT COMB & THIN SURPLUS
FINEST COMB HONEY FOUNDATION 100% BEESWAX
PLASTICELL
THE ULTIMATE IN PLASTIC FOUNDATION
Injected Molded Plastic, Raised-Cell Sheet
Deep Uniform Exact Cells
THE BEST PLASTIC FOUNDATION AVAILABLE TESTED AND PROVEN
Beeswax Coated or Plain
(We recommend Beeswax coating)
Unique Uniform Spray Coating with 100% Pure Beeswax
Fits Frame Sizes 9-1/8" and 6-1/4"
Wax Moth Cannot Damage Base
1 Piece Plastic Frame and Foundation
No Assembly—Strong—No Wiring
Durable—Not Affected By Weather Conditions
Sizes 9-1/8" and 6-1/4"
Beeswax Coated
EZ FRAMES
www.dadant.com
twitter
2765 S GOLDEN STATE BLVD, FRESNO CA 93745 • PHONE (559) 495-0230 • FAX (559) 495-0232• TOLL FREE 1-877-432-3268
15 C VALLEY CT, CHICO CA 95973 • PHONE (530) 893-0921 • FAX (530) 893-0922• TOLL FREE 1-877-332-3268

The 2014 Bayer Bee Care Tour in the Western US

WSU, Pullman WA

The Tour theme, "On Common Ground: The Critical Relationship of Apiculture and Agriculture" underlined the need for all of us to be well-informed and open-minded so we can find those areas where we are in accord.

Washington panel, Dr. Allan Schreiber (left), Brandon Hopkins, Natalie Boyle, Dr. Doug Walsh and moderator Dr. Steve Sheppard

In his opening address, Dr. David Fischer, Bayer's head of Environmental Toxicology & Risk Assessment pointed out that protective products (herbicides and insecticides) are the intersection point between beekeeping and farming, which have a great deal in common. From this common ground there is opportunity to develop dialogue and best practices.

An expert panel moderated by WSU bee geneticist Dr. Steve Sheppard included Dr. Doug Walsh, professor and IPM coordinator at WSU, Prosser; Dr. Alan Schreiber, president of the Agriculture Development Group (farm management) and a contract researcher; Brandon Hopkins and Natalie Boyle, two WSU doctoral candidates well-known to Washington beekeepers. Hopkins works in Pullman with Dr. Sheppard and Boyle with Dr. Walsh (formerly also with Sheppard).

Dr. Walsh, who works closely with the alfalfa seed industry, spoke of the balancing act between maintaining the alkali (leafcutter) bees that pollinate the crops and controlling lygus bugs. Pesticide safety measures to mitigate problems for pollinators then become critical. His work with the solitary orchard mason bee gives him opportunity to look directly at the effects on the bees as these are not moved from the crop area. Walsh noted the extreme difficulty in meeting the needs of all concerned, saying that within two days of announcing the recommendation that pesticides be applied at night, "the bat guy called" - to complain it would then harm the bats!

Dr. Schreiber is of the opinion that without neonicotinoids on the market, growers would revert to pyrethroids etc. that are more toxic. "We cannot let up on bee safety - ever", he said, but cautioned against throwing out the softest class of pesticides currently available (neonics) before a newer, better one is ready.

Sue Olson of Olson's Honey in Yakima, said that forage for bees is a huge issue - "Where do 18,000 colonies go to eat? Our bread and butter is almond pollination," she said. "Without it our bees would not be available for berries, canola etc."

The discussion ended with a general observation that in the long term what we really need are management techniques far more than chemicals. While most of us would concur, it is a long and complex road back. While some viewed the day as "just another Bayer PR exercise", my perception was that a door has been opened. Bayer had a message to convey of course, but they gave the beekeeping community plenty of opportunity for feedback.

Oregon Bee Care Day

In Oregon, the panel consisted of researcher Dr. Louisa Hooven, Department of Horticulture, OSU; Dr. Jerry Bromenshenk, an entomologist at the University of Montana - Missoula; and Scott Dahlman, the director of Oregonians for Food and Shelter, an organization that supports the use of modern technology in a sustainable, responsible manner.

Dr. Hooven, whose research is on delayed and long term effects of pesticides, particularly fungicides, on bees, is particularly interested in behavioral and developmental effects from pesticides that accrue in wax and pollen.

She discussed PNW591, "How to Reduce Bee Poisoning from Pesticides", published by OSU, and how it can be used as a communication tool for growers and beekeepers to avoid exposing bees to pesticides that are known to be bee-toxic.

Commenting on the panel, she said, "Much of the discussion by Jerry and myself ended up being on the need to control varroa. Even though pesticides are a factor, I think controlling varroa, and the viruses it carries, is probably the most important thing for beekeepers to worry about. Scott discussed the importance of growers, beekeepers, and other stakeholders working together. Jerry and I reiterated this comment.

"Commercial beekeepers, in theory, work closely with growers, and I hope for the most part avoid exposing their bees to neonicotinoids. Backyard beekeepers and the public seem to be more likely to believe that neonicotinoids are responsible for the impending extinction of bees. In fairness to Bayer, this makes it difficult to communicate about their products.

"That being said, while I hope Bayer is making a good faith effort to solve the seed-planting dust problem. I don't at this time believe there is evidence that nectar and pollen from canola has adverse effects for honey bees, I still have a few questions about neonicotinoids. I would like to see more research on canola nectar and pollen neonic levels on native bees.

"I would also like to know more about nectar and pollen levels when neonicotinoids are used as a drench or tree injection, particularly in residential applications. "

Particular questions addressed to Dr. Hooven centered around the multiple factors affecting bee health, what can be done to minimize stressors and increase bee health communication at pollination time and through the growing season.

Overall reception was positive, with mostly commercial local beekeepers present, some folks from OSU and the Oregon Department of Agriculture. Dr. Bromenshenk noted a dearth of growers in the audience and registered his disappointment at not having a chance to interact with that group. A small demonstration was held in the rain outside the facility, and dispersed quickly once the television cameras left.

UC-Davis, California

"Commercial agriculture is at risk," Bayer CropScience entomologist and apiologist, Dick Rogers, said in his opening remarks at UC Davis. Rogers said the company is not exploring RNAi for varroa control, but is working on an anti-mite chemical known as "varroa gate," inspired by tick collars worn by cats and dogs. The Bayer Bee Care Tour promotes bee health across the country at top ag universities and events.

Project Apis m. (PAm) was invited by Bayer to present at the Pollinator Health Panel. The panel included Christi Heintz, PAm, Denise Qualls, The Pollination Connection and Dr. Brian Johnson, UC Davis. The Bayer North American Bee Care Center opened April 15th in N.C.

Christi further commented that, "They wanted to keep the focus on forage, no doubt because Bayer and other chemical companies are getting pretty beat up on the pesticide issue. Well, they should, but pesticide issues go way beyond Bayer's neonics. There was a lot of trouble with IGRs (integrated growth regulators) applied during almond bloom this year that isn't getting the attention it should."

Left, Dick Rogers, Research Manager of the new Bayer Bee Care Center in North Carolina, opens the California event.

Right, Veldon Sorenson, Bayer CropScience Beekeeper, mans the honey tasting table.

Dr. Brian Johnson, UC Davis; Denise Qualls, The Pollination Connection and Christi Heintz, PAm on the 'Pollinator Health Panel' (California photos by Meg Ribotto, PAm)

BAYER'S NORTH AMERICAN BEE CARE CENTER OPENS FOR BUSINESS!

Flanked by local, state and federal dignitaries, Bayer representatives and head of the Bayer Bee Care Center in Monheim, Germany, Bayer President and CEO Jim Blome wields the scissors to officially open the new Bee Care Center.

The long-awaited opening of Bayer's North American Bee Care Center in Durham, North Carolina took place April 15th with a large group of interested parties eager to find out first hand what will be happening there. Dignitaries included personnel from all levels of local, state and federal government, North Carolina State University (NCSU), farm bureau, beekeeper associations and retailers who handle sales of both plants and pesticides. Canadian representation was considerable and included several members of the national Round Table on Bee Health (which now includes some 30 groups who have committed to working together to find solutions to bee health issues).

The $2.4 million Center is a multi-functional facility, a good deal of it aimed at awareness programs for school groups and the general public, with an active solicitation program to get them there. Research programs at NCSU are coupled with the Center, which has a lab and research apiary for hands-on work by students. Several of them were on hand with impressive poster presentations about new molecule screening and bacteriophages (viruses) that can be fed instead of antibiotics to control foulbrood. Other studies are working with small hive beetle (prevalent in the warm, wet southeast coastal areas) and nosema (this one with the University of Illinois).

In an interview, Research Manager Dick Rogers described the Sentinel Hive monitoring program, a new prototype hive instrumentation system which will allow a beekeeper to remotely monitor his colonies from whatever distance he might be. The hive is set on a platform containing a scale, communications electronics, microchips and sensors that automatically download, keep secure, analyze and interpret issues within the hive that need attention before they become critical. This type of monitoring, he said, could have given early warning of the recent problems in California.

Another project will see a repellent available to keep bees off a crop for a few hours at a critical control-the-pest-or-lose-the-crop period.

"We still need an integrated approach to protect bees," Rogers said. "Plan ahead, be proactive, and maybe avoid some crops at high risk times. We all need an open mind and to learn all we can from each other. There's no sense fighting!"

The strongest message delivered by Bayer throughout the proceedings was their long-term commitment to bee health and recognition that much greater information transfer needs to take place among all the stakeholders in agriculture. "Bees are our livelihood too," one spokesman said, "No bees, no crops, no food. We need to be working together."

Bill Hairston, Director of Product Development - SeedGrowth, pointed out that Bayer is one of the largest users of bees in North America and would like beekeepers to recognize their deep interest in the well-being of the bees. "We believe our products, used correctly, are not an issue", he said, recognizing that people fear what they don't know. Part of Bayer's goal then is to develop a sound information transfer program so beekeepers know and come to trust that we are all on the same page.

As for any new classes of chemicals in the works, "It is very long term to develop new classes of crop protection products and it would be premature to speculate, but we are always looking for new, better chemistries. A lot of work is being done on fine-tuning what is now available and both learning and teaching management techniques that minimize problems. Bee safety will always be critical to anything we develop." Hairston finished by saying, "And we want to do everything possible to assure beekeepers they are being heard."

Helping Honey Bees Thrive

2014 Bayer Bee Care Community Leadership Award

Have you harnessed the power of a honey bee colony to benefit your community? Bayer wants to celebrate your "buzz-worthy" initiatives through our second annual Bee Care Community Leadership Award.

The application deadline is May 9, 2014, so apply today!

Follow us
@BayerBeeCare
Facebook.com/BayerBeeCareCenter

bee care

To learn more about the award and apply, visit www.pollinatorweek.bayer.com.

Bayer CropScience

"No one is as hard on us as we are on ourselves," Murray Belyk, Manager, Scientific Affairs at Bayer in Regina, Saskatchewan pointed out. As did other scientists, Belyk acknowledged that pesticides play an important role in agriculture and so the focus must be on making them as risk-free as possible. New innovations like the Bayer Varroagate are part of Integrated Pest Management (IPM) which involves management as well as chemical routes to pest control. Varroagate utilizes much smaller doses of chemical than other systems and is expected to have a dramatic effect on preventing reinfestation of colonies. Several chemicals can be used, including Bayvorol, which will be available soon. "More tools in the toolbox", he said, "but the greatest effort is to keep bees and pesticides apart."

In Canada, The Pesticide Management Regulatory Agency (PMRA), under Health Canada, registers products in the same way the Environmental Protection Agency (EPA) does in the US. Requirements for registration have been "harmonized" to minimize the need for duplicate testing.

Regarding Europe's banning of neonics last year, Belyk noted France had outlawed them in the late 1990s. "Bee health did not improve," he said. "Can we expect a different result now? All they have done is remove one tool from the toolbox. The result is a return to older, harsher chemistries. Farmers are going to treat pests one way or another, whatever is available."

Bee kill investigations are done by PMRA in Canada, with provincial agriculture and environment ministries following up. In the US, responsibility begins at state level, overseen by EPA. Difficulties lie in the fact there is no protocol for how or when samples are collected or stored, sometimes compromising the quality of the samples, and there have been complaints about both bad and non-existent investigations. Is there a better investigative process? "We (Bayer) could help in a lot of ways (in Canada)," Belyk said, "but beekeeper perceptions prevent us doing so for fear we might skew the results. The interesting thing about PMRA doing it is that although there are many other factors that could be involved, PMRA is only investigating pesticides, with the result that pesticides are the only conclusions they see."

Belyk too recognized the amount of work going into developing IPM programs to better control issues in bee health. Bayer, he noted, will soon be embarking on many meetings with industry groups - growers and beekeepers - to talk about research and management applications.

The best take-home message was delivered by Steve Troxler, North Carolina Ag. Commissioner, when he said that the common denominator among all the interests present at the grand opening is that agriculture is the underpinning of society and we are all engaged in the business of feeding a hungry world. "A hungry person is a mean person", he concluded, and agriculture has a vital role in the harmony - or otherwise - abroad in our world.

My personal thanks to Bayer for making it possible for me to attend the Bee Care Center Grand Opening. I found it an interesting and informative day, with very exciting work already underway. Everyone I spoke with was willing to discuss difficult issues openly and I came away more convinced than ever that the only road forward is to listen, learn and discuss so we are as well-informed as possible to make the best choices for the future. Beekeeping is indivisible from agriculture as a whole - we are all critical to food security. Twenty-first century issues are going to require twenty-first century management practices and a lot of cooperation.

Photos: 1. Attendees waiting for tour to begin, 2. NC Ag Commissioner Troxler and NCSU Dean Linton visit the lab, 3. An NCSU student explains the foulbrood study, 4. The pollinator-friendly plantings outside the facility.

CONFERENCE 2013 ....

One Man's Opinion

By Dr. Jerry Bromenshenk, University of Montana, Missoula, and 2014 WAS President

In Santa Fe, I talked about Beekeeping Myths, Facts, and Fictions. A 2007 report from the National Research Council (http://www.nap.edu/openbook.php?record_id=11761) provided an in depth report on insect Pollinator Decline in N. America. The release of this report overlapped the first widespread media coverage of a disorder termed Colony Collapse Disorder (CCD) in honey bees.

These two events precipitated a worldwide awareness of declines in numbers of a wide variety of insect pollinators. The general public, who often had forgotten or never thought about the importance of insect pollinators, suddenly realized that this could affect not only the insects, but also plants that depend upon or benefit from insect pollination, and ultimately our food supplies.

Suddenly, it was popular to 'save the bees', something totally unheard of just a few years ago. Unlike climate change, which is hotly argued about whether it is occurring, pollinator loss has been almost universally accepted. We also saw an immediate polarizing of various groups, each convinced that they knew the primary cause of the problem and immediate action needed – such as the banning of certain pesticides, blaming the practices of commercial beekeepers, or proclaiming native insects as good, and honey bees - an introduced species - as bad.

Identifying all of the contributing factors and causes of these declines will take time, hard work, and research to sort out. Prematurely blaming one or another factor serves little purpose and may lead to decisions that could further exacerbate problems. However, most can agree that chemical pesticides have and will continue to adversely impact pollinators and that misapplication and overuse are parts of the problem. Urban sprawl, habitat fragmentation, large agricultural monocultures like corn, widespread planting of hybrid and GMO crops all contribute to a shrinking floral resource for pollinators that need diverse, high quality, safe sources of nectar and pollen.

Our own research indicates that many new crop varieties produce meager amounts of nectar and pollen, and that nutritional quality for bees may have also decreased. The new Farm Bill has funded an experimental program to increase bee forage, and other groups such as Project Apis m and the Xerces Society are also promoting this issue, as are our national,

regional, and many local beekeeping associations. The good thing about this problem is that we can all help by working to open more areas to pollinators, modifying federal and state farm and conservation programs to increase pollinator habitat, and planting bee friendly plants in our own surroundings.

Personally, rather than trying to find causes to blame, I believe that faster progress may result from proactively working to improve conditions for pollinators and focusing on improving bee health – in essence, a wellness program for bees. Better diagnostic tools, developing best practices for bee management, producing new methods and products for controlling pests and treating sick colonies, integrated pest management, improving communications between beekeepers and growers, providing quality, science-based educational courses, taking full advantage of modern social networking and multi-media are all things that can be done now.

What will NOT help is a well-meaning, but poorly thought out approach that promotes increasing the numbers of honey bees and indiscriminately dispersing them into their surroundings. I've encountered several variations on this theme, but basically it's based on a notion that the numbers of honey bees are in decline in North America, and that flooding the continent with honey bees will somehow reverse pollinator declines.

So people - many of whom know little or nothing about honey bees - are buying beekeeping kits or building their own simple hives, then buying bees or catching swarms to put in the hive, after which they feed and feed and feed more to their bees, trying to rapidly grow large bee populations with the intention of causing the colony to swarm, and thereby increasing the number of bee colonies (the proper term is feral colonies) in their surroundings. Local Ranch Supply businesses are now selling bundled beekeeping kits with a beginner hive, smoker, gloves, hive tool, and scant instructions – all in a pretty cardboard box with graphics and text that promote 'saving' the bee by buying a bee box and adding bees.

This trend scares me. The intention is good – help the bees. But, the advocates pay little or no attention to any understanding of good bee management. In fact, they often promote little or no bee management, not even a cursory inspection of the colony (opening a hive is considered to be bad for the bees), don't use smoke, and don't use any medications, treatments, or miticides to control bee diseases and pests like mites.

In February of 2002, Eric Mussen wrote an essay on the impact of honey bees on the California environment. He commented on native pollinators and honey bees, pointing out that for the native pollinators, the major problem was habitat alteration or destruction, not lack of food. He also mentioned that honey bees may help foster initial re-establishment of native plant populations. Thus, until habitats have been adequately restored, he encouraged solicitation, not banning of honey bees from restoration areas.

I doubt, however, that Eric meant that we should indiscriminately stock areas with feral populations of honey bees. In 2002, we didn't know about the potential for the exchange of pests and diseases amongst bee species. Each pollinator species has its own suite of pests and pathogens. Some of these mites, microbes, and viruses are unique to the host insect species, while others are generalists, able to transfer to other insect species. For example, honey bees and bumble bees share mites. Some viruses not only affect more than one species of bees, but some even affect disparate insect species, such as a virulent DNA virus found in moths, but is known to be lethal to a wide variety of other insects, including honey bees.

We can debate how much added pressure, if any, feral bee colonies place on native pollinators in terms of sharing food and places to nest, but there is no doubt that honey bees can spread pests like mites and diseases to other honey bee colonies and to other insects. Growing unmanaged bee colonies and encouraging them to swarm, while paying little or no attention to whether the swarms are free of mites and disease, poses a very real hazard to the health of other honey bee colonies, to native bee pollinators, and possibly even other insect pollinators like butterflies.

If you doubt the risk, consider this, the US beekeeping industry has already done this experiment, and we know the outcome. In September, 1987, colonies in some hives in Wisconsin experienced colony failure. This was the first recorded case of Varroa infestation in the USA; the actual date of introduction is estimated to have occurred about 1985. It didn't take long for Varroa to spread all across the US.

Canada closed its borders to importation of honey bees from the US, and this action apparently delayed the spread of tracheal and Varroa mites. However, Canada now has Varroa in all provinces, and it's being found in the northern-most regions. In addition, Canada still finds tracheal mites, whereas these mites are seldom found any more in the US, with the exception of a few localized areas.

With the appearance of mites, annual honey bee losses dramatically increased. In much of the US, annual bee colony losses, even in cold, northern climates tended to be 5-10% before mites swept across the nation. Now, we see consistent reports of annual losses of 20-30% or higher. More importantly, when Varroa mites are first introduced to areas, feral honey bee colonies virtually disappear. Eventually, we see some recovery of feral bee populations, and Africanized bees are known to have some tolerance to mites.

My point is, Varroa mite shows us that honey bees share their pests and diseases with other bees, and this can be extremely detrimental. It's unfortunate that we weren't looking at native pollinators when Tracheal mites and then Varroa mites spread over the US. Whether these mites contributed to declines in native bees in unknown.

My conclusion: encouraging indiscriminate swarming of honey bee colonies is both unprofessional and unethical. At best, it increases pressure on all pollinators for shared food and nesting places. At worst, deliberately encouraging swarming of bee colonies with the potential of spreading pollinator pests and diseases should be considered to be pollinator genocide.

CONFERENCE 2013 ....

Paradise Nectar Apiaries in Hawaii

Aloha! My name is Jen Rasmussen. I started Paradise Nectar Apiaries 4.5 years ago on the east side of the Big Island of Hawaii in the Kapoho and Pahoa areas. My 6 apiaries are located within a 30 mile radius of my home yard but are in separate micro climates. Hawaii is home to the endemic ohia'lehua. The honey from these flowers is solid, creamy, white and delicious. We also have a variety of coconuts, avocados, macadamia nut, citrus, exotic fruit orchards, and much more. Where I live in lower Puna we are blessed with a steady nectar flow except for October thru December when we experience heavy rains. My bees are cared for in foundation-less frame Langstroth hives and top bar hives.

In 2009 varroa mites were found on the Big Island. I was very new to beekeeping and open to trying new things. I tried using formic acid and Hopguard and quickly found that these products were not benefitting my bees.

For the last three years I have been making splits with natural queen cells and catching swarms to multiply my colonies. I manage between 60-80 colonies without the use of treatments, antibiotics, feeding, or grafting. Most are German and Carniolan genetics. Most of my "survivor" bees come from removals and swarms that I have collected.

The bees will create propolis prisons and starve beetles in them. They jail beetles in the corners of the hive and remove unhealthy brood regularly. It is my practice to remove all comb after one year. This aids in preventing nosema ceranae from becoming a problem.

In Puna the bees have evolved to a reproductive cycle that can be observed in the first 6-8 weeks after a shaken swarm is installed. When cups are built at this time the hive is not strong enough to swarm so I remove the cups and stifle swarming. The next cycle is the third month of growth when the hive has developed and are 1/2 to 3/4 full in a 3ft top bar hive or a 10 frame deep with a super. The three month swarm/split cycle is critical for my treatment free methods. Once the queen cell is developed I pull the original queen and make a split with 3+lbs. of her own bees. In Hawaii the gestation period for queens is faster and they tend to emerge between the 10th and 12th days. I use each healthy cell to create a nuc and raise each separately. Once mated I sell nucs and queens to reduce my number of colonies. During the three week break in egg laying the bees will clean up the combs and remove mites and beetle eggs, cleansing the hive for the new brood cycle. It is this cleansing process that allows my bees to control pests on their own.

I have tried many variations to the cycles as well as many hive designs. In my experience, if bees do not swarm or have a break in their brood cycle by the seventh month, they will develop deformed wing virus, chalk brood, snot brood, and I start to see dead and dying bees in the front of the hive. By allowing bees to continue with their natural process I have observed low mite counts and strong genetic diversity. I truly believe that the bees are the best teachers. I learned by reading some books and opening two un-kept hives on our property. Their harsh and gentle lessons have helped me develop the love and understanding I have today.

Currently I am offering treatment free nucs, packages, natural cell queens, hive boxes, workshops and numerous chemical free bee products. It is my mission to support new bee guardians and raise awareness about organic, sustainable beekeeping and overall bee health. We are all one and to really achieve a state of health we need to see beyond our limitations and "bee" the change. Mahalo!

CONFERENCE 2013 ....

The Queen Bee Project

By Christina Yahn, Nelson, British Columbia

The Queen Bee Project was founded after my introduction to the intricate relationship between honeybees and the essence of plants. The desire to create a project model for the health and sustainable survival of pollinators which contributes to our local economy and improves food security in our region was my motivation. After receiving a research and development grant in 2010 I was able to further explore this relationship between plant medicine and bee health.

I believe the future of beekeeping is to shift away from dependency on synthetic chemical management towards supporting the natural environment and cycles of the honeybee.

Housing honeybees in both top bar and in Langstroth hives for five years in the Kootenay mountains of Canada I have chosen to use only the support of plant essences for "treatments" and management. Through research and backyard experimenting, this evolved into working with farmers to grow medicinal plants for steam distillation and developing a product line for honeybees. The medicinal herbs for our products are grown on organic small-scale farms, the honeybees from our pollination program as well as wild pollinators in that area benefit from the extra forage. We then steam distill the plant materials for the hydrosols which are then used in our bee care and body care lines.

A hydrosol (hydro = water, sol = soluble) is the floral waters created from the steam distillation process. It contains about 0.2% essential oil plus the water soluble properties of the plant.

The floral sources honey bees forage on provide a food source, however they also provide a natural pharmacy for the bees, aiding in immune support and overall health. The volatile oils of the plant are transferred in the nectar similar to distilling for essential oils.

Recent studies have been published analyzing the therapeutic and medicinal effects of honeys from different floral sources. Manuka honey is well known for its ability to heal wounds exceptionally well, because of the levels of hydrogen peroxide and other antibacterial compounds of the plant. Heather honey and thyme honey have also been shown to have incredible antibacterial properties.

Hippocrates "the father of modern medicine" documented in some of his first medical journals that thyme honey is preferred for medical uses.

It makes sense that certain honeys would be beneficial to the honeybees to feed on for their antimicrobial effects and immune strengthening properties. Studies have shown that honeybees who forage on a variety of medicinal plants have stronger immunity and resistance.

One of the most important things we can do for our bees is to plant medicinal forage for them to gather the nectars and benefit from the properties of these specific plants. Virgil and Varro in ancient Rome wrote some of the most prominent agricultural books dedicating a great deal of it to bees and plantings that support them.

Now offering workshops on Natural stewardship of pollinators, I'm enjoying observing the relationship development between humans, pollinators and plants.

Planting for bees and other pollinators can be mutually beneficial such as tea gardens growing chamomile, mint, sage, lavender, thyme, oregano and lemon balm to name a few.

The synthetic sugar feeds honeybees diet on are lacking in valuable nutrients. When I am faced with feeding bees I make herbal teas as the base and add in hydrosols for plant essence additives.

2013 swarm on hazelnut tree

Chamomile is anti fungal making it a great choice for spring feeding. Nettle has shown to strengthen weak colonies and is full of Bee-vitamins and Thyme is known for its anti mite properties containing thymol.

I've created "Bee Fed" and "Bee Strong" as feed additives for spring and fall feeding. The hydrosols allow the diluted essential oils presence in the colony, exposing the bees to the beneficial elements of those plant properties.

Adding into feed is only one of the methods of application and after a few seasons of working with the floral essences and other beekeepers a variety of products were developed such as:

Bee Calm: Smoke alternative spray, the floral scents help to calm the bees (and the beekeeper!), The absence of smoke prevents any carcinogens from being introduced into your hives, while also maintaining the purity and flavor of the honey and ensuring your bees are not losing productivity from the gorging behaviour smoke triggers.

Bee Friends: Hive combining spray Lemon balm based floral blend for combining colonies or introducing queens. By altering the pheromone of the colony with a queen pheromone mimicking blend they are more likely to get along and accept each other.

By encouraging healthy eco systems we create the environment all living beings require to flourish. Industrial agriculture will adapt to diversification, natural pest management and resident pollinators for its own survival.

Visit our website to learn more about our project: www.thequeenbeeproject.com. "Bee The Change"

1. Honey bees gathering nectar on sweet alyssum (Kelowna BC); 2. in Hawaii (plant variety unknown); 3, bees on flowering thyme (Winlaw BC); small insets - Bee Calm smoke alternative; Bee Fed spring brood stimulant

Sublethal effects

Reprinted from Dr. Eric Mussen's University of California Cooperative Extension Newsletter Jan/Feb 2014

It should be apparent by now that honey bees seem to be having problems when too many pesticide residues accumulate in the hives. Since the bees are not dying of acute poisoning, researchers are focusing their attention on so-called "sublethal effects," as if this were a novel idea. However, in 1988, Kenneth Haynes from the University of Kentucky published a paper titled, "Sublethal Effects of Neurotoxic Insecticides on Insect Behavior." He felt that this sort of information was important for a number of reasons: 1) it might better explain the modes of actions of various insecticides; 2) and it might elicit behavior changes that might be disruptive to target pest insect physiology; however he stated that this otherwise beneficial effect might be deleterious to beneficial insects; and 3) it might shed light on how insects develop avoidance reactions to some insecticides. Haynes referred to a paper by H. Levinson who coined the word "insectistatics" to describe interfered-with normal processes of growth and reproduction that do not necessarily lead to death.

The article goes on to explain in detail various categories of behavior that are influenced by sublethal exposures to various insecticides. Since this is an earlier publication, the examples are mostly from exposures to organophosphates, carbamates and pyrethroids. The discussion of reproductive behavior states that exposures usually result in production of reduced numbers of viable offspring. This can be the result of failure to find mates, failure to mate, and detrimental physiological changes in the reproducing female. Occasionally, more viable offspring resulted.

The next category, host-finding and feeding behavior, includes references to honey bees. Haynes states that we should not assume that a honey bee colony is not affected by an insecticide exposure simply because there is no immediate bee kill. When fed sublethal doses of parathion, honey bee foragers lost their ability to correctly relate the direction to the food source with their waggle tail dance. They were off by 7.5 to 29 degrees when they danced on vertical combs in the hive. When placed on horizontal combs in sunlight, they danced directly to the source. "So, it appears that the exposure to parathion interfered with the translation between photomenotaxis (directed movement at an angle to light) and geomenotaxis (directed movement in relation to gravity). During the first 5.5 hours following exposure to the parathion, flying foragers would stop short before they reached the food source at which they had been trained. The exposed bees normally recovered their normal dance patterns by the next day. However, the parathion exposure also interfered with their ability to remember the time of day when the food was provided in the feeder. That effect lasted for more than a day. That suggested that various alterations in behavior do not all commence and dissipate at the same rate.

The parathion-exposed bees also took longer to learn the proboscis-extension behavior, and spent more time cleaning themselves and doing trembling dances than tending to their routine house bee tasks.

The section on dispersal and locomotory behavior did not refer to bees. The following section on perception of pesticides

Mystery solved!

Last issue, I asked the membership to help identify the person who created this spectacular hooked rug with the WAS logo. The Spangler family checked in, recognizing it as one of many that former WAS newsletter editor Burt made in his retirement.

Initially, the rug was offered as an on-going item to auction at annual meetings but lately it seems to have settled into a permanent role in welcoming conference-goers as they check in at the registration desk. See it on display in Missoula, Montana this September.

did refer to honey bee behavior. Both E. L. Atkins at UC Riverside and K.S. Pike, et al., at Oregon State University felt that insects, including honey bees, were repelled by permethrin applications in the field. The observations showed that treated fields were not visited as often by honey bees and the bees in the field avoided contact with the treated foliage. They called this repellency. However, Dr. Christine Peng (now retired from UC Davis) and I ran experiments with permethrin in laboratory studies, and found that honey bees were not averse to walking across heavily dosed filter paper to get to their food. I presumed that the lack of foragers in the field was due to the failure of the early "leader bees" that return from the field with rewards that start the entire field population on their way for the day, were killed and never set off the foraging behavior for that crop. Haynes recognized that possibility. However, now I wonder. Is it not permethrin that is impregnated into military and high end recreational sports clothing to repel biting arthropods?

Haynes' article wraps up with a review of the modes of action of the chemicals that had been discussed and the following sentiment: Looking for changes in behavior should be the best way to determine sublethal effects. Even though such studies are more laborious than dose mortality studies, they would elicit insectistatic effects. Those are the types of effects that we are seeing in our honey bee colonies but are not receiving the attention they deserve during our pesticide registration evaluations.

The complete citation for this article is: Haynes, Kenneth F., 1988. "Sublethal effects of neurotoxic insecticides on insect behavior." Annual Review of Entomology 33:149-68.

You are invited!

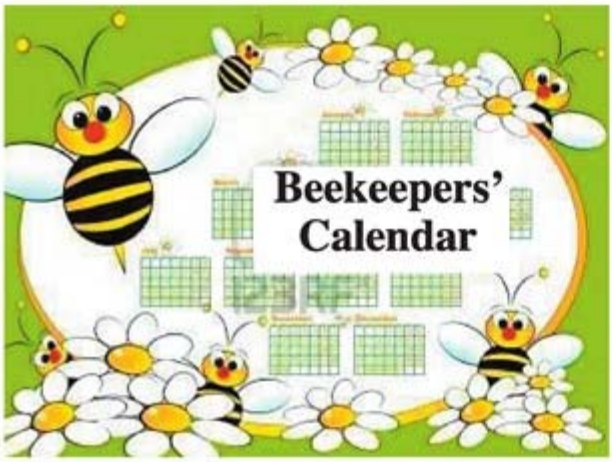
What: The USDA Carl Hayden Bee Research Center's Dr. Gloria DeGrandi-Hoffman discusses Varroa mite population growth in honey bee colonies and provides the latest information on her research in this area.

Purpose: To provide the most-up-to-date information on Varroa to help you make better decisions for controlling this mite in your colonies. A question-and-answer session follows the presentation, and the Webinar will be recorded and posted on our website (http://gears.tucson.ars.ag.gov).

When: Tuesday, May 13 at 9 a.m. Pacific Time.

How to connect: To prepare in advance for the conference (for all devices) access click here: https://connect16.uc.att.com/usda/Prepare/ and download the webinar connection software.
Connect to the Webinar May 13 at 9 a.m. Pacific Time: Go to https://connect16.uc.att.com/usda/meet/?ExEventID=87215210 and follow the instructions.

To connect with your telephone:
1. Dial: 888-844-9904
2. When prompted, enter the Meeting Access Code: 7215210#



July 10 - 12: Heartland Apicultural Society Conference, Carbondale IL. Info heartlandbees.com

July 27 - Aug 1: Eastern Apicultural Society 2014 Conference, Eastern Kentucky University, Richmond Campus. Info https://www.easternapiculture.org.

Sept 17 - 20: Western Apicultural Society Annual Conference, University of Montana, Missoula MT. Info Dr. Jerry Bromenshenk 406-544-9007 or WASpresident2014@gmail.com.

Nov 18 - 20: 125th Annual California State Beekeepers Association (CSBA), Hyatt Regency Hotel, Valencia, CA. Info www.californiastatebeekeepers.com.

Dec 2 - 4: Almond Board Conference, Sacramento CA Convention Center. Info www.almondboard.com.

Jan 6 - 10, 2015: North American Beekeeping (ABF) Conference and Tradeshow, Disneyland Hotel, Anaheim, CA. Info www.abfnet.org.

Jan 6 - 10, 2015: American Honey Producers Association (AHPA) Convention and Tradeshow, Manhattan Beach Marriott Hotel, Manhattan Beach, CA. Info americanhoneyproducers.org.

Sept 15 - 20, 2015: 44th Apimondia Congress, Daejeon, South Korea. Info http://www.apimondia.org.

For more Beekeepers' Calendar of Events items, visit the Global Beekeeping Calendar, courtesy of the Florida Beekeepers Association & Malcolm Sanford at http://www.my.calendars.net/bee_culture

WAS NEWSLETTER ADVERTISING RATES

(Payable in US funds only)

black & white only available in print copies, color can be used in online version

Full page (7.25" x 9.75"	$150 per issue
Half page (7" x 4.5" or 4.5" x 7").	$85
Quarter page (3..5" x 4.5" or 4.5" x 3.5")	$50
Business card (3.5" x 2" or 2" x 3.5")	$25

Make check payable to Western Apicultural Society and mail to Newsletter Editor.

WAS MEMBERSHIP RATES

Individual	$20.00 US
Junior	$15.00 US
Senior	$15.00 US
Senior Couple	$20.00 US
Couple	$30.00 US
Association	$20.00 US
Commercial	$100.00 US
10-Year	$200.00 US
Couple 10-Year	$300.00 US
Benefactor	$500.00 US
Patron	$1000.00 US

2014 MEMBERSHIP RENEWAL DUES PAYMENT FORM

Name _____
First Last

Address _____
Street

_____
City Prov/State Zip Code

Phone_____ **Email** _____

Enclosed is a check in the amount of $_____ in payment of dues for the year(s) _____

Type of membership _____ **New** _____ **Renewal** _____

I prefer _____ print copy or _____ email notification when the digital version is posted on the WAS website.

See page **30** for membership information. Make check payable to Western Apicultural Society and mail to:

Western Apicultural Society
PO Box 397
Selah WA 98942

Please note: Memberships should continue to come to this address to keep Journal mailing lists current. They will be forwarded to the treasurer.

DON'T FORGET TO SEND CHANGE OF ADDRESS IF YOU MOVE!