



OREGON STATE BEEKEEPERS ASSOCIATION 2012 FALL CONFERENCE

**Seaside Civic & Convention Center
Seaside, Oregon
November 1–3, 2012**



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Welcome!

We all wonder where our days, months, and years go when we are so busy with our families, hobbies, careers—whether beekeeping on the hobby level, sideliner level, or commercial level with our honey bees, there leaves little time for anything else, so I am very happy that you have made this Oregon State Beekeepers Association 2012 Conference a priority. We have worked hard and long to bring you a variety of speakers who will help to educate and entertain you. There's plenty of room at this facility to allow room for “hall discussions” because we know how very important they are to our industry, and also plenty of room for our vendors to enjoy beekeepers’ browsing. We have the Honey Bee Lab set up from Oregon State University to help you understand their work and gain some knowledge to try for yourself, and we have two rooms for speaker presentations so that we can frequently run concurrently. Please consider a donation to the OSU Honey Bee Lab in the form of raffle tickets for our wonderful quilt or honey bee picture, a donation in an envelope at the new Breakfast that is being presented this year, or another way you may choose.

Whatever your bee priorities are, may you have a great time at the Oregon Coast, eat some wonderful seafood, have some laughs, and go home with increased knowledge of how to manage your bees.

Jan Lohman, President
Oregon State Beekeepers Association



OREGON STATE BEEKEEPERS ASSOCIATION

Officers



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South Willamette Valley: Jason Rowan
80881 Turkey Run Rd, Creswell 97426
541.942.6479; beetanical@q.com

REGIONAL ASSOCIATIONS

Central Oregon Beekeepers
Meets 6:30 PM, third Tuesday
63211 Service Rd, Suite 130, Bend
President: Bindy Beck-Meyer
For information, please contact John Connelly—
johncobka@gmail.com

Coos County Beekeepers
Meets 6:30 PM, third Saturday (except December)
Ohlsen Baxter Bldg, 631 Alder St, Myrtle Point
President: John Gardner—541.572.3847

Klamath Basin Beekeepers
Meets 9:00 AM, last Saturday (except Nov/Dec)
OSU Extension, 3328 Vandenberg Rd, Klamath Falls
President: Jim Smith—541.892.5888;
tulebee@gmail.com

Lane County Beekeepers

Meets 7:30 PM, third Tuesday, Trinity United
Methodist Church, 440 Maxwell Rd, Eugene
President: Judy Scher—541.344.2114;
judyscher@gmail.com

Linn-Benton Beekeepers

Meets 6:30 PM, fourth Wednesday, South First
Alternative Co-op Mtg Room, 1007 SE 3rd, Corvallis
President: Linda Zielinski—541.929.4856;
llz50@peak.org

Portland Metro Beekeepers

Meets 7:00 PM, second Thursday, Clackamas Comm
College, Clairmont Hall, Room 118, Oregon City
President: Nancy McFarlane—503.260.3930;
mcfarlanebees@gmail.com

Portland Urban Beekeepers

Meets 6:30 PM, first Wednesday, Calaroga Terrace Rtmt
Comm, Terrace Auditorium, 1400 NE Second Ave, Portland
President: Tim Wessels—503.380.9381;
mrjwessels@gmail.com

Southern Oregon Beekeepers

Meets 7:30 PM, first Monday, Southern Oregon
Research & Ext Ctr, 569 Hanley Rd, Central Point
President: John Jacob—541.582.BEES
john@oldsolenterprises.com

Tillamook County Beekeepers

Meets 7:00 PM, second Tuesday, Art Space
Hwy 101 & 5th St, Bay City
President: Bob Allen—503.322.3819

Tualatin Valley Beekeepers

Meets 7:30 PM, last Tuesday
Cameron Public Svcs Bldg, 155 N First Ave, Hillsboro
President: Mike Van Dyke—503.642.5338;
mvand581@gmail.com

Willamette Valley Beekeepers

Meets 7:00 PM, fourth Monday, Chemeketa
Community College, Building 34, Room A, Salem
President: Richard Farrier—541.327.2673

COMMITTEES

Agriculture Liaison: Harry Vanderpool—503.399.3675

Fairs and Exhibits: Marjie Ehry—503.434.1894

Nominations: Chuck Sowers—503.266.1740

NW Apiculture Fund for Honey Bee Research, Extension, and Education: Kenny Williams—541.456.2631

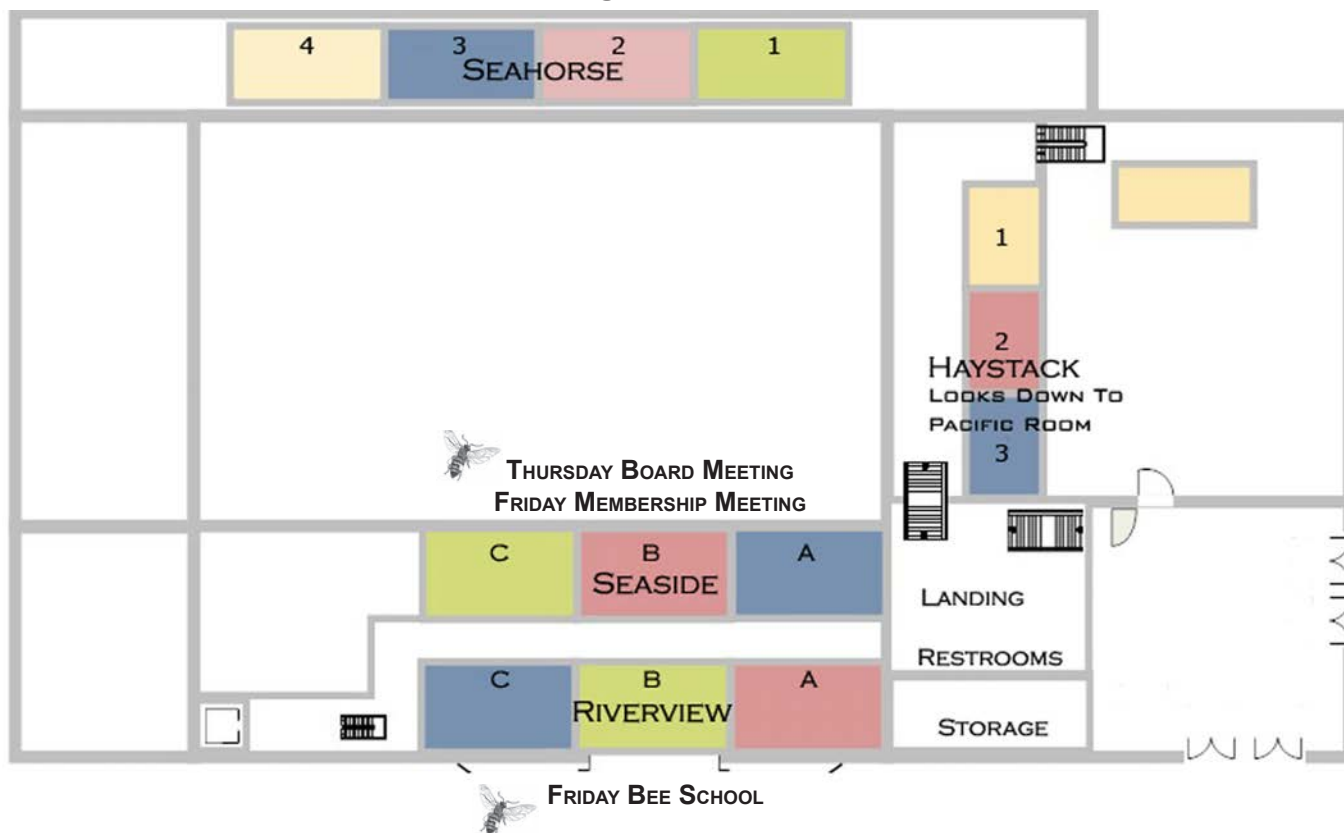
Public Relations: Paul Andersen—503.332.5410



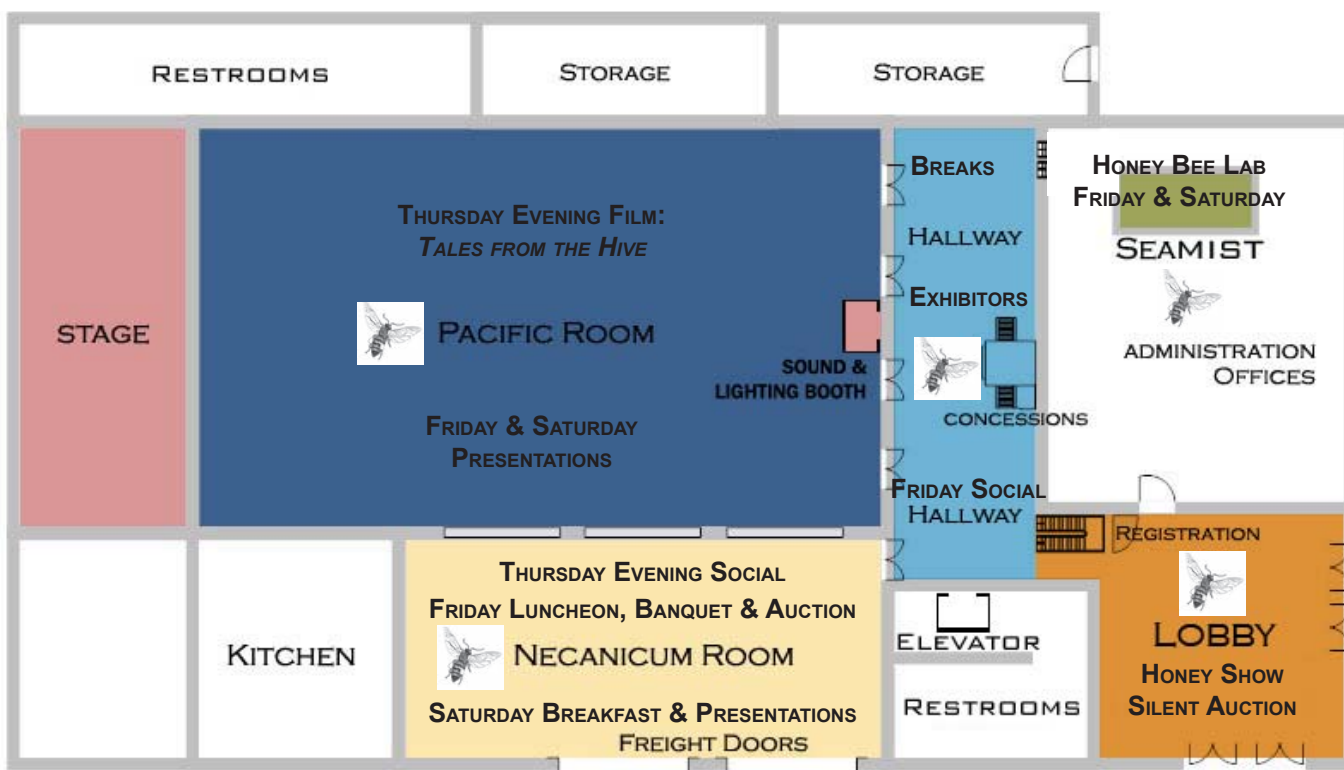
2012 Fall Conference

Seaside Civic & Convention Center Floor Plan

UPPER LEVEL



MAIN LEVEL





Exhibitors

GloryBee Foods Inc.
Greenfield Naturals
Mann Lake Ltd.
Ruhl Bee Supply
Shastina Millwork

True Wood Products
USDA National Agricultural Statistics Service
Vibrant Bees
Western Bee Supplies Inc.
Wicwas Press

Special Events

Honey Show

FRIDAY, after 10:00 AM (SUBMISSIONS UNTIL 10:00 AM AT REGISTRATON DESK)
Judging by Marjie Ehry

Note: Winners to be announced at the Banquet Auction

Lobby

Silent Auction

FRIDAY, 8:00 AM–4:00 PM
Coordinated by Deb Morgan

Lobby

Bee School

FRIDAY, 8:15 AM–3:00 PM (ATTEND ALL OR PORTIONS THROUGHOUT THE DAY)
Instructed by Thom Trusewicz

Riverview Room (Upstairs)

Oregon State University Honey Bee Lab

FRIDAY and SATURDAY, 9:00 AM–4:00 PM
Staffed by Alexis DeLong and Matt Stratton

Seamist Room

Research Luncheon

FRIDAY, 11:45 AM–1:00 PM

Necanicum Room

Banquet and Banquet Auction

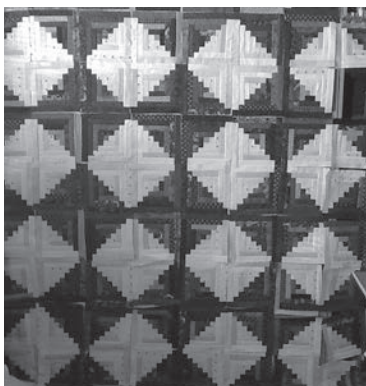
FRIDAY, 7:00 PM
Auction coordinated by Jordan Dimock

Necanicum Room

Endowment Breakfast

SATURDAY, 7:00 AM
Hosted by Kenny Williams

Necanicum Room



Raffles!

Left: Quilt handmade by Pam Schulz.

Right: Photograph taken by Randy Rasmussen of *The Oregonian* during an interview with Jan Lohman and Vince Vazza in The Dalles.

All proceeds go to support the Oregon State University Honey Bee Lab.





Conference Schedule

Thursday, November 1, 2012				
LOBBY Registration: 5:00–9:00 PM				
	NECANICUM	PACIFIC	SEASIDE	
4:00 PM			OSBA BOARD MEETING	
7:00 PM	WINE AND CHEESE SOCIAL			
8:30 PM		FILM: <i>Tales from the Hive</i>		
Friday, November 2				
LOBBY Registration				
Honey Show: after 10:00 AM (Submit entries at Registration Desk until 10:00 AM)				
Silent Auction: 8:00 AM–4:00 PM				
	NECANICUM	PACIFIC	RIVERVIEW	SEAMIST
8:00–8:15 AM		WELCOME		
8:15–9:00 AM		Preparing Colonies for Almond Pollination	BEE SCHOOL	
9:00–9:45 AM		The New World Carniolan Closed Population Breeding		HONEY BEE LAB
9:45–10:15 AM BREAK				
10:15–11:00 AM	Making and Managing Increase Colonies			
11:00–11:45 AM		Insights into Colony Health and Nutrition in Oregon		
11:45 AM–1:00 PM	RESEARCH LUNCHEON Who Pays for Research?			
1:00–1:45 PM		Not Too Far from the Bee Tree: Apiculture, Api-Science, and Profitability in Beekeeping		
1:45–2:00 PM		American Beekeeping Federation: Basic Beekeeping and Beyond		
2:00–2:15 PM		Oregon Master Beekeeper Program		
2:15–2:45 PM BREAK				
2:45–3:30 PM		Effects of Fungicides on Honey Bee Development and Behavior		
3:30–4:15 PM		Feeding Protein and Other Extras: The Right Stuff?		



Friday, November 2 (continued)			
	NECANICUM	HALLWAY/LOBBY	SEASIDE
4:30 PM			OSBA GENERAL MEMBERSHIP MEETING
6:00–7:00 PM		SOCIAL HOUR	
7:00 PM			
	BANQUET Useless Equipment Every Beekeeper Should Have AUCTION		
Saturday, November 3			
LOBBY Registration			
	NECANICUM	PACIFIC	SEAMIST
7:00–8:05 AM	ENDOWMENT BREAKFAST Research: Bees and Almonds		
8:15–9:00 AM	How to Set Up a Queen Cell Production Apiary, and How to Mate Queens	The Asian Honey Bees: So Foreign, But So Familiar	HONEY BEE LAB
9:00–9:45 AM		How Changes in Colony Environment May Affect Your Beekeeping	
9:45–10:15 AM	BREAK		
10:15–11:00 AM	Rearing High Quality Queens (including the Cloake system)	Recent Advances in Honey Bee Germplasm Preservation and Application in Honey Bee Stock Reconstruction	
11:00–11:45 AM		A Recollection of Italian Honey Bees and New Research on Controlled Atmosphere Wintering	
11:45 AM–1:15 PM	LUNCH IN AND AROUND SEASIDE		
1:15–2:00 PM	Reading Frames	Management of Honey Bees for Pollination	
2:00–2:45 PM	Making it Through the Second Year	Propolis: Messy, But Vital to the Health of the Hive	
2:45–3:15 PM	BREAK		
3:15–4:00 PM	Know Nucs	When in Rome...: Crafting a More Satisfying Business Model	
4:00–4:45 PM		PANEL—Pests and Diseases: Current Diagnosis, Techniques, and Treatments	
4:45 PM		CLOSING	

Please take a moment to fill out an evaluation form—what has worked for you and what might have worked better—to help in planning future conferences.

Thank you!



Program Abstracts

Friday, November 2

Opening

8:00–8:15 AM, PACIFIC ROOM

Presenter: Jan Lohman, President, Oregon State Beekeepers Association

Bee School

8:15 AM–3:00 PM, RIVERVIEW ROOM

Presenter: Thom Trusewicz, Astoria Beekeeper *and* OSBA Webkeeper

This beekeeping class covers beekeeping history and equipment; honey bee anatomy and physiology; the role of the worker, drone, and queen; bee behavior, mating, and communication; pests and diseases; swarming; honey, wax, propolis, and other hive products.

Preparing Colonies for Almond Pollination

8:15–9:00 AM, PACIFIC ROOM

Presenter: Dr. Frank Eischen, Honey Bee Research Unit, USDA-ARS, Weslaco, Texas

A study of overwintering performance and an estimate of the feed conversion ratio for a strain of honey bees in South Texas fed pollen or pollen substitute/supplemented diets. Feeding artificial diets to honey bee colonies for winter survival has become a mainstay of commercial beekeeping. We fed honey bee colonies wintering in South Texas four pollen supplemented/substitute diets and one pollen diet for 82 days. These diets were: a) almond pollen, b) 10% almond pollen + Bee-Pro®, c) 10% Chinese pollen + Bee-Pro®, d) Pro Len + Bee-Pro®, and e) Bee-Pro®. At the end of the trial, colonies fed the almond diet were nearly twice the size of those fed diets d) and e).

The addition of 10% almond pollen to the basic Bee-Pro® diet significantly improved colony performance, but not as well as did the almond-only diet. The addition of dry, irradiated Chinese pollen improved consumption somewhat. However, colony strength and brood production, though marginally higher, were not different than those fed Bee-Pro®. The addition of Chinese pollen was probably not cost effective. Because pollen is expensive, we have started a study to examine the phagostimulants in almond pollen in an attempt to improve pollen substitutes.

Oregon State University Honey Bee Lab

9:00 AM–4:00 PM, SEAMIST ROOM

Lab Techs: Alexis De Long *and* Matt Stratton, Honey Bee Lab, Oregon State University

Stop by to see how the OSU Honey Bee Lab processes samples for the Honey Bee Health Survey. We will analyze samples for Nosema, count Varroa mites, and dissect honey bees to look for tracheal mites and sample hypopharyngeal glands. We can also tell you about current research projects and extension events.

The New World Carniolan Closed Population Breeding

9:00–9:45 AM, PACIFIC ROOM

Presenter: Sue Cobey, Washington State University *and* Honey Bee Insemination Service

The New World Carniolan breeding program, NWC, founded in 1981, is in its 31st generation and represents an industry standard for US beekeeping. The program was initially founded to establish and maintain Carniolan stock in the US, less common than the Italian stock. Honey bees in the US expressing



Carniolan-like traits were backcrossed to establish the foundation population, as honey bee importation was banned in 1922.

The Page-Laidlaw Closed Population breeding program, CPBP, was implemented and is currently used as a teaching model. The program was established as a commercial effort in 1981, as Vaca Valley Apiaries in California. The program was moved and maintained at Ohio State University from 1990 to 2007, and moved again to University of California, Davis, in 2007 to 2012, supplying breeding stock to the queen producers. Currently the program is being transitioned to Washington State University and a cooperating group within the California Bee Breeders Association.

The Page Laidlaw computer model of the CPBP predicted a life of 25 years, given a foundation of 50 breeders, as selective breeding tends to narrow a gene pool. To ensure the continued success of the NWC program and enhance genetic diversity, a permit to import germplasm from European carnica stocks was obtained. The addition of *Apis mellifera carnica* stock from the German Carnica Association and from Slovenian carnica breeders was made. The germplasm, imported as semen, has been incorporated into the NWC breeding population. The selection criteria, based upon scoring behavioral traits, includes temperament, spring buildup, productivity, overwintering, brood viability, color, and eliminating colonies susceptible to disease. With the introduction of parasitic mites, additional specific criteria to select for increasing resistance have been included.

Making and Managing Increase Colonies

10:15–11:00 AM, PACIFIC ROOM

Presenter: Dr. Larry Connor, Beekeeping Education Service *and* Wicwas Press

No abstract.

Insights into Colony Health and Nutrition in Oregon

11:00–11:45 AM, PACIFIC ROOM

Presenter: Dr. Ramesh Sagili, Department of Horticulture, Oregon State University

An overview on the status of honey bee health and nutrition in Oregon will be provided. More specifically, results of the annual Oregon comprehensive honey bee health analysis for the past three years will be discussed along with a couple of studies on efficacy of mite treatments (Apiguard®, Mite Away Quick Strips™, and HopGuard®). Also, basics of honey bee nutrition, honey bee nutritional status of pollinating colonies in Oregon, and studies on effects of pollen quality (diversity) on honey bee health, physiology, and immunocompetence will be discussed in this presentation.

Research Luncheon

Who Pays for Research?

11:45 AM–1:00 PM, NECANICUM ROOM

Presenter: Dr. Dewey Caron, Emeritus Professor, University of Delaware

Not Too Far from the Bee Tree: Apiculture, Api-Science, and Profitability in Beekeeping

1:00–1:45 PM, PACIFIC ROOM

Presenter: Clint Walker, Walker Honey Farm *and* Dancing Bee Winery

This presentation will explore how we manage livestock—particularly the honey bee—within the natural limits of their genetic and acquired biology. How far can we push them to meet our business needs? Although primarily directed toward commercial and sideliner beekeepers, this presentation also is relevant for hobbyists interested in sustainability issues.



2012 Fall Conference

American Beekeeping Federation, Basic Beekeeping and Beyond

1:45–2:00 PM, PACIFIC ROOM

Presenter: **George Hansen**, Foothills Honey Company and President, American Beekeeping Federation

In this talk, I will outline the efforts of the American Beekeeping Federation to influence the programs of the federal government that have impact on bees and beekeepers, from research funding to pesticide regulation, from honey labeling laws to habitat revitalization.

Oregon Master Beekeeper Program

2:00–2:15 PM, PACIFIC ROOM

Presenter: **Carolyn Breece**, Contact, Oregon Master Beekeeper Committee

The Oregon Master Beekeeper Program began in early 2012 with the Apprentice Beekeeper Level. Nearly 140 students from all reaches of Oregon are participating in the Apprentice Beekeeper Level. Volunteer instructors have taught classes in many regions throughout the state, and mentors have been guiding students with hands-on field experience. The Oregon Master Beekeeper Planning Committee is looking forward to launching the Journey Beekeeper Level, which emphasizes community service and advanced training in beekeeping. Please visit our website (www.oregonmasterbeekeeper.org) for more information or to apply to the program.

Effects of Fungicides on Honey Bee Development and Behavior

2:45–3:30 PM, PACIFIC ROOM

Presenter: **Dr. Louisa Hooven**, Department of Horticulture, Oregon State University

Bees may encounter pesticides as they forage, and also be exposed to contaminated beeswax, stored pollen, and honey. Delayed or sublethal effects from these latter kinds of exposures could be very difficult to tie to a specific pesticide. From conventional testing methods, fungicides are thought to have little effect on adult bees. However, multiple fungicides are transported with pollen into the colony, and some are known to persist in beeswax. Beekeepers suspect that fungicides may have an effect on honey bee development, and some laboratory tests have demonstrated adverse effects of fungicides on bee larvae. We have developed laboratory methods to chronically expose young adult bees to pesticide-contaminated beeswax in concentrations similar to those found in hives. By using specialized software to track the behavior of bees on video, we have found that the major contaminants of beeswax, including the fungicide chlorothalonil, delay behavioral development as measured by the initiation of circadian activity rhythms. We have also fed pollen spiked with fungicides to colonies of bees in flight cages. By evaluating colonies weekly, we found that certain fungicides affect larval development and queen health several weeks after initial exposure. These results suggest that chronic contact exposure through wax and ingestion of fungicides through pollen may target the development and social function of young worker bees, and may have detrimental effects on the colony. In addition to research results, Dr. Hooven will report on progress updating *How to Reduce Bee Poisoning from Pesticides*.

Feeding Protein and Other Extras: The Right Stuff?

3:30–4:15 PM, PACIFIC ROOM

Presenter: **David Hackenberg**, Hackenberg Apiaries

No abstract.

OSBA General Membership Meeting

4:30 PM, SEASIDE ROOM

Social Hour

6:00–7:00 PM, HALLWAY/LOBBY



Banquet

Useless Equipment Every Beekeeper Should Have

7:00 PM, NECANICUM ROOM

Presenter: **Dr. James Tew**, Beekeeping Specialist, Auburn University *and* Emeritus Professor, Ohio State University

Beekeepers are seemingly drawn to gadgets and modifications—anything that makes beekeeping easier and more rewarding is considered a good thing. The problem is that some of these devices and procedures approach the bizarre. The electronic sting deflector is an example. Anyone have one of these now? There's a reason for that. This short presentation revisits some of the interesting—but now unavailable—devices that have been designed and marketed.

Saturday, November 3

Breakfast Fundraiser for Endowment

Hosted by **Kenny Williams**

Research: Bees and Almonds

7:00–8:05 AM, NECANICUM ROOM

Presenter: **Dr. Frank Eischen**, Honey Bee Research Unit, USDA-ARS, Weslaco, Texas

How to Set Up a Queen Cell Production Apiary, and How to Mate Queens

8:15–9:45 AM, NECANICUM ROOM

Presenter: **Dr. Larry Connor**, Beekeeping Education Service *and* Wicwas Press

No abstract.

The Asian Honey Bees: So Foreign, But So Familiar

8:15–9:00 AM, PACIFIC ROOM

Presenter: **Dr. Michael Burgett**, Emeritus Professor, Oregon State University

No abstract.

How Changes in Colony Environment May Affect Your Beekeeping

9:00–9:45 AM, PACIFIC ROOM

Presenter: **David Hackenberg**, Hackenberg Apiaries

No abstract.

Rearing High Quality Queens (including the Cloake system)

10:15–11:45 AM, NECANICUM ROOM

Presenter: **Sue Cobey**, Washington State University *and* Honey Bee Insemination Service

Rearing queens is the most fun aspect of beekeeping, in my opinion. It is rewarding and gives you the ability to do some selection towards the characteristics you want to see expressed in your apiary. Rearing high quality queens requires strong healthy colonies, following some basic principles, and attention to details. Swarming is the basis of reproduction in the colony, so these are the conditions we want to enhance and sustain. Basically you are creating and contributing to the natural stimulus to swarm, with an element of control. Queen rearing requires crowded hive condition with a high ratio of young nurse bees, good nutrition with plentiful food sources. Queen pheromone levels are either reduced or eliminated by removing or confining the queen. It is also critical to minimize exposure to pesticide and miticide residues within the colony, as much as possible, as this has a negative impact, especially on the reproductives. A key indicator the timing is right is when you begin to see drones emerging. Drones production is just as important as queen rearing and needs to be given attention. During the spring season, a healthy colony will normally rear drones. Preparation for this begins in winter, including Varroa control, ensuring ample food stores, and a young population.



2012 Fall Conference

As there are many different queen rearing systems: queenless, queenright, the use of swarm boxes, starters and finishers, etc., choose what works best given your needs and management system. A popular and versatile system for small- and large-scale queen rearing is the Cloake system. This will be reviewed. For more details on the Cloake system, including a modification to establish a queen nursery/banking system, see: www.honeybee.breeding.com/Publications.

Recent Advances in Honey Bee Germplasm Preservation and Application in Honey Bee Stock Reconstruction

10:15–11:00 AM, PACIFIC ROOM

Presenter: Brandon Hopkins, Washington State University and Research and Apiary Manager

Washington State University has been importing germplasm from Old World honey bee populations since 2008. The semen collected in Europe has been brought into the US under USDA-APHIS permit and only viable for about two weeks. This time limitation meant that only one generation could be produced from each trip abroad.

On a collection trip to the Caucasus Mountains in the Republic of Georgia in 2011, we were able to cryopreserve semen (germplasm) of the subspecies *Apis mellifera caucasica* and maintain those samples in liquid nitrogen. The trip was the first time honey bee semen had been cryopreserved and transported into the US for long-term storage. On the same trip, we imported fresh semen and used it to inseminate virgin queens at WSU. Those queens were overwintered in our apiary and this summer we grafted from one of the top-performing, instrumentally inseminated queens. The virgins produced from the grafting were inseminated with cryopreserved (and subsequently thawed) semen from the previous year's trip. Queens containing the cryopreserved semen were then grafted from to produce the next generation of queens. Virgins produced from those grafts were then open mated in our isolated *A. m. caucasica* mating apiary. We plan to select from those queens and perform further backcrosses to Caucasian semen still in the liquid nitrogen tank. In 2012, we collected semen from *Apis mellifera ligustica* from Italy (see Sheppard abstract) for both fresh and cryopreserved use.

This work has demonstrated one of the useful aspects of cryopreservation in apiculture. The ability to perform sequential backcrosses using cryopreserved semen has significant conservation and breeding implications. Cryopreservation of semen can provide commercial queen breeders the ability to breed through time and space, allow for progeny testing of specific queens, and allow for greater exchange of "top tier" genetics from around the world.

A Recollection of Italian Honey Bees and New Research on Controlled Atmosphere Wintering

11:00–11:45 AM, PACIFIC ROOM

Presenter: Dr. Steve Sheppard, Thurber Chair of Apiculture, Washington State University

In 2012, Washington State University honey bee program staff collected germplasm from *Apis mellifera ligustica*, the Italian honey bee subspecies. This major collecting effort included sampling a number of apiaries and locations within central Italy and ended with a collection from stocks maintained at the National Institute of Bee Research in Reggio Emilia, Italy. This laboratory has a commitment to assist beekeepers in assessing and maintaining genetic strains of native Italian honey bees. Semen was collected from all locations and aliquots were cryopreserved for future use. Upon return to the US, fresh semen was used to inseminate virgin queens at WSU. This material was subsequently maintained and released through quarantine per USDA-APHIS permit requirements. The germplasm is being further tested and evaluated at WSU and through collaborating bee breeders.

In 2011, a large-scale beekeeping operation in Washington overwintered inside both cold and controlled atmosphere fruit storage buildings. A new research program was initiated in 2012 to evaluate indoor wintering in Washington and the possible manipulation of metabolic gasses for improved survival.



Lunch

11:45 AM–1:15 PM, IN AND AROUND THE CITY OF SEASIDE

Management of Honey Bees for Pollination

1:15–2:00 PM, PACIFIC ROOM

Presenter: **George Hansen**, Foothills Honey Company *and* President, American Beekeeping Federation

I will discuss how different crops sometimes require different strategies to provide growers what they need for a successful crop. The talk will discuss the value of honey bees versus native bees in crop pollination. In addition, I will outline how managing bees for pollination might differ from what we would do to have a successful honey crop. Finally, I want to point out some of the risks to our hives that come with providing pollination service.

Reading Frames

1:15–2:00 PM, NECANICUM ROOM

Presenter: **Morris Ostrofsky**, Eugene Beekeeper *and* Retired Biology Instructor

The bees are telling us the story about what is happening inside the hive. It is our job to read and comprehend what is being said. Reading frames means you have opened and entered the hive. I advocate “minimally invasive beekeeping, and the purpose of this presentation is to maximize the information you glean when you do get into your hive. By learning to read frames, you can understand what is going on, or going to go on, in a hive. Frames can tell you such things as: Is the hive ordered as expected? If not, what does it mean? It’s time to add a super. The honey flow is on. The bees plan on swarming or replacing the existing queen. You have laying workers. Whether or not to take the “free” bees. The bees are honey bound. Whether or not the hive is queenless and hopeless.

For example, frames have their place in the hive. Starting from one side going to the other they are numbered 1 to 10. It doesn’t matter whether you start numbering from one side or the other because the right side of the box should be a mirror image of the left side. For example, number 1 and number 10 should be very similar in an established hive. The number 1 frame and its mirror image, the number 10 frame, are used for storing honey. In an established hive, that is what you should see. Obviously, in a new hive it takes some time to build the comb and store honey. This will usually take place some time during the honey flow. The number 2 and 9 frames will usually contain pollen in an established hive. The number 3 frame (mirror image, number 8) is the beginning of the brood. Note that these frames containing brood, pollen, and honey are ideal for establishing a nuc. In an established hive, brood is located in frames 3 through 8 with the greatest proportion in frames 5 and 6. Reading frames can provide answers to any number of questions. When is it time to add a new super? Seeing 70 percent of the frames being used in either a new or established hive should result in a knee-jerk reaction: new box. Is there something else you might consider at this time? Yes, center the bees. When you see that bees are making new white wax and the wax is on the top bars of the frames, you know that there is a honey flow on. Why are they making the wax? Because the nectar stimulates wax production. This is the same reason you fed your package sugar water after installing it. You wanted to stimulate wax production so the bees would draw out the frames. In addition, queen cells located on the bottom or side of the frame tell you that the bees have swarmed and probably after swarmed. At some point, one of the virgin queens went around and killed her remaining sisters still in their queen cells. A frame that still has capped brood tells you that the queen was there at least within the last 21 days. It also tells you that the bees swarmed within the last 21 days. The location of queen cells differs from this in a supersedure. Depending on location, a honey bound frame may spell trouble that you can read. Frames can tell you when there is no queen, and they can help you build the drone population.

In addition, reading a freely built frame makes it possible to read the intention of the bees. Such a frame uses an empty standard full depth or western in which the foundation has been replaced. It can be replaced with a strip of wax (not the same as foundation) or a paint stick that has been cut, beveled, and



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dipped in beeswax. Either one is placed into the groove of the top bar. With one frame as a microcosm of the hive, you can read what the bees are saying. We will look at some examples. As stated by Peter Borst, “For the beekeeper who takes the trouble to learn the language of the bees, he is able in the space of one minute to ascertain exactly what is going on, or going to go on, in a hive.”

Propolis: Messy, but Vital to the Health of the Hive

2:00–2:45 PM, PACIFIC ROOM

Presenter: Dr. James Tew, Beekeeping Specialist, Auburn University *and* Emeritus Professor, Ohio State University

The sticky, messy product—propolis—is made in the hive and not simply gathered in the wild. Its contribution to the bees and the health of the colony is not always fully appreciated by the average beekeeper. How bees gather the components, how they unload it, some idea of where they unload it, some of the many hive uses for propolis, and lastly, some of the human uses of this under-appreciated colony product are discussed in this presentation. It really is a necessary component of a healthy colony.

Making it Through the Second Year

2:00–2:45 PM, NECANICUM ROOM

Presenter: Dr. Dewey Caron, Emeritus Professor, University of Delaware

The sophomore year—If colonies survive they will get big quickly and will need more space, but I only have an extra box and lack frames and foundation... What are my alternatives? How do I skillfully guide the second-year colony to keep it from swarming and receive the expected bonus of surplus honey to harvest? What do I need to know about requeening and mites this second year?

When in Rome...: Crafting a More Satisfying Business Model

3:15–4:00 PM, PACIFIC ROOM

Presenter: Clint Walker, Walker Honey Farm *and* Dancing Bee Winery

Do you like the business you operate? Is it fun? Is it profitable. Could it benefit from diversification or vertical integration? What opportunities are at your doorstep? This presentation primarily relates to small commercial or sideliners beekeepers, or hobbyists wanting to build an atypical business.

Know Nucs

3:15–4:00 PM, NECANICUM ROOM

Presenter: Morris Ostrofsky, Eugene Beekeeper *and* Retired Biology Instructor

Why make nucs? When is the best time to make a nuc? What preparation is needed? How is a nuc made? What about care and feeding? Has the new queen been accepted? This presentation explores making nucs. It would take me longer than this meeting to cover all the aspects of making nucs. I strongly recommend that you look at the references, especially *Increase Essentials* by Larry Connor and *Beekeeping at Buckfast Abbey* by Brother Adam. They are both excellent references, and they both include the many uses of nucs. Bottom line: nucs are the beekeeper's way of making a new hive. The first question is, what is a nuc? Nuc is short for nucleus. You may also hear it referred to as making a division, divide, or split. We'll explore why you might want to make a nuc, when to do it, and how to go about it.

PANEL DISCUSSION—Pests and Diseases: Current Diagnosis, Techniques, and Treatments

4:00–4:45 PM, PACIFIC ROOM

Moderator: Dr. Dewey Caron, Emeritus Professor, University of Delaware

Questions and responses on pest and disease issues and other topics of interest.

Closing

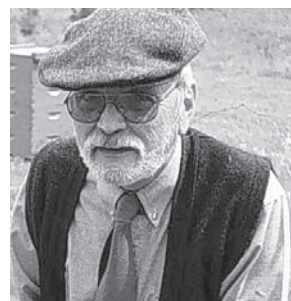
4:45 PM, PACIFIC ROOM

Presenters et al.



Carolyn Breece is a research assistant at the Oregon State University Honey Bee Lab, member of the Oregon Master Beekeeper Program Committee, and secretary for OSBA. She has a bachelor's degree in biology from the University of Oregon and a master's in forestry from Northern Arizona University. More importantly, she has been keeping bees for six years and often wonders how she got so lucky to work with bees every day. In addition to assisting in the management of OSU's 85 hives, she has four hives of her own. She is looking forward to having her five-year-old-son, Simon, join her in the apiary next year when her four hives hopefully become eight!

Michael Burgett, PhD, is an emeritus professor of entomology/apiculture in the Department of Horticulture at Oregon State University. Professor Burgett received both his MS and PhD degrees, specializing in apiculture, at Cornell University in the early 1970s. He came to OSU in April of 1974. He was responsible for teaching, research, and extension activities in beekeeping and honey bee biology until 2003. Research efforts over his 29-year tenure at OSU concentrated in the areas of honey bee mite parasites and pollination. Professor Burgett has also been frequently involved in international beekeeping and has advised beekeeping organizations and government sponsors of beekeeping programs on every continent where honey bees are kept. More than a dozen graduate students at the MS and PhD levels completed their degree programs under his direction. Currently he is teaching in the OSU Honors College and continues an ongoing research program on Asian honey bee ecology in collaboration with colleagues at Chiang Mai University in northern Thailand.



Dewey Caron, PhD, is a Vermont native who learned all about bees during studies at Cornell University with mentor Dr. Roger Morse. He began teaching beekeeping in 1967 at Cornell, continued for eleven years at the University of Maryland, and then twenty-eight years at the University of Delaware. Retiring in 2009, he moved to Oregon to be closer to his grandchildren. Dewey continues to work in teaching beekeeping and assisting beekeepers. He enjoys contributing to local newsletters and extending the research of bee researchers formally and informally to Oregon and Pacific Northwest beekeepers. As president of the Western Apiculture Society (WAS), he worked with a great committee to

host the 2010 meeting in Salem, Oregon. Dewey also continues to be active in international development activities with bees, especially with Spanish-speaking beekeepers and development projects in Central America and Bolivia.

Susan Cobey holds a 50 percent appointment at Washington State University. A major focus is an industry and university collaborative effort to enhance domestic US honey bee breeding stocks. She also operates Honey Bee Insemination Service, providing custom insemination, training, and consulting. Her background includes working for several bee research labs, including University of California, Davis, Ohio State University, and the USDA Honey Bee Lab, Baton Rouge. She also has worked in commercial queen production in Florida and California, and operated a queen production business, Vaca Valley Apiaries, in northern California. She founded and maintains the New World Carniolan Closed Population Breeding Program.





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Larry Connor, PhD, is a graduate of Michigan State University in Entomology (BS, MS, and PhD). Extension Entomologist at Ohio State University. President of Genetic Systems, Inc., in Labelle, Florida, a bee breeding firm. Owner and operator of Beekeeping Education Service and Wicwas Press. Publisher of over fifteen books on beekeeping. Author of *Increase Essentials*, *Queen Rearing Essentials*, and *Bee Sex Essentials*. Editor of Dewey Caron's *Honey Bee Biology and Beekeeping*. Monthly contributor to *Bee Culture* Magazine and the *American Bee Journal* (as the Traveling Beekeeper).

Alexis DeLong is a senior at Oregon State University pursuing a degree in Mathematics with an option in Education as well as Leadership minor. She has been an employee of the Oregon State Honey Bee Lab since November 2009.



Jordan Dimock started keeping bees in 1968 with two foul (i.e., dead) colonies and operated as a hobby/sideline beekeeper until 1991. In November of that year, he bought out a small commercial beekeeper and took up keeping bees full time. He presently runs between 5,000 and 6,000 colonies with Tamara, his wife of 34 years, and a great crew. The Dimocks have three daughters and two grandsons. Jordan also farms and gardens, and he enjoys fishing and hunting—time permitting.

Marjie Ehry and her husband Alan have been active in the Oregon State Beekeepers Association since 1962. As commercial beekeepers, they attended the Portland Beekeepers Association meeting, followed by attending the Tualatin Valley Beekeepers Association, and then soon were helping organize the Willamette Valley Beekeepers Association. “I found beekeepers to be the greatest and warmest people in the world,” she says. “As the years have passed, our best memories are of time spent with family and close friends in beekeeping.” Marjie has held every office in the Oregon association. She was the first “woman” state association president in the United States, is a past member of the National Honey Board, and has served on many state and national committees. She also has served for many years on school boards and in civic groups. Marjie is a founding member of Oregon Women for Agriculture and American Agri-Women. “It has been an honor to represent beekeeping and beekeepers. As we know, honey bees are the Heart of Agriculture!”



Frank Eischen, PhD, Honey Bee Research Unit, Subtropical Agricultural Research Center, USDA-ARS, Weslaco, Texas, grew up on a dairy farm in western Ohio. Spent lots of time wandering the woods looking for wildlife and collecting bugs. Earned a master's and doctorate at Ohio State University working on nutritional aspects of honey bee “disappearing disease.” Have done research on almond pollination, wax moths, small hive beetles, Africanized bees, tracheal mites, and Varroa. Now an adopted Texan these past 22 years.

David Hackenberg owns and operates Hackenberg Apiaries. David, along with his son David R, manage 3,000+ colonies of honey bees for pollination of apples, blueberries, cherries, citrus, pumpkins, almonds, and vegetables in Florida, California, Georgia, Pennsylvania, Maine, and New York doing about 6,400+ rentals yearly. Besides pollination of crops, David's operation also produces a variety of different floral sources of honey. David has been a migrating beekeeper, moving bees back and forth between the north and Florida for 45 years. Prior to 1994, David also ran a sizable honey processing and packaging operation. In January 1994, this was destroyed by a fire and with new change and developments in the food business he decided to concentrate on beekeeping. In November 2006, David identified what is now called *CCD* (Colony Collapse Disorder) and is credited with sounding the alarm to getting the research started. Because of decline in honey bee colony health, David has developed his own bee protein and other honey bee health products. David is past president of the American Beekeeping Federation, Pennsylvania State Beekeepers Association, past member of the National Honey Board, and a member of several beekeeping associations and farm organizations. He is now co-chair of the National Honey Bee Advisory Board and serves on the Environmental Protection Agency Pesticide, Program Dialogue Committee, Pollinator Protection Workgroup. David and his wife Linda have four children: two sons, David R. who is in partnership with his dad and Kevin, who is involved in film and video productions, and two daughters, Jeanne and Betsy. David and Linda also have two daughters-in-law, two sons-in-law, four grandsons, and two granddaughters. See: www.hackenbergapiaries.org.



George Hansen had a short six-year career as a public school teacher, after which he transformed a hobby beekeeping operation into a commercial endeavor. With few resources and even less knowledge, the Foothills Honey Company was formed and became the sole source of livelihood for the Hansen family, George, his wife Susan and sons Matt and Joe. Starting from a few swarms and a collection of retrieved nuisance hives, the company now runs 5,000 colonies in three states. Although the name of the company never changed, the focus of the beekeeping is now primarily pollination service, with honey, wax, and bee sales making up no more than 30 percent of gross revenues.

George is an active member of the beekeeping community, promoting the industry's interests as president of the American Beekeeping Federation and a producer representative on the National Honey Board. He hosts an annual Bee Day workshop and orientation at the Foothills Honey Company home site.

Louisa Hooven, PhD, completed her studies in chemical carcinogenesis and earned a PhD in biochemistry and biophysics at Oregon State University, after which she worked at the National Pesticide Information Center. Responding to public inquiries and concerns inspired her interest in the effects of pesticide exposures. She is particularly interested in sublethal effects of pesticides on behavior, including those resulting from long-term exposures. She is currently a research associate in the Department of Horticulture at Oregon State University. Under funding from the National Honey Board, she is investigating the effects of long-term pesticide exposures from contaminated wax on honey bee behavior. She also has a project with the California Almond Board, investigating the effects of fungicides on colony health.



Brandon Hopkins received his BAE and MS degrees at Eastern Washington State University. His master's degree research emphasis was reproductive biology and thesis focused on the cryopreservation of honey bee semen. He began his doctorate program at Washington State University in the fall of 2009. His research has been focused on field implementation of cryopreservation and improved above-freezing storage of semen. Future studies will investigate reproductive differences between honey bee subspecies and evolutionary lineages. He also currently serves as the research and apiary manager at WSU.



Jan Lohman began beekeeping in 1991 as a part-time beekeeper with Vince Vazza at Vazza Farms, Inc., and in 1994 sold her bookstore to help raise honey bees full time. Her passion is building nucs and requeening hives and watching them grow—there is nothing like it. Together they manage 2,100 colonies in eastern Oregon, which are moved into pollination in the California almonds, and then Oregon cherries, pears, blueberries, vegetable seed crops, melons, and finally buckwheat. She has been president of the Oregon State Beekeepers Association for the past three years, and before that was secretary and a regional representative. Jan has two grown kids, Jason and Tammy, and three amazing grandkids. She also is on the Oregon Master Beekeeper Planning Committee and mentors and instructs students.

Deb Morgan and her husband Bob have been raising honey bees for 35 years. They started out with 35 hives in 1977 and now average about 800 hives. They live on a 90-acre sweet cherry orchard in The Dalles, Oregon, where they raised four boys. With the boys now raised and married, they are proud grandparents of five granddaughters and one grandson. Deb loves dogs, and has five at the moment. She also enjoys her horse, gardening, rafting with her brothers and family, 4-wheeling, traveling when she can, and playing with the grandchildren.



Morris Ostrofsky is a retired biology instructor and has been a beekeeper for 44 years. One of the early results of his interest in beekeeping was his invention of the corrugated nuc box. Morris is passionate about bees. This is readily evident when he shares his knowledge about beekeeping with others. An active member and past president of the Lane County Beekeepers Association, Morris is one of presenters at the club's Annual Bee School. He contributes to *Bee Culture* and *American Bee Journal*; his latest article, "Glass Jar Beekeeping," appeared in the May 2012 issue of *Bee Culture*. Morris is helping to implement Oregon's new Master Beekeeper Program as a mentor and instructor.

Ramesh Sagili, PhD, is a honey bee research and extension faculty member in the Department of Horticulture at Oregon State University. He obtained his PhD in Entomology from Texas A&M University in 2007 specializing in honey bee research. He has a bachelor's and a master's degree in agriculture from A.P. Agricultural University, India. His primary research focus at OSU is honey bee health, nutrition, and pollination. His appointment also includes extension, and hence he works closely with the state stakeholders, i.e., both beekeepers and producers. His goal is to establish a vibrant and dynamic honey bee research and extension program at OSU that will help meet the needs of beekeepers and producers. Dr. Sagili initiated the Oregon Master Beekeeper Program in 2010. He is also the current president of the American Association of Professional Apiculturists.



Pamela Schulz is an eastern Oregon quilt-maker and long-time friend of Jan Lohman's. She has again volunteered to make another quilt for the 2012 Fall Conference raffle and has been working on it for several months. Pam has been a nurse in Hermiston, Oregon, for over 35 years, and for her hobbies enjoys gardening and reading as well as quilting. She says that quilting and gardening are good for her soul. She has two wonderful grown children, Jennifer, who is now pursuing a nursing career, and Josh, an electrician. Did she mention she rides a Harley Softail in her spare time!

Steve Sheppard, PhD, gained an interest in beekeeping from reading the bee books and playing with stored bee equipment that belonged to his great grandfather, a beekeeper in coastal Georgia and South Carolina. He started keeping bees in 1975 while working as a technician on forest insects at the University of Georgia. Steve attended graduate school at the University of Illinois, where he conducted MS research on pollination biology and PhD studies on the population genetics and evolution of honey bees. He then worked as a research entomologist for the USDA ARS Honey Bee Laboratory in Beltsville, Maryland, where he conducted research on the Africanization process in honey bees and the genetics of introduced insect populations, and also established a service laboratory to identify Africanized honey bees involved in port interceptions and “severe stinging incidents.” In 1996, he became the Thurber Chair of Apiculture at Washington State University. Steve, his WSU graduate students, and postdoctoral researchers have continued work on the genetics of honey bees, honey bee breeding and selection for Pacific Northwest conditions, applied aspects of integrated pest management, and investigations of issues related to honey bee colony health. Since 2008, the bee research program at WSU has been instrumental in the importation of germplasm of three honey bee subspecies of apicultural interest (*Apis mellifera carnica*, *A. m. caucasica*, and *A. m. ligustica*) and developing cryopreservation technology suitable for establishing a Genetic Repository.



Matt Stratton is currently completing his final year at Oregon State University with a major in microbiology and a minor in chemistry. This is his third year working at the Honey Bee Lab, and his favorite part of working has been learning more about bees with the amazing people who work with them.

James E. Tew, PhD, is the Beekeeping Specialist for the Alabama Cooperative Extension System, Auburn University and Emeritus Professor, The Ohio State University. Since 1975, Jim has taught classes, provided extension services, and conducted applied research on honey bees and honey bee behavior—specifically, pollination behavior. Additionally, he continues to contribute monthly articles for national beekeeping publications and has written: *Beekeeping Principles* and *Backyard Beekeeping*. He is a frequent speaker at state and national meetings and has traveled extensively to observe beekeeping techniques. He can be reached at: tewbee2@gmail.com , twitter.com/onetewbee, and www.facebook.com/tewbee2.



Thom Trusewicz is a hobbyist beekeeper. He spent a year reading about bees and beekeeping and worked with other beekeepers before attempting to manage his first colonies at his home thirteen years ago. He was a co-founder of the Clatsop County Beekeepers Association, and has taught an annual class for beginning beekeepers. He was the founder and editor of *BeeKind*, a beekeeping newsletter, and has authored several articles for newsletters and web publication. Presently he is the webkeeper of the Oregon State Beekeeping Association website (www.orsba.org) and does several presentations on beekeeping and Honey Bee Workshops for beekeepers and agricultural and service organizations every year all over the Pacific Northwest. Currently his apiary is dedicated to producing chemical-free (uncertified organic) honey and wax products. Unfortunately, supply cannot keep up with the demand for these pure products; however, there those are the sacrifices one must make to keep an enjoyable pastime from becoming a demanding profession.



Clint Walker is a third-generation beekeeper in Central Texas. Growing up in a beekeeping family, he wisely left home after high school with the intention of doing something meaningful with his life. After exhausting all meaningful opportunities to make a living for his young family, he finally straggled back to the bee farm in his mid-30s. Since Clint's grandfather began beekeeping in 1930, Walker Honey Farm has managed a couple thousand colonies for honey production, fee for service pollination, package bees, and queens (WalkerHoneyFarm.com). In the past ten years, Clint and his wife Janice have expanded the company into honey packing, container distribution, and a retail store front sporting varietal honeys from all over the US and a full line of honey

and bee hive products. Walker Honey Farm pollinates watermelons in Texas and produces yaupon holly, clover, and wildflower honey crops. Always looking for a way to sell more honey, Janice and Clint have recently forayed into commercial mead making with Dancing Bee Winery (DancingBeeWinery.com), "the best little meadery this side of the Renaissance." Clint is a former president of the American Beekeeping Federation and vice-chair of the National Honey Board. He was a founding member of The National Honey Bee Advisory Board and co-chair for the first two years of this concerted effort by the bee industry to address colony health. When he is not working in the bee fields or fermenting honey in the wine cellar, Clint enjoys looking at birds and training beekeepers in Swaziland. (Don't ask him about either of these subjects unless you have some time to burn!)



Safe Travels Home.