Nosema, in Brief
by Eric Mussen, Extension Apiculturist, UC Davis

Nosema disease probably causes as much economic loss to beekeepers as all other contagious bee diseases combined. But, it goes unnoticed because it does not change the appearance of the bees and is easily confused with other intestinal problems. A brief discussion of the disease and its control follows.

Nosema disease is caused by Nosema apis, a single-celled obligate parasite of adult honey bee midgut cells. After Nosema spores are ingested, they germinate in the midgut, penetrate the midgut epithelial cells, and reproduce by binary fission (one cell grows large enough to become two, and then it splits). When the nutrients in a cell have become depleted, growth stops and the organisms encyst into highly resistant spores. The epithelial cell lyses (ruptures) and releases the spores into the midgut lumen to start the process again. In time, many spores reach the rectum. The bees have the urge to go, regardless of the weather. If they can't fly, they defecate on the combs and around the entrance of the hive. We call this "dysentery." This is not a diagnostic sign for Nosema. Dysentery also can result from feeding bees indigestible feed (like honeydew) or by feeding too late for the bees to adequately ripen their food - it becomes an active yeast culture.

If infected bees simply died prematurely when they become infected, then we wouldn't have as much to think about. But, infected bees very quickly lose the ability to produce royal jelly. That means that house-cleaning and nurse bees, working to expand the brood nest in early spring, lick up the fecal material and become infected. Without their royal jelly, the queen is not fed adequately to keep her laying well and the larvae aren't fed well. This results in either a colony that "hangs in there" when is should be building up or a colony that dwindles when it should be increasing in population. Reduced colony strength normally means a loss of revenue to the beekeeper, whether renting the bees for pollination or trying to produce a honey crop. If the queen becomes infected, she will become useless in about 30 days. Often the bees try to supersede the ailing queen, but it is a fruitless attempt when we are having winter weather. The colony becomes either queenless or is headed by a drone layer (virgin queen).

Beekeepers who wish to determine the levels of Nosema infections in their colonies should collect adult bee samples in April. To bias the sample to a certain extent, older bees should be collected from the entrance, on the cover, or around the periphery of the cluster. The bees have to be sent to a

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- Bee Masters Short Course Offered
Oregon State Beekeepers Association

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Beekeeping in Western Oregon

By Harry Vanderpool, WVBA

January/February

- Ventilation in our hives is very important during the cold months as it is at other times of the year. Take a walk through the apiary on a cold clear day and peek under some hive covers. Is the underside wet or moldy? If so, place a short

get the job done. A single gallon fed at installation of packaged bees provides protection while the bees are cleaning up the combs.

President’s Message

By Kenny Williams

The OSBA Fall Conference this last November in Salem proved to be especially informative and stimulating, with a first-rate roster of researchers presenting talks on all aspects of bee diseases and pests. In connection with the Oregon Department of Agriculture grant, these presentations are being summarized in disc form and will be available to tour bee meetings around the state with Dr. Mike Burgett. Thanks are due to George Hansen and those who worked with him for such a good program.

We also learned that no only would Dr. Burgett retire in December 2002 but that OSU had decided to abolish the entire Entomology Department. Of course, this makes things much more difficult if we wish to see the position continued. But OSBA member Fred VanNatta is leading the effort to focus on the legislature directly for funding a position which would be placed with another department.

New board member Thom Trusewicz of Astoria has been working on improvements to our website (www.orsba.org) which has been inactive for some time. Please check this out.

And lastly, the Executive Board will meet on Wednesday, January 15, 2003 at 3 pm at the Salem Public Library’s conference room. Those of you who enjoy watching sausage being made are welcome to attend.

(continuation from page 1)

laboratory equipped to homogenize, process, and count the spores on blood cell counting chambers, in order to get a really good idea of what is going on. Based on the spore counts in the spring, beekeepers make treatment decisions for the next fall. That information will be provided in the regional disease workshops being held around the State of Oregon in the coming months.

The only chemical registered for treatment of Nosema infections is fumagilllin. Where bees cannot be fed during the winter, two gallons of medicated syrup are fed following the removal of the honey crop. If the colonies are light on weight, they should be fed first to fill in the stores. When the stores are ripened, the medicated syrup is fed. If the first batch of syrup is not ripened, the bees will blend the syrups and the medication will be too diluted to do its job. If bees can be fed in the winter, then a single gallon, fed in January should
• Spring usually brings some of the windiest weather of the year. Make sure your hive covers are secured in one fashion or another.

• Keep a close eye on hive weight especially during warm winters. Provide emergency feed to any featherweight colonies.

• February usually has a couple of warm days that will give you the opportunity to inspect your colonies. This will give you a chance to move frames of feed closer to the brood nest and equalize between healthy colonies.

• Dust colonies with two tablespoons of Terramycin and powdered sugar mix, every five to seven days to insure a continuous treatment that will last 21 days. To make this, thoroughly combine and mix two pounds of powdered sugar with one 6.4 ounce packet of Terramycin. Store any unused mix in a sealed container in a safe place between treatments.

• If you find colonies that have died out over the winter, make your best effort to find out why. Haul the hives into the shop and take a long, close look. You have spent good money for the lesson before you - don’t ignore it.

• If a fast build-up is desired, you can start feeding pollen patties and light syrup in February.

• As soon as the weather will allow, start your Varroa treatment. **Read and follow the directions on the package!** Make the date for strip removal on the calendar or somewhere so that you cannot forget.

• Things are going to be getting busy soon. Now is the time to get hive equipment assembled that you will need to get through the year. Invite a non-beekeeper friend or neighbor over to help. Everyone likes driving nails! Maybe you will end up with a new helper.

• Order queens and packages now as they are rumored to be in short supply this year.

• Your regional association is making plans to run their annual Bee School. Why don’t you step forward and offer to do a short segment on one of the nights? Choose your favorite subject and make sure the students hear it right this time!

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**Honey Marketing in Early Years**

By Tom W. Foster

My father, W. W. Foster, of Nyssa, Oregon, began his honey production in Oregon with comb honey. This was the primary way honey was produced and marketed in 1912. At one time he shipped a whole boxcar load of comb honey to New York. When extractors were perfected, extract combs were used to collect and harvest the honey. He gradually changed equipment and produced and sold only extracted honey.

In the town of Nyssa, Oregon and the surrounding area Dad was known as “Honey Foster.” He chose the name **Clover Kist** as his brand name and had very attractive labels printed for use on glass jars and tin pails. In early years the honey was sold in one and two pound glass jars and 2½, 5, and 10 pound tin cans with friction top lids. Honey was stored and also sold in square five-gallon tin cans. For large quantity shipments two 5-gallon cans were placed in a wooden box. These boxes weighed about 125 pounds, and hence were very difficult to handle, so they were not used for very long.

At first we made most of our retail honey sales through local grocery stores in Eastern Oregon and Western Idaho. We also sold honey from our honey shop to customers, some of whom brought their own containers to be filled. As the number of colonies and production increased, we sold honey to markets in the Portland area. Sometime before 1938 Fred Meyer opened a store at 6th & Yamhill. My Dad sold honey to him, which he retailed in his store. A few years later Fred Meyer opened a second store at 72nd and Sandy and began to market products under his own brand **My-Te-Fine**. For many years the Fosters bottled honey with **My-Te-Fine** labels and trucked it to Portland. At that time there were no freeways so the trip from Nyssa to Portland took more than ten hours. During this time we continued to sell honey under our own brand of **Clover Kist**. Fred Meyer introduced my Dad to his
banker in Portland and that man was Dad’s banker for many years.

In the 1940’s and 1950’s the production of honey in the Snake River Valley averaged 60 to 100 pounds per colony per year. The Fosters were running 1,200 to 1,500 colonies. We sold the major portion of the honey wholesale to other packers. Two of those packers were Heins Honey Co. at Albany, Oregon and Silver Bow Honey Co. at Bow, Washington. Most, if not all, the wholesale honey was sold at that time in five-gallon cans and shipped by truck from Nyssa to the packers.

This family business operated from 1912 until 1969 when the bees and equipment were sold to DeWayne Keller of Ontario, Oregon. He continues to operate bees with a much larger operation and sells his honey in 55-gallon drums, the way most all wholesale honey is now sold.

Bee-Mail from the Honey Board

Dr. White’s papers catalogued: The preparation of Dr. White’s collection on honey research at Penn State University for public use was made possible by a grant from the National Honey Board. Dr. White is recognized as the world’s foremost authority on the analysis and composition of honey. His huge body of work includes the discovery of four new sugars, finding gluconic acid to be the principle honey acid, the characterization of honey’s antibiotic principle, the demonstration of the nature of various honey enzymes and much technical work on new processes and honey products. Visit the web site at www.libraries.psu.edu/crsweb/speccol/FindingAids/white.html.

Antioxidant research receives more coverage: Dr. Nicki Engeseth of the University of Illinois who has been doing antioxidant research for the National Honey Board, was interviewed by Christine Palumbo, a registered dietitian and freelance writer who writes the “Food News” column for Allure magazine. The article is scheduled to appear in the April issue – watch for it!

Bee Video Available for School Kids: The Mississippi Beekeepers Association has produced a video for kids ages 9-12 on honey and beekeeping. This educational video is available for $12 (including shipping and handling) by contacting Harry Fulton at harry@mdac.state.ms.us.

Bee-Mail is available online at honeybuzz@nhb.org.

Bee Genetic Research

From the NHB Newsletter September 2002

The Federal government has green-lighted bee genome research – expected to result in more gentle, productive and insecticide tolerant strains of honey bees. The research is part of the work of the National Human Genome Research Institute.

Though phylogenetically distant to humans, honey bees live in societies that rival our own in complexity and success in dealing with the myriad challenges posed by social life. These include issues related to communication, aging, social dysfunction and infectious disease, parasitology and gerontology. In addition, the HBGP could improve human nutrition by enabling enhanced pollination of food plants and accelerated delivery of hymenopteran parasitoids for biological control of pests.

Finally, the HGBP could also improve understanding of honey bees sentinel functions, providing enhanced capabilities for detection and location of chemical and biological agents of harm.

Drought impacts 2002 Canadian honey crop: According to a recently released Foreign Agriculture Service Gain Report, Canadian honey production in 2002 reach 33,297 metric tons, 6% below the 2001 revised total of 35,388 metric tons. The decline was caused in part by a 3% reduction in the number of colonies and lower yields, particularly across the prairie provinces of Manitoba, Saskatchewan and Alberta which experienced a cool spring and a dry summer.
For more information on the honey bee genome research, be sure to download the “Proposal for the Sequencing of a New Target Genome: White Paper for a Honey Bee Genome Project” at nhb.org/bee-r/HoneyBeeWhitePaper.pdf.

Letter to the Legislature
By Fred VanNatta

Following is a draft letter to remind the Oregon State Legislature of the importance of the honeybee to Oregon agriculture, and the resulting need to keep Dr. Burgett’s position funded at Oregon State University. It is important that you personalize the letter (how long you’ve been a beekeeper, or any other information you feel is necessary). Please send me a copy of your letter and any response you receive. My address is Box 135, Salem, OR 97308.

You can find the name of your representative and senator in your local phone directories.

It is important that your letters be sent soon. This would be a good topic in local meetings to encourage others to send letters as well.

Dear ____________________:

Oregon agriculture needs your help in the next session of the legislature. I certainly understand the budget crunch Oregon faces, but we must not abandon the basic infrastructure which generates new revenue for Oregon.

I am asking you to assist in retaining the position of Applied Pollination Biologist/Apicultural Extension Specialist at Oregon State University. He or she will be Oregon’s bee guy or gal. The person in that position now is retiring early in 2003 after 28 years of research, teaching and extension outreach to growers and to beekeepers.

Nearly $500 million dollars of annual farm income in Oregon is dependent on pollination by honey bees. Untended honey bee colonies in Oregon have been killed in the last few years by an invasion of Asian mites. Beekeepers are struggling to keep their colonies alive. Research, information and outreach to the industry is very necessary. Oregon’s key fruit crops including apples, pears, sweet cherries, most berries and melons, pumpkins, cucumbers, most clover and alfalfa seed and dozens of specialty vegetable and flower seed crops require honeybee pollination.

The honey bee position was the top choice of the Department of Entomology for a “new hire” in 2003. However, the Dean of Agricultural Sciences has notified the Department of Entomology that it is being disbanded. There are other departments where the position can function, but there are no advocates on campus for the position.

This is why we need your help. Beekeepers have arranged to have a bill drafted to fund the position. I am asking you to support our proposal. Obviously, I will be pleased to answer any questions you have or provide you with more information.

I can be reached (give address, phone, email information here).

Thank you for your attention to this request. I look forward to hearing from you.

Is a Honeybee a Honey bee?
Reprinted with permission from the Southcentral Alaska Beekeepers Association newsletter

First, it must be explained why the name of the bee appears in the title as two words, though “honeybee” is the customary form in the literature of apiculture. Regardless of dictionaries, we have in entomology a rule for insect common names that can be followed. It says: if the insect is what its name implies, write the two words separately;
otherwise, run them together. Thus we have such names as house fly, blow fly and robber fly contrasted with dragonfly, caddicefly and butterfly because the latter are not flies, just as an aphislion is not a lion and a silverfish is not a fish. The honey bee is an insect and is pre-eminently a bee; “honeybee” is equivalent to “Johnsmith.”

British Columbia 2003 Bee Masters Short Course Offered

Reprinted with permission from the Southcentral Alaska Beekeepers Association newsletter

The 2003 Bee Masters Course will be offered February 10-14 at Simon Fraser University, Burnaby, British Columbia, Canada, just outside the scenic city of Vancouver.

Bee Masters is a week-long, intensive course in advanced beekeeping that has been held every second year for 51 years. The course is offered jointly by the British Columbia Ministry of Agriculture, Food and Fisheries, and Simon Fraser University, and includes topics such as seasonal management, nutrition, queen rearing, pollination, diseases, mites, pesticides, marketing, hive products (honey, pollen, propolis, royal jellyy, wax, etc.), and much, much more. The course combines illustrated lectures, laboratory periods, social events, lots of discussion and an optional final exam. Participants are expected to have some knowledge about bees and beekeeping: hobbyists, sidelineders and commercial beekeepers are welcome and all will benefit from and enjoy this course.

Lectures for the 2003 course will include Don Dixon, Cynthia Scott-Dupree, John Gruszka, Stephen Pernal, Mark Winston, Paul van Westendorp, John Gates, Doug McCutcheon, Aganetha Dyck and many others.

For further information and registration information contact Christine Dempster at 604-291-3012 or Linda Wong at 604-291-4610. Conference Services, The Halpern Centre, Simon Fraser University, 8888 University Drive, Burnaby, BC CANADA V5A 1S6. Fax 604-291-3420; email: Conference_Services@sfu.ca; web site: www.sfu.ca/Beemasters2003.

Bee Schools Announced

Willamette Valley: Monday nights (March 3, 17 and 24) at 7 pm at Chemeketa Community College, Building 34 Room A. Presented by officers and members, hands-on activities (including assembling a hive) will be included. Other topics include safety issues, protective gear, medications and bee psychology. For more information contact Harry Vanderpool at 503-399-7390.

Clatsop County: Monday, Feb. 3, 10, 24 and March 3 from 6:30-8:30 pm at the Clatsop Community College Art Building, Room 101, Astoria. The class is free to Clatsop County Beekeeping Association members. The class will cover bee behaviors, equipment, care of hives, diseases and medications, safety, honey production, marketing, year-round maintenance and how to obtain honey bees locally. For more information contact Thom Trusewicz at 503-325-7966.

Lane County: Saturday, March 8th. Registration fee is $30 for individuals and $40 for family. Contact Katherine Hunt at 541-607-0106 for additional information.

Northwest Corner Fall Conference Update

By Harry Vanderpool

The conference this year will be a joint conference with Washington, Idaho, Alaska and British Columbia. For convenience of folks coming from out-of-state the location has been moved back to Hood River. The dates have been set for November 6, 7 and 8th.

Dr. Keith Delaplane has confirmed that he will be a speaker at our conference. This is exciting news – Dr. Delaplane is a dynamic speaker and always has important information to share. Dr.
Steve Sheppard from Washington State University has also confirmed his participation. Our conference is never the same without Dr. Sheppard – he has an active program at WSU and lots to share with us.

Make plans now to attend. I will continue to provide updates throughout the year.

World’s Famous Beekeepers and Wanna Bees

Reprinted with permission from BeeKind, the newsletter of the Clatsop County Beekeepers Assn.

Alexander the Great – Conquered the world, then died thousands of miles from home. His men carried his preserved body home for burial in a golden coffin filled with honey.

Aristotle – This Greek beekeeper and scientist used simple hives with wooden strip top-bars. Some of his observations were pretty clever, others were dead wrong.

Bill Dennison – This former Mayor of Toronto and beekeeper had bees before his election, keeping them in the heart of the city. Whenever there was an angry swarm, the police would call His Majesty the Mayor. He would get his smoker and go fetch his bees. Not every city of three million can claim such hands-on care from an elected official!

Democritus – This famous ancient (lived to be 109) Greek apicultural researcher, beekeeper and philosopher taught that new bees could be made from rotting oxen – the King bee, he figured out, came from decaying bull brains.

Henry Fonda – The star of 96 films, this hobby beekeeper gave away honey in jars that he labeled Henry’s Honey. When he was a youngster he’d earned the Eagle Scout badge for beekeeping.

Hippocrates – The father of medicine frequently recommended honey for whatever ails you. He wrote, Honey and pollen cause warmth, clean sores and ulcers, soften hard ulcers of lips, heal carbuncles and running sores.

Icarus – This ancient Greek astronaut flew too close to the sun and the beeswax holding his feathers to his arms melted – the feathers came loose and he is still falling.

Krishna – The Hindu deity has often been depicted as a bee. Four thousand years ago, Hindu ancestors taught that eating honey and pollen would lead to a longer life.

Martha Stewart – The harbinger of American style has been a model, a stockbroker and a beekeeper for over 25 years! The avid gardener recognized a long time ago that keeping bees is a good thing.

Mohammad – The founder of Islam said, Honey is the remedy for every illness.

Mohammed Ali – Former heavy-weight champ ate lots of pollen and honey and attributed this as part of the reason he could sting like a bee.

Peter Fonda – Actor and activist was named Beekeeper of the Year by the Florida State Beekeeping Association for deftly portraying Ulee in Ulee’s Gold, and for his contributions to beekeeping.


Pythagoras – Ancient Greek mathematician, cult founder and beekeeper. The strictest of his followers ate only bread and honey.

Ramses III – This ancient Egyptian Pharoah, King, Deity and Ruler of Heaven and Earth (but only from 1198-1167 BC) offered a lesser river god a 30,000 pound honey sacrifice by dumping beekeeper’s honey into the Nile.

Sherlock Holmes – This great detective retired to a simple life of putting around with bees. As a beekeeper he continued to demonstrate his problem-solving expertise.
Sir Edmund Hillary – A commercial beekeeper (he and his brother owned 1200 hives) from New Zealand, along with Tenzing Norgay, first scaled Mount Everest in May 1953.

For more information check out this web site: http://ourworld.compuserve.com/homepages/Beekeeping/fame.htm

OSBA Business Meeting
Minutes, November 1, 2002

The OSBA Business Meeting was held in Salem, Oregon on November 1, 2002. The meeting began with a Treasurer’s report read by the Secretary/Treasurer Phyllis Shoemake.

Old business:
Thom Trusewicz on the newly organized Clatsop County Bee organization was introduced.

Discussion was held on Dr. Burgett’s position that is being closed upon his retirement. Fred VanNatta reported about his efforts to approach the college, growers and independent beekeepers with these concerns, but at the present time Dr. Burgett will retire and the Department of Entomology at Oregon State University will close. Now we will need to look at the legislature for an addition for apiculture specialist to be added. A list was circulated for names and addresses so that Fred can contact us with letter suggestions and people that we should contact about this concern. He asked that we return a copy of the letters that we write to him so that he may approach the legislature.

Willamette Valley handled the Oregon State Fair again this year and they need more participation from other members of the OSBA.

OSBA grant update: There will be a CD available throughout the state to educate beekeepers about bee disease and concerns. This is to be taken on the road by Dr. Burgett this year.

New business:

We need a Constitution amendment in order to comply with the code to receive our exempt status. A motion was made, seconded and approved to amend the Constitution so that we can qualify for exempt status.

New officers for 2003: The following were nominated to be our new officers for 2003: Kenny Williams - President, Harry Vanderpool - Vice President, Jan Lohman – Secretary and George Steffensen – Treasurer.

There was a discussion concerning separating the Secretary/Treasurer position. A motion was made to nominate Jan Lohman and George Steffensen at Co-Secretary/Treasurer. The motion was made, seconded and carried.

Fall Conference: There is a committee to help Harry organize the Fall Conference. Jan Lohman, Jordan Dimmock, Torey Johnson and Tom Foster will continue to help with the Fall Conference in 2003.

There is talk of a membership list created to distribute to each member of the OSBA. It would be very handy to each member to have as long as the information is not sold or used in other ways. It could be distributed at the following conference or available at the web site.

Thom Trusewicz spoke about a winter loss survey that his group is interested in doing. If other regions are interested in participating, please have the regional representative get in touch with him.

Kenny Williams was introduced as the new President and he made a motion to adjourn.

Having no further business, the meeting was adjourned.
Happy Valentine’s Day