INLAND BEEMAIL

Monthly newsletter of the Inland Empire Beekeepers Association

Volume 14, Issue 9 — September 2009 — www.inlandbeemail.com

Presidents Corner:

Fair Time!

Presidents Corner:

It's **FAIR SEASON**!! As I write this article North Idaho is underway and the Spokane State Fair is about ready to start. A big thanks to Jack and Kelly for running another successful Idaho fair. A huge thanks to Linda and Roger Carney for their efforts with the Spokane State Fair for the association. We all need to lend a hand and support them in their efforts.

Thanks to everyone who has volunteered their time and talents. There are still openings on the fair booth list and the setup list. Please contact Roger and Linda Carney and get your name on the schedule. For those not on the list, come on out anyway. Remember that our meeting this month is **Thursday the 10th in front of our booth at the fair**. We will try to start at 6:30 PM for the business meeting but will use a reduced agenda. Bring your fair entries with you.

I hope everyone is pulling lots of honey supers filled to the max. Our IEBA hives did a great job this year pulling in 1,083 lbs of honey!! That is the best ever. This honey saves the association $1,570.00 in honey costs for the fairs. We will save out some of it for our yard rent honey, tax man payment honey and other odds and ends.

SMOKER SAFETY – Everyone needs to be very safe in the lighting, use, and storage of your smokers! This time of the year it is very easy to get a fire going around your hives and even in the back of your bee truck. Please put a stopper in and store inside a metal container after each use.

See you at the fair.

Agenda

9/10/09

Welcome!

Primary Focus – Spokane Fair

Reports:

The Secretary's Report - Linda
The Treasurer's Report - Julie
Fair Reports – See Old Business
Four Corner Bee Reports – All!!
First Year Beekeeper Questions - Darren

Old Business:

IEBA Charter/Constitution Update – Skip
Idaho and Spokane Fairs

IEBA - Meeting Minutes August

The Annual Picnic was a **tremendous** success. This year we even had crepes!!!!!

President Swenson wanted to give special mention to some of our members--
"The Ladies" (Sandy Martello and Diane Burnham) wore shirts with the two embroidered logos on them. They were very classy and the workmanship was excellent. Ted thanked them for the effort they had put forth for this project.

Harry Smit got the honey straws for our association.
Joan Nolan got the cover for the folder/flyers.
Joan Nolan and Ted Swenson are working on the flyers to be handed out at the fair. They expect to have about 500 available.

With everyone's fingers still slick from the John Pierce French fries, President Ted Swenson called our Picnic Meeting to order. He announced that this was going to be a short meeting so everyone could go back to eating and talking — talking and eating.

The minutes were accepted as published in the Bee Mail. The Watts were not able to attend the picnic thus; our Treasurer Julie Watts was not present. So, Daren Mumau, the IEBA Vice-President, gave the status of our accounts. There is $1,886.58 in savings and $10,161.34 in the checking account. His report was accepted as presented.

There were no 1st year beekeeper questions.

Fair Reports-
The beekeepers who would like their business cards available to the public at the Idaho Fair will need to provide them to Kelly McSheehy or Jack Knox. Remember, at the Idaho Fair the parking fees will be reimbursed to a volunteer. All the volunteer needs to do is tell Kelly or Jack. A sign up sheet was passed around for volunteers.

The Spokane Fair is ready to begin Sept. 11th. Assistance is needed for set up and tear down. Also, with the size of the booth area we do need lots of helpers. There are still time slots that need to be filled. Contact Linda or Roger Carney to find out times most needing help or the times you have available. **Reminder – the meeting is Sept. 10th at the Ag building in the Spokane Fair Grounds** (date is a Thursday**)**

Bottling of fair honey will be at Bob Arnold's on Saturday at 1p.m.

The class education program schedule was accepted as published in the Inland Beemail.

Our short meeting was adjourned.

Research Reviewed

By: Steve Sheppard

Courtesy Bee Culture

There were some very significant differences in the honey bee immune response to Nosema apis and Nosema ceranae.

Most experienced beekeepers have some familiarity with the microsporidian pathogen *Nosema apis*, either through experience in their own apiaries or through reading any general discussion on honey bee pathogens. Known primarily as a problem in regions where winters restrict colony flight for extended periods, *N. apis* is one of those challenges that most beekeepers generally feel they can keep 'under control.' However, there is now a new kid on the microsporidian block, *Nosema ceranae*. This pathogen can now be found in honey bee populations in Europe, the Americas and Australia and is therefore an object of intensive study in a number of laboratories and, simultaneously, an object of concern for many beekeepers. Some of the most pressing questions are related to the nature of the relationship between *N. ceranae* and colony health. In some countries there appears to be a clear association between infection with *N. ceranae* and colony losses, while in other assessments, infected colonies appear to persist without treatment or apparent ill effects for long periods. Perhaps the most noted reports of the deleterious effects of *N. ceranae* on honey bee colony health come from Spain, where the pathogen has been considered to be responsible for massive and widespread colony collapse.

Toward the goal of understanding possible mechanisms by which *N. ceranae* was more damaging to honey bees than *N. apis*, researchers recently compared measures of honey bee immune response and suppression by the two pathogens in Spanish honey bee populations (Antunes et al, 2009). Their findings give insight into both the specific issue of pathenogenicity and the broader issue of interactions of the pathogen with *Varroa destructor* and other stress factors.

In the Introduction to their work, the researchers use most of the section to explain details of the honey bee immune system. To recap these varied aspects would push this brief review article beyond its size limit, but importantly, they outlined a number of factors that could be measured to evaluate the honey bee immune response. These included three enzymes, three anti-microbial peptides and the protein vitellogenin. To set up the experiment, Antunez and colleagues fed healthy groups of recently emerged honey bee workers with a sugar syrup spore suspension containing either *N. apis* or *N. ceranae*. Control groups of bees were fed only sugar syrup. At four and seven days after infection, groups of workers were frozen for later analysis. Analysis consisted of evaluating the 'transcript levels' for the genes encoding the aforementioned proteins involved in the immune response and for two other genes (used as standards). While the methodology sounds complicated, the 'transcript level' refers to evaluation of the amount of 'messenger RNA' (mRNA) that was produced for each gene at the time point of analysis. You can think of it as a measure of the level to which the gene was 'turned on.' The idea being that, if the immune response is 'high,' then there will be an increase in the number of copies of the messenger RNA produced from the gene, which in turn results in an increased production of the defensive protein. Got it? If not . . . don't worry. The results and conclusions are of primary interest as follows . . .

Based on the mRNA levels, there were some very significant differences in the honey bee immune response to *N. apis* and *N. ceranae*. For the three antibacterial proteins (abaecine, defensin and hymenotaecin), the researchers found that bees infected with *N. apis* significantly increased expression of the appropriate mRNA, compared to control bees or bees infected with *N. ceranae*. Similarly, for one of the immunity-related enzymes, phenol oxidase (PO), the researchers found that *N. apis*-infected bees expressed increased mRNA levels compared to both the control and *N. ceranae*-infected bees. For vitellogenin and glucose dehydrogenase (Vg and GLD), *N. ceranae*-infected bees showed decreased Vg and GLD mRNA expression compared to *N. apis*-infected and control honey bees. For another enzyme (lysozyme) there were no differences among the treatment and control groups.

Citing their work as the 'first study to address the effects of infection by *N. apis* and *N. ceranae* on

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the immune response in honey bees,' the authors pointed out that infection with *N. apis* rapidly activated the honey bee immune response, while *N. ceranae* infection actually 'suppress(ed) the immune response by reducing the transcription of some of these genes.' They noted that the suppression of vitellogenin (Vg) expression in *N. ceranae*-infected bees was consistent with reduced worker life spans (reduced longevity is known to be related to low Vg levels).

Antunez et al concluded that their research findings confirmed the detrimental nature of *N. ceranae* infection to *A. mellifera* and supported the observation that '*N. ceranae* is a more prevalent and virulent microsporidian than *N. apis*.' They further noted that the reduced immune response of *N. ceranae*-infected bees could make them more susceptible to various honey bee viruses and, in instances of co-infection with *Varroa destructor* (also known to suppress honey bee immune response), the results 'could be devastating for honey bee colonies.'
This research team has presented strong evidence in various scientific papers documenting widespread *N. ceranae* damage to honey bees in Spain. As a final point of discussion in this most recent paper, the authors speculated on the possibility that genetic differences in the ability to deal with infections of *N. ceranae* exist among honey bee populations. If so and *N. ceranae* is found to be a less virulent pathogen in some bee populations in other countries, then it is a hopeful sign that selection and breeding of *Nosema*-resistant honey bees will likely be the most sustainable long-term approach. Likewise, it would follow that queen breeders might be best served by refraining from using antibiotic *Nosema* treatments within their population of breeder colonies. Such action will ensure that highly '*Nosema*-susceptible' genotypes do not persist in their breeding stocks, while they search for the expression of and seek to increase the frequency of resistance traits in selected honey bee populations.

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References:

Antunez, K, R. Martin-Hernandez, L. Preieto, A. Meana, P. Zunino and M. Higes. 2009. *Immune suppression in the honey bee (Apis mellifera) following infection by* Nosema ceranae (Microsporidia). Environmental Microbiology. doi:10.1111/j.1462-2920.2009.01953.x

Wintering Beehives, Parts I & II

By: James E. Tew

Courtesy Bee Culture

Past wintering recommendations. Wintering biology.

A daunting assignment

A staggering amount of information is available in the colony management archival bee literature on wintering procedures. Truly, entire books could be written on this single subject; however, in this article and others to follow, I will try to condense wintering information to a manageable bulk. It would appear that honey bees are still a warm climate species. Wintering is still a challenge for them and for beekeepers.

Winter kills are (much) more numerous that they were a few decades ago

Succinctly stated, during an average Winter, the percent of Winter kills has been rising. At meetings, you and others like you have repeatedly said that Winter kills are now more common than a few decades ago. I admit that I have had to work more to keep more of my bees alive, and they still seem weak and lethargic when they do survive.

In 1915, E.F. Phillips[1] wrote, *'The beekeepers of the United States lose at least one-tenth of their colonies of bees every Winter . . . This loss is largely due to carelessness or to lack of knowledge, and it is entirely practical to reduce it to less than one percent, the small loss covering various accidents which cannot be foreseen.'* When confronted with today's beehive issues, Phillips' comments appear harsh. Having not been around in 1915, may I assume that honey bees were less subjected to exotic pests and predators then than now? While it may be true that we still suffer from a lack of knowledge, I am defensive when charged with being careless. The routine mandate by speakers from the podium to *'keep your colonies strong and healthy,'* is frequently impractical. There have been runts and sickly beehives as long as people have been keeping bees. *(But there now seems to be more runts and sickly beehives – based on the published beekeeping literature.)* Lastly, it is no longer realistic to say that it is practical to routinely reduce Winter losses to around one percent. As is 1915, those days and those statistics are long gone.

(Continued on page 5)

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The Old Thinking – The major causes of Winter losses in years past – starvation and excessive heat production

'The causes of the death of individual bees or of a colony of bees in Winter, barring unusual accidents, are only two in number: (1) Inadequate stores and (2) excessive heat production.' We now know that there was more to Winter losses than those two parameters – but they remain important.

Starvation

Starvation is still a common cause of Winter colony losses. Researchers past felt that abundant, quality food stores were necessary for heat production, to sustain adult bees, and to provide for later Winter/Spring food for brood. Starvation is not as easy to address was advised in the old publications. Feeding bees carbohydrates can incite late season brood rearing rather than provide food for storage. Secondly, some colonies simply seem never to learn to use feeders or to store the supplemental food.

Excessive heat generation

I must write that *too much heat* was not the listing I was expecting from the old literature. Results of early research indicated that at hive temperatures between 57° - 69°F, a normal broodless colony of bees does not form a cluster – *but the bees remain inactive on the comb*. Drop below 57° and a cluster begins to form. Drop even lower, and bees in the center begin to use muscle energy to generate heat. Ultimately, as a colony is subjected to long coldness, the insulating shell of bees begins to fail and die. As the shell becomes increasingly ineffectual, the core bees are required to produce more heat. So, it is not that the colony produces so much heat that it cooks itself, but rather that the colony is required to produce high levels of heat to make up for decreasing cluster size.

Bee Excrement accumulation

As the wintering cluster eats an ever increasing amount of food and if the food has indigestible components to it, bees will accumulate and store increasing amounts of feces in their rectum. In 1915, it was felt that high heat production resulted in large food stores consumption which resulted in feces accumulation. If the heat requirement was great enough and feces levels rose high enough, the bees could no longer contain the waste products and would defecate within the colony. This condition was called dysentery by olden beekeepers.

Now, in 2009, we know this line of thought to be only partially correct. No doubt small clusters would be required to eat disproportionately high levels of stores which would result in feces accumulation. Cleansing flights would be required. But a great part of this problem could very well be digestive pathogens such as those caused by Nosema infections or viruses. So we know more about the hive health than scientists past, but the concept of increased food consumption causing increased need for cleansing flights is still appropriate. With this in mind, an issue that is relevant today is corn syrup – is it a good supplemental wintering food source or are there problems with it? Currently, we don't have clear answers.

Availability of young bees in the Winter cluster

Honey bees emerge into the world with a fixed amount of life's energy – somewhat like a dry cell battery. Clearly, if this reasoning is correct, young bees are needed to survive the prolonged periods during Winter months. Brood rearing late into the Fall months assures the colony a good population of young bees for this purpose. The dead bees that accumulate – even within a healthy wintering colony – are indicators of old bees dying as the heat generation processes uses the last of their energy.

Spring Dwindling

In the beekeeping literature, Spring dwindling has had many descriptors. Colony Collapse Disorder (CCD) may or may not be a modern name for conditions that have been called Spring Dwindling, Autumn Collapse, Vanishing Bee Syndrome, or Disappearing Disease. In the early 1900s, Spring Dwindling was expressed by colonies that survived until Spring, but then slowly dwindled maybe to the point of dying. The authorities of the day felt that the heat production required of bees during the Winter had used them up and that the balance of young bees versus older bees was awry. The colony had gone into Winter without enough young bees. Again, current guesses are that other factors such as genetics or disease may be playing more a role than simply colony make-up.

Effects of a good queen

The queen's role was clear in 1915. She provided the young replacement bees for the season – including the Winter season. She was able to increase brood production rapidly in the Spring. But other than this important, indirect contribution, she played no direct role in the actual wintering process. Today, that concept is still mostly believed – but not quite. The queen does not have a physical role in the wintering process, but the genetics she extends to her offspring are critical in the colony being able to survive the Winter.

The physics of weak colonies

A large cluster is, in all ways, better suited to survive the Winter than a smaller cluster[2]. There are fewer bees for insulation duty. The interior bees must generate more heat so they use their resources faster. As the interior bees increase the core cluster temperature to offset a reduced cluster insulation layer, the interior temperature of the brood nest is raised to the level appropriate for brood production. Even today, beekeepers can see brood

(Continued on page 6)

(Continued from page 5)

production in small clusters during cold months. The old recommendation was to – so much as possible – limit brood production until the bees had free flight. Whether the brood production in a small cluster was unintentional or was an effort to produce brood for replacement bees, the final effects were the same – the colony used its resources even faster and probably died as a result.

Winterizing colonies

In addition to a healthy colony and a good queen, colony packing was routinely recommended in the early 1900s. On many occasions, I have wondered why that recommendation passed into obsolescence. We insulate our homes, our work places, our clothes and our automobiles – yet bee colonies didn't need help. The arguments for and against Winter packing are extensive. Labor, bee physiology, and climatic conditions are all fundamental areas of discussion when considering whether or not to pack. It was stated that a beekeeper cannot insulate a colony too much nor can a colony be too strong going into Winter.

Packing hives for Winter

The U.S. beekeeping industry went through a period of time when colonies were packed in groups of four[3]. The phase went (I estimate) from the late 1800s through the late 1930s. Photos and instructions are commonly available, but I have never seen the procedure used to winterize colonies. In the warm months, four colonies sat upon a platform that would become the base during Winter months.

About the time of the first killing frost, the colonies went into the packing phase. Sawdust or wood shavings were frequently used as insulation materials. Rags, leaves, and paper were also common materials. Sawdust would hold escaping moisture so colonies had to be packed properly. Packing should NOT be done after Thanksgiving. It was found that late packing resulted in the colonies increasing colony temperature and initiating brood rearing.
The packing crate was collapsible and was reassembled with screws. The four colonies were raised to sit on a simple 2x6 frame. Hive entrances were modified to be longer and to align with the entrance in the packing crate. The four crate walls were attached, and sawdust (if used) was loosely poured under, around and on the four colonies. An air space was left at the outer cover of the crate so the container was not packed full.
The final container was a large 'doghouse' looking box with a flat lid. Entrances to the outside were present in order to allow the bees free flight on warm days.

Unpacking wintering colonies

Surprisingly, there was little hurry to unpack the colonies. May 15 would have been acceptable but leaving colonies packed well into Spring was not uncommon. If the beekeeper needed to check the colonies, some of the insulation was removed.

Doubled-walled colonies

In 1915, wintering colonies in two deeps was just becoming a reality. It would seem that for a while some colonies were packed while others were left unpacked in two deeps. For a while, companies such as Root and Dadant manufactured hives that were double-walled and insulated with chaff. Occasionally photos are found showing these 'puffy' hives with oversized hive bodies and oversized outer covers[4]. For photos and more detail, search double-walled bee hives in *The ABC and XYZ of bee culture: a cyclopedia of everything ... - Google Books Result.*

Later packing procedures

In more recent years, various corrugated board boxes (wax impregnated) were available. These boxes were slipped over the wintering colony leaving appropriate entrances for bees to exit when weather allowed.
Still another procedure for providing some insulation was to wrap colonies in black tar impregnated paper (roofing felt paper). The procedure was simple and the blackness was thought to absorb sunlight thereby providing solar warmth. Slats were tacked into the tar paper to hold it in place and entrances – both upper and lower were provided.

Winter in the hive

Winter is the long, quiet time in the hive. Yet the bees are fighting for their lives. Sometimes beekeepers can help while at other times their assistance is harmful. In upcoming *Bee Culture* articles, I will address topics such as indoor wintering and Winter cluster biology. When does packing help and when does it harm the bees? Successful wintering is a major aspect of successful beekeeping.
Visit www.honeybeelab.com for additional photos and reprints of some of the pamphlets I used in this article.
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Part II

Firewood and honey

I am presently having problems finding firewood for the upcoming Winter. The Emerald Ash Borer (EAB) http://www.agri.ohio.gov/eab/ has very nearly been found in my front yard. Firewood can be moved into my county but not out of it. Much of the ash that would have been lumber (and firewood) has been chipped and put in landfills. I may actually have to go back to cutting and splitting firewood instead of buying it. I really need the firewood to help keep my family and me warm this Winter.

Bees need to stay warm in cold weather, too. Where does a wintering hive of bees get its firewood – of a sort? How does a bee cluster 'bump' its thermostat up on those cold nights just before dawn? As the beehive

(Continued on page 7)

(Continued from page 6)

keeper, what are my responsibilities to the beehive as the temperature drops? These are hard questions with vague answers. Honey bees were keeping themselves warm long before I was ever a carbon-based being. They know a lot about their heating requirements while we are only just beginning to understand their needs.

Fueling the cluster's Winter furnace

The bees gather their firewood just as I do – they collect it, season it, and conveniently store it nearby. Rather than wood or natural gas, the bees' firewood is capped honey. Bees gather their unseasoned fuel (nectar), season it (convert it to honey) and then store it (place it in capped honey combs). Honey is the specialized fuel burned by the colony's furnace. Each little cell of honey can figuratively be compared to a miniature barrel of fuel oil or a few sticks of firewood. And where is the hive's heating furnace? It's within each individual bee. Each bee consumes honey, metabolizes it (burns it) at the cellular level and produces heat and muscular energy. Each individual bee's heat is contributed to the cluster and communal heat is produced – in some cases, a lot of communal heat.

What if humans clustered?

The manner in which a hive population warms itself is delightfully simple so long as you don't mind being extremely close to your neighbors – really physically close – so close that another is touching you on all sides all the time. Let's suppose that for some unfathomable reason, about 20 lightly dressed people were put into a room and the temperature was slowly lowered. At first, little notice of the coldness would be given. After a short while, our test group would begin to move around, inquiring about the availability of hot coffee and complaining about the encroaching cold. At an even colder temperature, our twenty cold people would begin to exhibit agitated movement (we, too, as human-things, generate heat at the cellular level). Clumps of shivering people slapping themselves and loudly complaining would begin to form. Approaching hard cold, all inhibitions would be lost and our 20 people would pack together trying to produce communal heat. Those inside this human cluster would be warmest while those on the fringes would be the coldest, ergo my human comparison to the wintering bee cluster.

The colony's thermostat

Individual bees are cold blooded, but a healthy cluster of bees within a hive, with honey positioned correctly, has a great deal of control over its group temperature. As the outdoor temperature approaches about 55-57°F, depending on wind and sun conditions, bees within a hive begin to loosely centralize themselves near the bee nursery area (the brood nest) or near stored honey combs if the nursery has already been closed down for the season. As the day really cools to the 40s or so, bees will have clearly centralized themselves and will have begun to cozy-up. Colder still and the bees, just like our chilled, hypothetical human test population, will compact tightly. Some bees are in the interstices between combs while others are laying head first in empty cells. This tight configuration forms a solid, living cluster having roughly the volume of a soccer ball. The population at this point consists of adult worker bees, possibly some immature bees and the queen. No drones. They were all 'eliminated' during the Autumn and will be reproduced during the following Spring season. If baby bees are present, the nursery area will be kept at around 90-95°F while bees making up the outer layer will be nearer 40° F. If no developing bees are present, the center of the cluster will be around 70°F. Now suppose it gets really cold – down around 0°. Those bees making up the outer boundary get cold rear-ends, get agitated, and in their own bee way, begin to vociferously complain. This agitates bees that are closer to the center and that are warmer. All bees begin to flex (micro vibrations) their flight muscles, which increases the burn rate of their honey firewood, and the temperature of the cluster is increased. No honey = no heat = frozen bees. Every few weeks, a warm period is needed to give the cluster an opportunity to reposition itself onto more honey; carrying out the ashes is a human analogy for this. A bee cluster can withstand a bitter amount of cold for many weeks and survive very well. Indeed, the bee cluster may even survive better during a cold Winter. They live so closely that contagious Winter diseases can spread rapidly; however, some authorities feel that coldness suppresses bacterial spread.

The cluster's composition

Other investigators speculate that the cluster is simply a condensed environment that is controlled by temperature. On warm days, the environment is opened up and bees fly freely. On cold days, in an effort to control the temperature of the cluster, the large environmental expanse compresses itself into a volleyball-sized volume. Nurse bees and the queen are at the epicenter while house bees and foragers make up the insulating shell. It is as though the bees' environment collapses on itself. It goes from being acres and acres in size to hardly 10 inches in diameter. Just as in warm weather when nurse bees make decisions concerning the nest's temperature needs, nurse bees make the Winter temperature decisions, too. Said a different way, the bees cannot heat the ecosystem to 60° F, but they can form a cluster and heat themselves to 60° F.

A comfortable bee

Another concept that is getting traction is that year-round temperature in the cluster is controlled by each bee doing whatever it takes to make itself comfortable. It becomes clumsy to try to write what a bee could be thinking, but

(Continued on page 8)

(Continued from page 7)

individual bees are apparently struggling to keep themselves at a comfortable temperature in both Winter and Summer. When combined, that individual effort results in what humans see as cluster temperature control. So a cluster is made up 30 or 40 thousand individuals that are individually working to meet their individual needs. It is apparently not 30 or 40 thousand individuals working to meet the greater needs of the cluster. The bee is instinctually concerned about itself – not the cluster. Let me get back to you in 10 or 20 years to see if this concept takes hold.

Heat the cluster – not the hive

In my human comparison that I presented earlier, it's important to point out that the room of cold people made no effort to heat the room, only themselves. In like fashion, the bees make no effort to heat all the space within the hive, only themselves. Beekeepers are frequently admonished not to open a hive during cold weather. It is said that they *'Will let all the heat out'*. Not so. The temperature within the hive, excepting the cluster, is the same temperature as the ambient temperature.

I know where we get that impression. My three daughters and now my grand kids have made most of life's decisions standing in an open door while letting out my expensive heat. Now, for whatever reason – and I can't think of a good one – if the beekeeper should break the cluster, that's another story. Dislocated bees will quickly become chilled and freeze. Much below 40°F and individual bees are in real trouble. Bees still within the disrupted hive will be unable to reform the cluster and conditions inside the cold hive quickly become desperate.

I have stood at one of my shop windows on snowy, wintry days, after nature has stripped everything to an outline, and marveled that my snow-covered hives, on that frigid day, actually had a hot spot within them that was at least 70°F. In essence, the bees are keeping their living room warmer than I am keeping mine. The snow covering is an insulating asset. In a reverse way, a hive covered in snow generally fares better than one sitting exposed and unprotected during Winter months.

Restroom breaks. Bees need them, too.

With all these warm ruminations about cold snow, it shouldn't be surprising that the lower entrance to the hive will readily close shut with drifted snow. As this occurs, the beehive keeper can be of assistance to the wintering cluster. Providing the hive with a second, higher entrance allows the bees to get out on those occasional warm Winter days.

Some Interesting Links from Rick Sherman

Varroa news http://www.ars.usda.gov/is/pr/2009/090701.htm

Russian bees http://www.ars.usda.gov/is/pr/2006/060809.htm

And a note from Frank Seiler …..Yes he is still out there!!!

source: BBC world news

The price of raw sugar has increased to its highest level since 1981, as supply concerns grow.

Raw sugar futures added 3% on Monday, to finish the day at 22 cents a pound.

"The main problem is a deficit in sugar supplies," said Nick Penney, a trader with Sucden Financial, a firm that focuses on sugar trading.

Growing demand in Brazil for sugar to be turned into ethanol, coupled with a sharp fall in Indian production, have both prompted worries, he explained.

Sugar production in India for 2008-09 fell 45% year-on-year, according to a report by Sucden.

And a "drastic fall" is expected for the coming Indian crop, it said.

India had less rain in the monsoon season and it was also uneven, damaging a number of agricultural crops.

There are concerns that the pending sugar crop, which will be ready around November, will be inadequate.

"This [sugar market] train is running express," said Alex Oliveira, senior sugar analyst for Newedge USA in New York.

"It's feeding on itself."

Classified Ads

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IEBA Website
www.inlandbeemail.com

WSBA Website
www.wasba.org

Hive Care :

September

Most of us have our supers pulled by now and are thinking about our fall management. Whatever strategy you implement, now is the time to start fall mite treatments.

Be sure to adhere closely to the manufacturers recommendations for all chemical treatments. Remember that many treatments are temperature dependant and successful treatment is easier early in the fall. Improper use increases the chances of mites becoming resistant and also increases the chances of contaminating your comb with pesticides.

Evaluate your hives and their potential for over-wintering. Combine those that are weak,. Evaluate food stores and begin a feeding program for light colonies as there is little nectar coming in now. A 2:1 sugar/water solution is recommended for fall feeding.

Robbing and yellow jackets are of particular concern. Reduce your entrances to prevent robbing if possible, trap and destroy yellow jackets and paper wasps that are threatening you bees.

And best of all, enjoy the fruits of your labors as you extract and bottle and share in the county fairs in our region.

Inland Empire Beekeepers Association

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Next Meeting:
Thursday September 10th

T[illegible] Beekeepers Association (IEB[illegible] every month at the Sp[illegible] the County Fa[illegible]tion is a[illegible] incl[illegible]s published b[illegible]

September Meeting
THURSDAY 9/10
IEBA Booth Spokane
County Fairgrounds

IEBA
September Birthdays

10th -- Sandy Martello
11th -- Clara Ross
21st -- Ed Banton
21st -- Loretta Evans
24th -- Sharon Mumau
26th -- Heather Spock
28th -- Bill Spock

September Anniversaries

Peter & Nancy Ice
Jim & Jenine Miller

Congratulations and Best Wishes to all!!!

Let's update the Birthday and Anniversary lists. If you are a registered IEBA member please send your name /spouse's name/b-day/anniversary dates to joan1422@msn.com so that we can celebrate you and your special day!

Beekeeping Calendar - Bob Arnold

September

Check for AFB. Check mite fall counts. When lots of brood hatches mite fall counts may be high. Check for signs of deformed wing virus—feed heavily if many bees with DWV are present, check mite falls with your medications—it might not be working and you will still have time to try another material. Replace any queens that may be poor with a nuc or mated queen. Introduce with feed on the colony. Feed a pollen substitute if there are no pollen stores. Feed 1:1 syrup if you are trying to build bees and 2:1 if you are trying to feed stores. Mix Fumigillen into your 2:1 feed, feeding about 2 gallons of feed for winter. Get all of the feed on by the end of September. Bees must have a cluster of at least 8" diameter to survive winter and minimum honey stores of 9 frames Russian bees even need less and can have a smaller cluster. Bees that are eager beavers on brood rearing will need an additional 3 full frames of honey.