

October 2005

President's Message

Summer is over it is autumn or fall. Summer ended with the start of autumn or fall and the Autumnal Equinox, when the SUN crossed the Equator heading south. Days are cooler and shorter than nights, less than 12 hours long starting about 7 AM with SUNRISE. Nights are starting to get cold, and are longer than days now, starting with SUNSET, about 7 PM.

The Bees know it and are starting to hunker down for winter, which starts in about 3 months, winter will start with the Winter Solstice, December 21, when the SUN is as far South as it gets, days are shortest and nights are longest and it will end with the first day of Spring with the Vernal Equinox on March 20, 2006.

By then you may have taken your strong hives to pollinate Almonds (they go about the first of February 2006).

What Should I do for My Bees During October 2005?

1. Decide now if you want to take hives to almonds, come to the meeting and talk to Randy.
2. There may be some flower bloom available: per Randy's calendar they include: ASTER, IVY, POPPY, DANDELION, and THISTLE.
3. Make sure they have food for the winter, either frames they have built up or supply syrup and pollen.

Elections

At the October meeting, we will introduce the nominating committee for elections for 2006 NCBA officers.

Yours in beekeeping,
-Gary Wood, President

Announcement

We're looking for some new officers for the next year. If you're interested in helping out, please contact Randy Oliver (277-4450).

October Program

We hoped to have Eric Mussen as a speaker for a fall wrap-up, but he's up to his ears in a large mite treatment experiment. Instead, we'll see a short video by Bill Ruzicka on the use of formic acid for mite control, and if time permits more from the Jz's Bz's video we started a few months ago.

Bee Bits

By Randy Oliver

As autumn approaches, the relentless changing of the season, and its biological consequences, bring a day of reckoning for our beekeeping plans and dreams. In other words, the colony condition you have today is not likely to improve before winter. You're not going to be able to make any more splits for almond pollination. In fact, if you have any weak colonies, you may as well combine them now with larger ones. If you have too many mites now, it may be too late to save those colonies. About the only things you can do now are late-season mite cleanup, and feeding of heavy syrup to put on stores, if necessary.

In our own operation, we got badly sidetracked by equipment. The construction of new boxes, and the refurbishing of old trucks and forklifts ate up too much time that we should have been spending with the bees. Add that to our late splits due to the wet spring, and we've got many colonies that are too weak to winter well. The big, fat almond pollination check we were hoping for just slimmed down. Once again, there's always next year!

On the subject of mite control, we're currently finishing up a relatively small experiment to compare the efficiency of Sucroside vs. oxalic acid. Meaningful mite experiments involve the preparation, insertion, and removal of stickyboards, then the tedious job of counting the mites on the boards. I just spoke with Eric Mussen, who is conducting a larger-scale experiment of another product, involving stickyboards, plus measuring the amount of brood

throughout the season. This kind of mind-numbing counting is, unfortunately, often the backbone of good scientific research. We'll share our results with you when complete.

Janet Brisson is also conducting a more informal experiment on the use of powdered sugar for mite control. I'll be very interested to see the results as far as mite levels entering Winter, and winter survival.

The devil of these experiments is often in the details. For example, unless all your queens are from the same mother, and similarly mated, there may be a huge variation in natural mite resistance from colony to colony. This makes clear results much more difficult to obtain. In experimenting with oxalic acid, we can look at data from European researchers, but they mainly used oxalic as a winter treatment, when the bees were not processing nectar, and the mites have no brood to hide in. I don't know how temperature, amount of honeyflow, or proportion of sealed brood affects the effect of oxalic on the mites. We don't know the best concentration of oxalic in syrup to use, nor how often we can apply it without harming the bees. There are a number of large commercial beekeepers trying various oxalic treatments this summer. I'm sure we'll know a lot more next year.

One item of good news in mite control is that we are indeed seeing great differences in mite levels between our breeding stocks. Some of our breeders have gone all season without any mite treatment, yet still have very low numbers of mites. If we can breed from bees that do most of the mite control work themselves then our job will be to simply help them a little when they need it.

The Buzz About Bees A Flush Fund of Fascinating Facts

by Maureen Dolan, source

(<http://www.pbs.org/wgbh/nova/bees/buzz.html>)

Home sweet home

- Bees do not create honey; they are actually improving upon a plant product, nectar. The honey we eat is nectar that bees have repeatedly regurgitated and dehydrated.
- The average American consumes a little over one pound of honey a year.
- In the course of her lifetime, a worker bee will produce 1/12th of a teaspoon of honey.
- To make one pound of honey, workers in a hive fly 55,000 miles and tap two million flowers.
- In a single collecting trip, a worker will visit between 50 and 100 flowers. She will return to the hive carrying over half her weight in pollen and nectar.
- A productive hive can make and store up to two pounds of honey a day. Thirty-five pounds of honey provides enough energy for a small colony to survive the winter.
- Theoretically, the energy in one ounce of honey would provide one bee with enough energy to fly around the world.
- Although Utah enjoys the title "The Beehive State," the top honey-producing states include California, Florida, and South Dakota. In 1998, the United States made over 89,000 metric tons of honey. China, the world's top honey-producer, created more than 140,000 metric tons of honey in 1997.
- While foraging for nectar and pollen, bees inadvertently transfer pollen from the male to the female components of flowers. Each year, bees pollinate 95 crops worth an estimated \$10 billion in the U.S. alone. All told, insect pollinators contribute to one-third of the world's diet.
- Most researchers believe the honeybee originated in Africa. The first European colonists introduced *Apis mellifera*, the common honeybee, to the Americas. Native Americans referred to the bees as "White Man's Fly." Today honeybees can be found all over the world.

Bees often shield themselves from rain, which can chill their flight muscles to the point that they cannot

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

fly.

Busybodies

- Bees are not fast fliers; while their wings beat over 11,000 cycles per minute, their flight speed averages only 15 miles per hour. In comparison, a true fly in the genus *Forcipomyia* beats its wings over 62,000 cycles per minute. The Australian dragonfly *Austrophlebia costalis* has been clocked flying at a speed of 36 mph.

- Bees possess five eyes. The three ocelli are simple eyes that discern light intensity, while each of the two large compound eyes contains about 6,900 facets and is well suited for detecting movement. In fact, honeybees can perceive movements that are separated by 1/300th of a second. Humans can only sense movements separated by 1/50th of a second. Were a bee to enter a cinema, it would be able to differentiate each individual movie frame being projected.

- While bees cannot recognize the color red, they do see ultraviolet colors.

- Unlike the stingers in wasps, the honeybee's stinger is barbed. Once the stinger pierces a mammal's soft skin, the attached venom pouch pumps a mixture containing melittin, histamine, and other enzymes into the target. When the bee pulls away, the barb anchors the stinger in the victim's body. The bee leaves the stinger and venom pouch behind and soon dies due to abdominal rupture. When a honeybee stings another insect, such as a honey-plundering moth, she does not leave her stinger planted in the invader. As she retreats from the insect victim, her barbed stinger tears through the insect's exoskeleton.

Being the Queen

- During the mating flight several drones will deposit upwards of 90 million sperm in the queen's oviducts. The queen, however, will not use all the sperm. She stores about seven million sperm in a special pouch, the spermatheca.

- In one day a queen can lay her weight in eggs. She will lay one egg per minute, day and night, for a total of 1,500 eggs over a 24-hour period and 200,000 eggs in a year. Should she stop her frantic egg-laying pace, her workers will move a recently laid egg into a queen cell to produce her replacement.

- While workers select which fertilized eggs to brood in queen or worker cells, the queen decides the sex of her young. In a mechanism of sex

determination known as haplodiploidy, fertilized eggs will become female offspring, while unfertilized eggs will become males.

Maureen Dolan, NOVA Online's intern, worked with a bee researcher from the University of Massachusetts Boston in the summer of 1998.

September Minutes

The meeting was held on Labor Day, yet we had a surprising turnout! Shane Mathias led the meeting, as Gary Wood was out of town. There was no business of note. The program was given by Randy Oliver- a summary of the topics of the WAS convention in Moscow, Idaho.

Sacramento Beekeeping Supplies

- Complete line of all beekeeping supplies
- Candle making supplies (molds, wicks, dyes, scents)
- Glycerine soap making supplies (soap base, molds, scents, and dyes)
- Honeycomb sheets for rolling candles (50 colors and in smooth)
- Beeswax and paraffin, special container candle wax
- Gifts, books, ready made candles
2110 X Street, Sacramento, CA 95818
(916) 451 – 2337 fax (916) 451 – 7008
email:sacbeek@cwnet.com

Open Tuesday through Saturday 9:30 – 5:30
Mail orders receive quick service.

A Place For Beelievers
Gifts from the
beekind
Honey - Candles - Gifts
Beekeeping
Candlemaking Supplies
OPEN: MON-SAT 10 - 6
NEXT TO FOSTER'S FREEZE
921 Gravenstein Hwy. S. Sebastopol
(707) 824-2905
beekindbees.com
Taste Your Honey
Honey Shop and Tasting Bar

The Nevada County Beekeepers Association is dedicated to apiculture education and promotion of the art and science of beekeeping among beekeepers, agriculturists, and the general public. This is a "not for profit" organization.

Meetings are held the first Monday of each month at 7 PM at the Grass Valley Veteran's Memorial Building at 255 South Auburn Street in Grass Valley. All visitors are welcome.

The newsletter is published monthly as a service to the membership. Articles, recipes, commentary, and news items are welcomed and encouraged. Submission by email is encouraged. Please submit to Bonnie Bagwell at arwg@infostations.com. The deadline for the November 2005 edition is October 15th. A limited amount of advertising space (business card size 3" by 2") is accepted and need not be bee-related. Rates are \$1 per issue or \$7 per year for NCBA members and \$16 per year for non-members. All revenue from advertising goes to the Association treasury and helps offset the cost of producing and distributing this newsletter.

To receive the *Local Buzz* via email: please email your request to arwg@infostations.com.

Nevada County Beekeepers Association



C/o Gary Wood
10396 Mountain Lion Lane
Grass Valley, CA 95949

First Class Mail

October 2005

Next meeting: Monday, October 3, 2005, 7 PM at the Grass Valley Veteran's Memorial Building We'll see a short video by Bill Ruzicka on the use of formic acid for mite control, and if time permits more from the Jz's Bz's video we started a few months ago. Don't forget Elections for next years NCBA Officers.

Nevada County Beekeepers Association

2005 Officers

President: Gary Wood.....477-9202
grw@usamedia.tv

Vice President: Merrill Grant.....432-0725
mgrant@williams.k12.ca.us

Secretary: Jack Meeks.....432-4429
jackm@nccn.net

Treasurer: Janet Brisson.....346-6439
rubes@infostations.com

Board Members

Past President Merrill Grant.....432-0725
Leslie Gault.....346-7092
Randy Oliver.....272-4450
John Miller.....823-1369

Committee Chairs

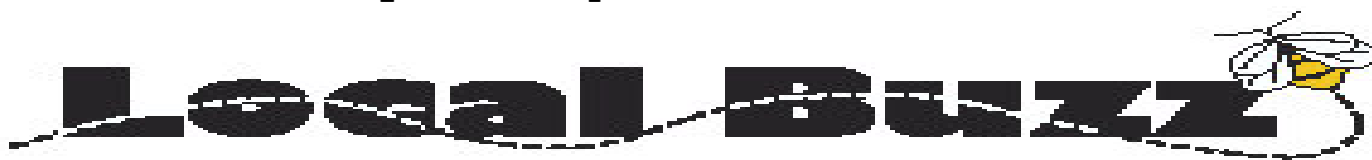
Swarm Hotline: Leigh Johnson.....273-1382
Lynn Williams.....675-2924

Library: Tynowyn Slattery..265-6318

Newsletter Dist. Gary Wood.....477-9202

Newsletter: Bonnie Bagwell.....878-3622

Honey Extractor Karla Hansen.....265-3756



October 2005

President's Message

Summer is over it is autumn or fall. Summer ended with the start of autumn or fall and the Autumnal Equinox, when the SUN crossed the Equator heading south. Days are cooler and shorter than nights, less than 12 hours long starting about 7 AM with SUNRISE. Nights are starting to get cold, and are longer than days now, starting with SUNSET, about 7 PM.

The Bees know it and are starting to hunker down for winter, which starts in about 3 months, winter will start with the Winter Solstice, December 21, when the SUN is as far South as it gets, days are shortest and nights are longest and it will end with the first day of Spring with the Vernal Equinox on March 20, 2006.

By then you may have taken your strong hives to pollinate Almonds (they go about the first of February 2006).

What Should I do for My Bees During October 2005?

1. Decide now if you want to take hives to almonds, come to the meeting and talk to Randy.
2. There may be some flower bloom available: per Randy's calendar they include: ASTER, IVY, POPPY, DANDELION, and THISTLE.
3. Make sure they have food for the winter, either frames they have built up or supply syrup and pollen.

Elections

At the October meeting, we will introduce the nominating committee for elections for 2006 NCBA officers.

Yours in beekeeping,
-Gary Wood, President

Announcement

We're looking for some new officers for the next year. If you're interested in helping out, please contact Randy Oliver (277-4450).

October Program

We hoped to have Eric Mussen as a speaker for a fall wrap-up, but he's up to his ears in a large mite treatment experiment. Instead, we'll see a short video by Bill Ruzicka on the use of formic acid for mite control, and if time permits more from the Jz's Bz's video we started a few months ago.

Bee Bits

By Randy Oliver

As autumn approaches, the relentless changing of the season, and its biological consequences, bring a day of reckoning for our beekeeping plans and dreams. In other words, the colony condition you have today is not likely to improve before winter. You're not going to be able to make any more splits for almond pollination. In fact, if you have any weak colonies, you may as well combine them now with larger ones. If you have too many mites now, it may be too late to save those colonies. About the only things you can do now are late-season mite cleanup, and feeding of heavy syrup to put on stores, if necessary.

In our own operation, we got badly sidetracked by equipment. The construction of new boxes, and the refurbishing of old trucks and forklifts ate up too much time that we should have been spending with the bees. Add that to our late splits due to the wet spring, and we've got many colonies that are too weak to winter well. The big, fat almond pollination check we were hoping for just slimmed down. Once again, there's always next year!

On the subject of mite control, we're currently finishing up a relatively small experiment to compare the efficiency of Sucroside vs. oxalic acid. Meaningful mite experiments involve the preparation, insertion, and removal of stickyboards, then the tedious job of counting the mites on the boards. I just spoke with Eric Mussen, who is conducting a larger-scale experiment of another product, involving stickyboards, plus measuring the amount of brood

throughout the season. This kind of mind-numbing counting is, unfortunately, often the backbone of good scientific research. We'll share our results with you when complete.

Janet Brisson is also conducting a more informal experiment on the use of powdered sugar for mite control. I'll be very interested to see the results as far as mite levels entering Winter, and winter survival.

The devil of these experiments is often in the details. For example, unless all your queens are from the same mother, and similarly mated, there may be a huge variation in natural mite resistance from colony to colony. This makes clear results much more difficult to obtain. In experimenting with oxalic acid, we can look at data from European researchers, but they mainly used oxalic as a winter treatment, when the bees were not processing nectar, and the mites have no brood to hide in. I don't know how temperature, amount of honeyflow, or proportion of sealed brood affects the effect of oxalic on the mites. We don't know the best concentration of oxalic in syrup to use, nor how often we can apply it without harming the bees. There are a number of large commercial beekeepers trying various oxalic treatments this summer. I'm sure we'll know a lot more next year.

One item of good news in mite control is that we are indeed seeing great differences in mite levels between our breeding stocks. Some of our breeders have gone all season without any mite treatment, yet still have very low numbers of mites. If we can breed from bees that do most of the mite control work themselves then our job will be to simply help them a little when they need it.

The Buzz About Bees A Flush Fund of Fascinating Facts

by Maureen Dolan, source

(<http://www.pbs.org/wgbh/nova/bees/buzz.html>)

Home sweet home

- Bees do not create honey; they are actually improving upon a plant product, nectar. The honey we eat is nectar that bees have repeatedly regurgitated and dehydrated.

- The average American consumes a little over one pound of honey a year.

- In the course of her lifetime, a worker bee will produce 1/12th of a teaspoon of honey.

- To make one pound of honey, workers in a hive fly 55,000 miles and tap two million flowers.

- In a single collecting trip, a worker will visit between 50 and 100 flowers. She will return to the hive carrying over half her weight in pollen and nectar.

- A productive hive can make and store up to two pounds of honey a day. Thirty-five pounds of honey provides enough energy for a small colony to survive the winter.

- Theoretically, the energy in one ounce of honey would provide one bee with enough energy to fly around the world.

- Although Utah enjoys the title "The Beehive State," the top honey-producing states include California, Florida, and South Dakota. In 1998, the United States made over 89,000 metric tons of honey. China, the world's top honey-producer, created more than 140,000 metric tons of honey in 1997.

- While foraging for nectar and pollen, bees inadvertently transfer pollen from the male to the female components of flowers. Each year, bees pollinate 95 crops worth an estimated \$10 billion in the U.S. alone. All told, insect pollinators contribute to one-third of the world's diet.

- Most researchers believe the honeybee originated in Africa. The first European colonists introduced *Apis mellifera*, the common honeybee, to the Americas. Native Americans referred to the bees as "White Man's Fly." Today honeybees can be found all over the world.

Bees often shield themselves from rain, which can chill their flight muscles to the point that they cannot

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

fly.

Busybodies

- Bees are not fast fliers; while their wings beat over 11,000 cycles per minute, their flight speed averages only 15 miles per hour. In comparison, a true fly in the genus *Forcipomyia* beats its wings over 62,000 cycles per minute. The Australian dragonfly *Austrophlebia costalis* has been clocked flying at a speed of 36 mph.

- Bees possess five eyes. The three ocelli are simple eyes that discern light intensity, while each of the two large compound eyes contains about 6,900 facets and is well suited for detecting movement. In fact, honeybees can perceive movements that are separated by 1/300th of a second. Humans can only sense movements separated by 1/50th of a second. Were a bee to enter a cinema, it would be able to differentiate each individual movie frame being projected.

- While bees cannot recognize the color red, they do see ultraviolet colors.

- Unlike the stingers in wasps, the honeybee's stinger is barbed. Once the stinger pierces a mammal's soft skin, the attached venom pouch pumps a mixture containing melittin, histamine, and other enzymes into the target. When the bee pulls away, the barb anchors the stinger in the victim's body. The bee leaves the stinger and venom pouch behind and soon dies due to abdominal rupture. When a honeybee stings another insect, such as a honey-plundering moth, she does not leave her stinger planted in the invader. As she retreats from the insect victim, her barbed stinger tears through the insect's exoskeleton.

Being the Queen

- During the mating flight several drones will deposit upwards of 90 million sperm in the queen's oviducts. The queen, however, will not use all the sperm. She stores about seven million sperm in a special pouch, the spermatheca.

- In one day a queen can lay her weight in eggs. She will lay one egg per minute, day and night, for a total of 1,500 eggs over a 24-hour period and 200,000 eggs in a year. Should she stop her frantic egg-laying pace, her workers will move a recently laid egg into a queen cell to produce her replacement.

- While workers select which fertilized eggs to brood in queen or worker cells, the queen decides the sex of her young. In a mechanism of sex

determination known as haplodiploidy, fertilized eggs will become female offspring, while unfertilized eggs will become males.

Maureen Dolan, NOVA Online's intern, worked with a bee researcher from the University of Massachusetts Boston in the summer of 1998.

September Minutes

The meeting was held on Labor Day, yet we had a surprising turnout! Shane Mathias led the meeting, as Gary Wood was out of town. There was no business of note. The program was given by Randy Oliver- a summary of the topics of the WAS convention in Moscow, Idaho.

Sacramento Beekeeping Supplies

- Complete line of all beekeeping supplies
- Candle making supplies (molds, wicks, dyes, scents)
- Glycerine soap making supplies (soap base, molds, scents, and dyes)
- Honeycomb sheets for rolling candles (50 colors and in smooth)
- Beeswax and paraffin, special container candle wax
- Gifts, books, ready made candles
2110 X Street, Sacramento, CA 95818
(916) 451 – 2337 fax (916) 451 – 7008
email:sacbeek@cwnet.com

Open Tuesday through Saturday 9:30 – 5:30
Mail orders receive quick service.



A Place For Beelievers
Gifts from the hive
beekind
Honey - Candles - Gifts
Beekeeping
Candlemaking Supplies
OPEN: MON-SAT 10 - 6
NEXT TO FOSTER'S FREEZE
921 Gravenstein Hwy. S. Sebastopol
(707) 824-2905
beekindbees.com
Taste Your Honey
Honey Shop and Tasting Bar

The Nevada County Beekeepers Association is dedicated to apiculture education and promotion of the art and science of beekeeping among beekeepers, agriculturists, and the general public. This is a "not for profit" organization.

Meetings are held the first Monday of each month at 7 PM at the Grass Valley Veteran's Memorial Building at 255 South Auburn Street in Grass Valley. All visitors are welcome.

The newsletter is published monthly as a service to the membership. Articles, recipes, commentary, and news items are welcomed and encouraged. Submission by email is encouraged. Please submit to Bonnie Bagwell at arwg@infostations.com. The deadline for the November 2005 edition is October 15th. A limited amount of advertising space (business card size 3" by 2") is accepted and need not be bee-related. Rates are \$1 per issue or \$7 per year for NCBA members and \$16 per year for non-members. All revenue from advertising goes to the Association treasury and helps offset the cost of producing and distributing this newsletter.

To receive the *Local Buzz* via email: please email your request to arwg@infostations.com.

Nevada County Beekeepers Association



C/o Gary Wood
10396 Mountain Lion Lane
Grass Valley, CA 95949

First Class Mail

October 2005

Next meeting: Monday, October 3, 2005, 7 PM at the Grass Valley Veteran's Memorial Building We'll see a short video by Bill Ruzicka on the use of formic acid for mite control, and if time permits more from the Jz's Bz's video we started a few months ago. Don't forget Elections for next years NCBA Officers.

Nevada County Beekeepers Association

2005 Officers

President: Gary Wood.....477-9202
grw@usamedia.tv

Vice President: Merrill Grant.....432-0725
mgrant@williams.k12.ca.us

Secretary: Jack Meeks.....432-4429
jackm@nccn.net

Treasurer: Janet Brisson.....346-6439
rubes@infostations.com

Board Members

Past President Merrill Grant.....432-0725
Leslie Gault.....346-7092
Randy Oliver.....272-4450
John Miller.....823-1369

Committee Chairs

Swarm Hotline: Leigh Johnson.....273-1382
Lynn Williams.....675-2924

Library: Tynowyn Slattery..265-6318

Newsletter Dist. Gary Wood.....477-9202

Newsletter: Bonnie Bagwell.....878-3622

Honey Extractor Karla Hanson.....265-3756