

# The Bee Line

Newsletter of the Oregon State Beekeepers' Association

Volume 33, Number 3

April 2008



Jan Lohman

## IN THIS ISSUE...

Introducing Queens	1
President's Message	2
OSBA Resources	5
Pollination Survey	6
Advertising (begins)	10
Portland-Metro Bee Day	11
Southern Oregon Bee Day	12
Apiculture Fund	15
Membership Form	15

**CALIFORNIA DREAMIN'** (see image above). Almonds in California receive the most attention, yet apples and cherries are among the crops most pollinated by honey bees in Oregon. The 2007 pollination survey reported in this issue (pp. 6–10) involved twelve commercial and five semi-commercial beekeepers. Of 37,095 colonies, the total colony rentals was 94,100. Average pollination fee per colony for all beekeepers and all crops, including California almonds, was \$70.65. The average commercial bee operation maintained 3,091 colonies and grossed \$545,870 in pollination rental income.

## THE QUEEN IS IN THE MAIL...

*Dr. Lynn Royce*

Are you prepared to receive her majesty, the Queen? With a little knowledge and a healthy dose of empathy you can come close to being prepared. But only *close* because her final arrival date, her physical condition, and the weather outside are all out of your hands. What you can and must control are the conditions in her soon-to-be new home. First let's look at her life before she comes to you and then at some helpful tips on how to make the transition as easy on her as possible.

### The Queen's Early Life

The queen was probably born in a four- or five-frame box called a *mating nuc*. Most queen producers use similar boxes to raise their queens. When she is mature enough, she will begin venturing outside the hive and soon go on her mating flights. She will mate with 10–20 drones on one or two nuptial flights. Each drone contributes 6–10 million sperm along with a few microliters of mucus. The sperm and mucus from all these drones fill her vagina and oviducts.

It takes at least 40 hours from the time of her last mating flight to the completion of filling the *spermatheca*. Her spermatheca is the internal organ that holds the sperm during her lifetime. The worker bees in the colony are important helpers to the process of filling the spermatheca after mating. In this dark, warm, and humid environment, the workers begin to care for, feed, and groom the queen. They remove the final drone's mating sign and help the queen clean herself. Without this care she may not become a successful reproductive queen who will maintain the colony equilibrium. The sperm is well mixed through this process, thus allowing any of the drones' offspring (workers) to be represented at any one time in the colony. If all goes well, the queen's ovaries develop, and the queen begins to lay her first eggs. She will lay only a few eggs at first, but will quickly increase the pace if enough workers are present to stimulate her. She will lay up to 1,500 eggs a day as spring reaches its apex.

*Continued on page 3*

## The Bee Line

The Bee Line is the official publication of the Oregon State Beekeepers' Association. The newsletter is published ten times a year, and subscriptions are included with membership in OSBA.

Please send news about your bees and your experiences in keeping them, as well as corrections, letters, comments, photographs and stories (old and new), interviews, and requests for advertising to: Editor, *The Bee Line*, 4803 SE Woodstock Blvd Ste 157, Portland OR 97206; e-mail: [thebeeline@comcast.net](mailto:thebeeline@comcast.net).

### Advertising Costs Per Issue

#### Business Ads:

Business card	\$10.00
Quarter page	\$25.00
Half page	\$50.00
Full page	\$100.00

#### Classified Ads (30 words):

Members	\$3.00
Nonmembers	\$5.00

Please submit all copy by the 10th of the month prior to publication. The next issue will be May 2008. Contact the Editor with questions.

Thank you!

## MESSAGE FROM THE PRESIDENT

When I came back from California, the daffodils were starting to think about blooming. Now, as I prepare to return, they are turning large areas of my yard into beautiful carpets of yellow. The weather has been near perfect for the daffodils, tulips, and irises to grow and prosper. I love to see the spring flowers put on their show. By the time we bring our bees home, the tulips and irises will take over, thus making the yard a place of wonder.

Of course that means that the bees are starting to build up and prosper. They will continue to prosper if they have adequate stores of honey to support them until a good nectar flow provides food. I hope you are keeping watch over your little charges. Many hives need help with proper feeding until the weather gets more consistent. It is discouraging to have a colony make it well into March, then starve.

As I enjoy working with the bees and our customers during the year, my mind often wanders. I think of the time the work will be done, and I can relax or at least cut back on the number of working hours. That relaxing time includes the fall beekeeping conference. As many of you know, Washington, Idaho, and Oregon beekeepers meet as a group at one convention. This usually happens every other year in a convenient place during late October or early November. Oregon sponsored this event the last time it was held, and Washington will host the meeting this October.

From the information I have received, the convention will be held in the Red Lion Hotel, Vancouver at the Quay. This is on the Washington side of the Columbia River, just off I-5. The dates will be a little earlier than in previous years. October 16 through 19 are the dates to learn the latest in beekeeping. I attended the Washington meeting last year and was impressed by the program and organization.

Now that you know where you want to spend your mini-vacation this year, let's all get ready to extract that enormous honey crop we have been dreaming of all winter.

—Chuck

**The Queen**—Continued from page 1

Now, just as the queen is getting established in her colony, she is suddenly plucked out of her colony and put into a small cage. Her cage may be made of wood 3-inches long, 1-inch wide, and  $\frac{3}{4}$ -inch deep. Three connecting holes about  $\frac{3}{4}$  inch in diameter and  $\frac{1}{2}$ -inch deep form a cavity in the wood block, and this cavity is covered with screen. Both ends of the cage have  $\frac{1}{4}$ -inch holes that are stopped by corks. The queen and 6–8 attendant workers now reside in two-thirds of the cavity. The other third is filled with *queen candy*. Queen candy is a mixture of corn syrup and powdered sugar, mixed to a consistency that will stay put in the cage and yet be soft enough for the bees to eat. Honey is not used in this mixture because of the possibility of transmitting disease.

**Making the Transition**

After being confined for 2–5 days in this very small space with just a few attendants, given poor food and no water, and being subjected to huge temperature fluctuations, as well as being in the bumpy, shaky care of UPS or USPS, it is fair to assume that the beauty you have purchased is a bit stressed by the time you receive her.

What can you do to minimize this stress? Here are some suggestions:

- ❖ Buy local. This minimizes travel time, often eliminates shipping, reduces time out of colony, and gives you a queen better adapted to local conditions.
- ❖ Inspect the cages as soon as you can. Note the date shipped, the condition and behavior (that is, are they sluggish or active?) of attendants and the queen, and check the condition of the queen candy. Also note whether or not corks are in both holes of the cage.
- ❖ Provide some water, but do not drown these bees. They don't want to be wet! A tiny droplet of water on your finger rubbed over the screen will leave water trapped in

the holes of the screen (thus, not dripping in). The workers can pick this water up, and it will help them take up the candy as well as feed and groom the queen.

- ❖ Have your apiary ready to receive the new queen before she arrives. This timing can be difficult, but do your best. Coordinate arrival time with your queen producer. Make your nucs, dequeen your colony, set up your queen bank, and make splits or whatever you need to do within 24 hours of the receipt of your new queen. Talk to your queen source, and make it easy for them to get in touch with you should something cause a delay.
- ❖ Realize that nature may make things difficult, so have some delay tactics ready just in case. Remember that shippers lose things now and then. Did I say buy local? Less stress on the queen, less stress on you.
- ❖ Get the new queen into her new colony ASAP. Then, give her time and the colony time to adjust. This means, make sure that it takes at least 3–4 days for the queen to be released so that she is acceptable to the colony. Remember that queenless bees are unhappy and nervous. They remain this way until their new queen is laying and young larvae are present! Unhappy bees are touchy. Any disturbance will set them off in a panic. Many a new queen has lost her life because the beekeeper disturbed the colony before she had her own brood (young larvae) present.
- ❖ After placing a new queen in a colony, **DO NOTHING** for **TWO WEEKS!** If for whatever reason she is not self-releasing, do as little as possible. Move slower. Be gentler and quieter. And after you release her, **LEAVE THE COLONY ALONE FOR AT LEAST 10 DAYS.** Anything you do in the colony, even releasing the queen during the first two weeks, will lower your chance of success.

*Continued on page 4*

**The Queen**—Continued from page 3

- ❖ Bees are happier if there is a good honey flow, so feed them. Start feeding before you put the queen into the colony, and keep feeding until she is accepted and laying. It helps calm them down. Use a feeding system that causes the least disturbance when adding feed. Put the new queen into a situation with lots of young bees. Using two frames of open brood and placing her cage in between them are good ideas.

**Additional Considerations**

**Removing attendants**

When cages contain attendants, should you remove them before putting the caged queen into her new colony? I have done it both ways and cannot tell the difference.

**Candy up or candy down?**

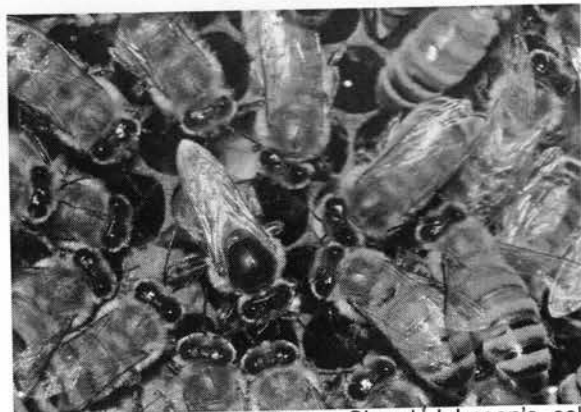
If you have attendants and one or more of them die, the remaining attendants may plug the hole and inhibit the queen's release. On the other hand, if the candy is soft, the warmth and humidity of the colony may make it run and damage the caged bees. I put my candy down and have never had a problem, but then I usually do not have attendants present.

**Push-in cages**

You may have heard of push-in cages. They require you to release the queen on day 4. They can be as small as 2 by 2 inches and are about 5/8-inch deep made from 1/8-inch hardware cloth (wire mesh with 8 squares per inch). They are like a cut-in-half square wire cage without an entrance. You place the queen on good comb with a bit of honey and maybe some capped brood, then push the cage over her into the comb. This can be tricky as the queen and worker bees will run. You want the queen inside the cage by herself or with one or two newly (less than 24-hours old) emerged workers. I do not recommend using push-in cages until you have some experience handling bees.

**Plug-in nucs**

Plug-in nucs are a good way to introduce a queen. She will have her own bees and brood, and there is usually no interruption in her



An egg-laying queen. **From:** Sheryl Johnson's collection of postcards produced by the Tamagawa University Institute of Honey Bee Science.

laying. Make up a medium-to-strong nuc before the new queen arrives. Be sure there is open brood, many young bees, and some honey and pollen and space for the new queen to lay in once she is free. The nuc once made up should be left to settle for 12–24 hours before placing the new queen in with these bees. Just like introducing a new queen to any other colony, let them release her and give them time to adjust before disturbing the nuc. Yes, allow 14 days before you use it as a plug-in nuc—21 days are even better. When you are ready to use the nuc to requeen a larger colony, remember that queens run if too much smoke is used or if the disturbance is more than they will tolerate. I have had queens run off the combs containing their bees and into bees of the new colony. In my experience, these queens never survive.

Often I place the nuc frames of bees with queen under or over sheets of newspaper so that the queen is confined with her bees for several hours after I go away. The whole unit (colony being requeened and the nuc) then settles down. I have had very high success rates with this technique.

**Queen Banks**

This is a big topic, and I will only say here that the longer you hold a queen in confinement the harder time she may have. I do not like to bank queens and try never to hold them in banks for more than one week. All these stresses we put on a new queen put her at risk. Sometimes she never starts laying again.

## OREGON STATE BEEKEEPERS' ASSOCIATION RESOURCES

### OSBA REGIONAL REPRESENTATIVES

**Columbia Basin:** Deb Morgan  
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**Eastern Oregon:** Jordan Dimock  
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**Metropolitan Area:** Peter Forrest  
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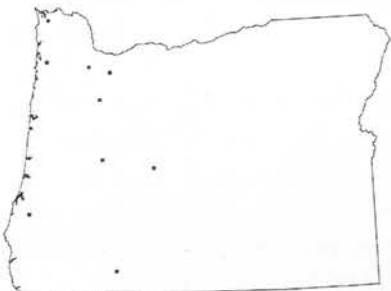
**North Coast/Webmaster:** Thom Trusewicz  
90041 Logan Rd, Astoria  
(503) 325-7966; ccbee@intergate.com

**South Coast:** Open

**Southern Oregon:** Open

**Willamette Valley:** Harry Vanderpool  
7128 Skyline Rd S, Salem; (503) 399-3675  
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### OSBA REGIONAL ASSOCIATIONS



#### Central Oregon Beekeepers

Meets 6:30 pm, third Tuesday, Bend  
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**President:** Dennis Gallagher  
(541) 389-4776

**Secretary/Treasurer:** Glenda Galaba  
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#### Coos County Beekeepers

Meets 6:30 pm, third Saturday (except Dec)  
Olsen Baxter Bldg, 631 Alder St, Myrtle Pt

**President:** Thomas Kyelberg  
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**Vice Pres:** Spike Richardson; (541) 267-4725

**Secretary:** Marda Burgdorff; (541) 888-5695

**Treasurer:** Jane Oku; (541) 396-4016  
jane\_oku@hotmail.com

#### Lane County Beekeepers

Meets 7:30 pm, third Tuesday, Eugene  
EWEB Meeting Rooms, 500 E 4th Ave

**President:** Paul Gordon; (541) 510-8420  
rpaulg@gmail.com

**Vice President:** Judy Scher

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**Treasurer:** Nancy Ograin

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**Newsletter Editor:** Jonathan Loftin; (541) 736-1870

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#### Portland-Metro Beekeepers

Meets 7 pm, second Thursday, Oregon City  
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**Vice President:** Jim Mellis; (503) 631-4622

**Secretary:** Paul Hardzinski; (503) 631-3927

**Treasurer:** Barbara Derkacht

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#### Southern Oregon Beekeepers

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**Vice President:** Floyd Pawlowski

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**Secretary/Treasurer:** Julian Lewis

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#### Tillamook County Beekeepers

For meeting and other information about the group,  
please contact the officers:

**President:** Bob Allen; (503) 322-3819

**Vice President:** Terry Fullan

(503) 368-7160; tfullan@nehalem.tel.net

#### Tualatin Valley Beekeepers

Meets 7:30 pm, last Friday, Beaverton  
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**President:** Andrew Schwab

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**Vice President:** Herb Brasington

**Co-Secretaries:** Paul Anderson and Jerry Maasdam

**Co-Treasurers:** Michael and Brigette Hendrickson

hendricm@ece.pdx.edu

#### Willamette Valley Beekeepers

Meets 7:30 pm, fourth Monday, Salem

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**President:** Richard Farrier; (541) 327-2673

**Vice President:** Harry Vanderpool

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**Secretary:** Mike Rodia

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**Treasurer:** Susan Rauchfuss

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## PACIFIC NORTHWEST HONEY BEE POLLINATION ECONOMICS SURVEY 2007

Dr. Michael Burgett

Since 1986 the Honey Bee Laboratory at Oregon State University has conducted an annual survey of pollination economics in the Pacific Northwest (PNW). The information from each year of the survey has been made available both regionally and nationally. The information has proved to be most useful to individual beekeepers who generate income from pollination rental, which is the primary source of income for the majority of commercial beekeepers in the PNW.

The use of managed honey bee colonies for commercial crop pollination remains the most important function of the PNW beekeeping industry. The vast and diverse agriculture of the region relies on a healthy and strong beekeeping industry to maintain optimum production. An enhanced knowledge of pollination economics is crucial to every beekeeper entering into the world of commercial crop pollination. It is also important for those growers who contract honey bee colonies for managed pollination to understand the current economic conditions of the beekeeping industry.

The pollination requirement for commercial agriculture in the PNW is enormous. In the tri-state region of Washington, Oregon, and Idaho there are *ca.* 355,000 acres of crops grown that require or benefit from managed honey bee pollination. The *farm-gate* value of those combined crops is approximately \$1,750,000,000! Nearly half of those acres and 60% of the dollar value are in one crop—apples.

The USDA National Agriculture Statistical Service estimates that there are 200,000 production honey bee colonies in the PNW. With these numbers, there are some interesting hypothetical calculations that can be made. If all growers were to rent two colonies for each acre of blooming crop (355,000 acres), the resulting

pollination requirement would utilize 710,000 colony rentals. If we multiple this by the 2007 average colony rental fee (\$70<sup>65</sup>), it results in a potential pollination rental income of more than \$50 million. If we add to that the 2007 estimated California almond pollination income available to all PNW commercial beekeepers (\$25 million), we end up with a potential gross pollination income of \$75 million. Another way to look at this is, "How much pollination income, under optimized conditions, should have been produced from one commercial honey bee colony in the year 2007?" For the PNW that figure is approximately \$375 per hive.

Comparing the hypothetical PNW rental income (\$50 million) to the farm-gate value of the crops pollinated in the PNW (\$1.75 billion) shows that the money spent by growers to optimize pollination is less than 3% of the total crop value. This is another impressive illustration of the remarkable bargain pollination rental represents to the commercial agricultural industry of the PNW.

This year's survey continues to show a number of trends, one of which is the continued dependence of PNW commercial beekeepers on the income generated from colony rentals. For 2007 the average commercial beekeeper reported receiving 68% of his or her annual operating gross from pollination rentals. This percentage is slightly higher than the previous year 2006 and continues to show the dominance of pollination rental income to a commercial beekeeper's financial health.

Recent increases in the average pollination rental fee have been strongly influenced by a dramatic rise in the pollination rental fees paid by California almond growers. In 2005 almond growers responded to a perceived shortage of colonies by dramatically increasing the price they were willing to pay for pollination; this has obviously continued for the 2007 pollination season. The average almond pollination fee for 2007 was \$137<sup>35</sup>. This is a 73% increase from the 2005 average (\$79<sup>40</sup>) and a 6% increase from

**Table 1.** Average pollination fee, 1996–2007.

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
31.55	31.05	29.65	32.25	32.85	33.65	36.40	36.45	38.65	51.30	73.85	70.65

the average almond pollination fee in 2006 (\$129<sup>30</sup>). Almond pollination is a target crop for nearly all commercial beekeepers in the Pacific Northwest and represents the beginning of the annual pollination season by nature of the early flowering period.

For 2007 the average pollination rental fee, computed from commercial colony rentals on all crops reported (including almonds), was \$70<sup>65</sup>. This is a 4% decrease from the average pollination fee of 2006 (\$73<sup>85</sup>) (see Tables 1 and 2). This slight decrease is in spite of a nominal rise in the average almond pollination rental fee. Table 2 illustrates the average fees paid by crop and a comparison to the average fee received in 2006.

During the past ten years, the average rental fee has increased from \$31<sup>05</sup> (1997) to \$70<sup>65</sup> (2007), an increase of 127%. It needs to be stressed that honey bee colony rental has for many decades been an underpaid service to the agricultural

industry at-large. It is really only within the past decade that rental fees have begun to more accurately reflect the enormous value-added service of managed pollination. This is shown by the 380% increase in the average pollination fee during the last eighteen years; from 1990 = \$18<sup>40</sup> to 2007 = \$70<sup>65</sup>. (For data from the past sixteen years, see Table 3.)

Within the PNW, tree fruits are the dominant crop type for pollination income. In 2007 the combination of pears, sweet cherries, and apples accounted for 39% of all reported rentals and 23% of all reported pollination income. Paradoxically, the single most important crop for PNW beekeepers is grown in California, *i.e.*, almonds. Almonds were responsible for 30% of all rentals and 58% of all rental income in the 2007 survey (see Table 4). Almonds consistently have produced a high average pollination fee and for the past two years have displayed remarkable fee increases (for 2005 the average fee was \$79<sup>40</sup>; for 2006, \$129<sup>20</sup>; for 2007, \$137<sup>35</sup>).

**Table 2.** Average pollination fees by crop in 2007 as reported by 12 commercial and 5 semi-commercial beekeeping operations.

CROP	RENTALS (Number)	Average FEE	FEE +/- <sup>1</sup>
Pear	6,864	\$40 <sup>75</sup>	+7.8%
Cherries	10,347	\$42 <sup>30</sup>	+7.0%
Apples	19,652	\$42 <sup>90</sup>	+7.2%
Berries <sup>2</sup>	3,606	\$34 <sup>35</sup>	+40.4%
Blueberries	7,790	\$35 <sup>70</sup>	+10.2%
Cranberries	1,652	\$44 <sup>40</sup>	0%
Vegetable Seed	5,666	\$56 <sup>95</sup>	+30.0%
Clover Seed <sup>3</sup>	2,300	\$44 <sup>15</sup>	+48.0%
Radish Seed	372	\$35 <sup>85</sup>	-23.4%
Cucumbers	124	\$27 <sup>40</sup>	-60.0%
Squash/Pumpkin Seed	1,403	\$60 <sup>10</sup>	+36.5%
Watermelon	1,424	\$36 <sup>80</sup>	+5.1%
Meadowfoam	3,526	\$43 <sup>75</sup>	+3.0%
Miscellaneous <sup>4</sup>	1,324	\$23 <sup>20</sup>	+7.2%
California			
Almonds	28,050	\$137 <sup>35</sup>	+6.3%

<sup>1</sup>Change (%) from 2006.

<sup>2</sup>Includes blackberries, raspberries, Marion berries, and Logan berries.

<sup>3</sup>Includes red and white clover as grown for seed.

<sup>4</sup>Canola and sunflowers.

Continued on page 8

Pollination—Continued from page 7

**Table 3.** Average colony numbers, average rental fee per colony, and average annual rental income per colony for a hypothetical commercial beekeeping operation in the Pacific Northwest, 1992–2007.

YEAR	COLONIES (Average Number)	RENTAL FEE (Average)	RENTAL INCOME/Colony (Average Annual)
1992	765	\$19 <sup>25</sup>	\$49 <sup>70</sup>
1993	990	\$22 <sup>50</sup>	\$62 <sup>25</sup>
1994	1,225	\$28 <sup>10</sup>	\$78 <sup>70</sup>
1995	1,348	\$29 <sup>60</sup>	\$78 <sup>15</sup>
1996	1,350	\$31 <sup>55</sup>	\$97 <sup>50</sup>
1997	1,504	\$31 <sup>05</sup>	\$92 <sup>20</sup>
1998	1,153	\$29 <sup>65</sup>	\$83 <sup>00</sup>
1999	2,058	\$32 <sup>25</sup>	\$89 <sup>30</sup>
2000	2,055	\$32 <sup>85</sup>	\$77 <sup>40</sup>
2001	3,168	\$33 <sup>65</sup>	\$64 <sup>60</sup>
2002	4,255	\$36 <sup>40</sup>	\$63 <sup>75</sup>
2003	2,612	\$36 <sup>45</sup>	\$86 <sup>40</sup>
2004	3,555	\$38 <sup>65</sup>	\$74 <sup>60</sup>
2005	2,055	\$51 <sup>30</sup>	\$112 <sup>85</sup>
2006	3,855	\$73 <sup>85</sup>	\$151 <sup>10</sup>
2007	3,091	\$70 <sup>65</sup>	\$176 <sup>60</sup>

In 2007 the combination of California almonds and PNW tree fruit accounted for 69% of all rentals and 81% of all pollination income, which illustrates the dominance and importance of these crops for a commercial PNW beekeeper (see Table 4). All other PNW cropping systems utilizing honey bee pollination contributed 19% of a beekeeper's gross pollination income during 2007.

In terms of acreage, apples are the largest crop grown in the PNW, and this is reflected by the large number of reported rentals (21% of all rentals and 12.5% of the total reported pollination rental income).

Berry crops (blackberries, Marion berries, Logan berries, raspberries) are late-spring-to-early-summer bloomers and most often copious nectar producers. The 2007 average pollination fee for combined berry crops was \$34<sup>35</sup>, a lower price than the average fee because beekeepers have an expectation that a honey crop will also be produced. The rental of colonies for blueberry pollination has been increasing in recent years due to more acreage in production. The average fee for blueberries in 2007 was \$35<sup>70</sup>, somewhat higher than other berry crops due to the fact that there is little-to-no expectation of a surplus honey crop.

The average PNW commercial honey bee colony was rented 2.5 times in 2007, and this includes California almonds. This is an increase from 2006 (2.1). This statistic had been dropping since 1999 when the average number of rentals per colony was 2.8. Does this actually reflect the real world situation? Are commercial beekeepers concentrating on almonds and PNW tree fruit (which historically provide the major sources of pollination income) and reducing the number of colonies involved in minor crop pollination? At this time our data are not able to provide a reasonable answer to this question.

For the 2007 pollination season, an average rental fee of \$70<sup>65</sup>, combined with an average of 2.5 pollination rentals per colony, results in an annual per colony pollination income of \$176<sup>60</sup>, which is up significantly from past years. With the "average" commercial operation running 3,091 colonies, a hypothetical 2007 gross pollination income for the "average" commercial beekeeper was \$545,950.

The combined colony numbers from those commercial beekeepers who responded to the 2007 survey (37,095 colonies) represent about 18.5% of the USDA's estimate of colony numbers in Oregon and Washington. Therefore, if we multiply the total reported pollination



income (\$6,649,913) by a factor of 5.4, we have a ballpark estimate of the pollination income generated by commercial beekeeping in the PNW, *i.e.*, a regional pollination income of approximately \$35,910,000. This is far more than the “estimates” assigned to the bee industry by agricultural economists, who, for reasons unexplained, usually do not even include pollination rental income in their estimates of beekeeping industry economics. Pollination income in the PNW far exceeds the value of honey and wax sales for our regional beekeeping industry. Pollination rental income is frequently 3–4 times greater than honey and wax sales in any given year. This disparity between pollination income and combined honey/wax income has increased dramatically, especially in the past few years, concurrent with the dramatic rise in pollination rental fees.

The 2007 survey asked commercial beekeepers to report the total number of full-time or full-time-equivalent employees working for their operations. The figure for the “average” commercial beekeeping operation in 2004 was 2.9 full-time employees; for 2005 it was 3.4 employees; for 2006 it is 4.8, and for 2007 the figure is 3 employees. Another interesting way to look at this is to ask the question, “What is the ‘colony equivalent?’”—meaning, what is the number of colonies necessary to hire one full-time employee? That figure was very close to 1,500 colonies/employee in 2004 and 2005. In 2007 the “colony equivalent” is 1,125 colonies per full-time employee.

While colony income from pollination rental is a critical statistic, so therefore is the annual cost to maintain a healthy colony of honey bees. Numerous commercial beekeepers, who have

over the years maintained good cost accounting records, have responded with numbers that are very reasonable relative to today’s economy. The average annual hive maintenance cost was \$135<sup>20</sup> per colony for the year 2007. The range in responses was a high of \$250/colony to a low of \$75/colony. This wide range suggests that beekeepers should try to be more precise in calculating their operational costs. If you can’t answer the question of your operating cost on a *per colony basis*, you need to re-adjust your operational accounting.

For 2007 the average colony maintenance cost is lower than the average per-colony pollination income. From the 2007 survey data pollination income was \$176<sup>60</sup>/colony and the colony maintenance cost was \$135<sup>20</sup>, a difference of \$41<sup>40</sup> per colony. This is a change from recent years when the average operational cost was somewhat higher than the average pollination income on a per-colony basis. This still illustrates that the majority of net operational profit is generated by sources of income outside of pollination rental—most importantly among these sources, honey production.

In interpreting the average pollination fee for an individual crop, it is important to recognize that the reliability of the “average” is strongly influenced by the number of reported rentals. The “average” for almonds should be considered very realistic because of the large number of beekeepers and rentals reported for this crop, and such is also the case for tree fruit in the PNW. However, when looking at the “average” rental fee for cucumbers in 2007 of \$27<sup>40</sup> as an example, this number is down dramatically from 2006; however, it is based on only 124 colony rentals. This variation for

**Table 4.** Pollination rentals and income by crop type from twelve Pacific Northwest commercial and five semi-commercial beekeepers in 2007.

CROP	RENTALS (Number)	% of TOTAL RENTALS	RENTAL INCOME	% of TOTAL RENTAL INCOME
Tree Fruit	36,863	39	\$1,559,506	23
Almonds	28,050	30	\$3,852,544	58
All Other Crops	29,187	31	\$1,237,863	19
TOTAL	94,100	—	\$6,649,913	


Continued on page 10

Pollination—Continued from page 9

cucumbers is due largely in part to the few number of beekeepers who participated in cucumber pollination and the low number of reported rentals in the 2007 survey.

Remember that the data presented here represent the pollination rental situation of a hypothetical “average” commercial beekeeper in the Pacific Northwest. For individual beekeepers the survey results are most useful as benchmarks against which they should compare their individual operations. Please let me stress again that all of these “projections” are only as accurate as the data provided by responding beekeepers. The projections also assume that the participating beekeepers collectively represent the mainstream of commercial beekeeping in the Pacific Northwest. The 2007 survey is produced from a significantly fewer number of commercial beekeepers than that in 2006; hence, the number of colonies and reported rentals are lower than were reported in 2006.

*I wish to again thank all those beekeepers in Oregon and Washington who took the time to participate in the survey, which over the past 22 years has generated the most accurate assessment of commercial pollination known in the US. I also offer sincere thanks to the Washington State Beekeepers' Association for the funding support to continue this annual survey of Pacific Northwest regional beekeeping economics.*



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SATURDAY APRIL 26, 2008

**PLACE:** George Hansen's  
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30576 S Oswalt Rd  
Colton, OR 97017

**TIME:** Registration: 9:00 am  
Presentations:  
10:00 am-3:00 pm

**COST:** \$15.00 per person/\$25.00 per family, preregistered  
\$20.00 per person/\$30.00 per family, day of the event  
Registration includes box lunch

**GEAR:** Bring your "bee protection equipment" (bee veils, gloves, suit, etc.)

**PRESENTATIONS** (about 45 minutes each):

- A. Beekeeping Equipment
- B. Basic Hive Inspection
- C. Nuc Installation/Package Installation
- D. Finding the Queen
- E. Diagnosis and Management of Honey Bee Diseases

For more information, contact:

Kerry Haskins (503) 632-8448 or Jim Mellis (503) 631-4622

Complimentary Morning Beverage provided. Soda and water available for purchase.

To preregister, return this form with \$15 per person/\$25 per family to *Bill Ruhl Memorial Bee Day, c/o Barbara Derkacht, 17130 S Seal Court, Oregon City, OR 97045*. Make check payable to the Portland-Metro Beekeepers Association. Please mail no later than April 19th. Thank you.

NAME \_\_\_\_\_

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NUMBER PLANNING TO ATTEND \_\_\_\_\_ TELEPHONE OR E-MAIL \_\_\_\_\_

FOR A VEGETARIAN BOX LUNCH, PLEASE INDICATE \_\_\_\_\_



## Southern Oregon Beekeepers' Association Bee School

The Southern Oregon Beekeepers Association is hosting a one-day bee school on **March 29<sup>th</sup>, 2008** at the OSU Extension Center: 569 Hanley Rd, Central Point OR 97502

Come and join us for a day to learn about bees and beekeeping. This class is suitable for beginning beekeepers and intermediate beekeepers. The class runs from 9 am to 3:30 pm and the cost for this class is \$30 per person. Please bring a sack lunch.

The class is being taught by Thom Trusewicz. Thom is a Co-Founder of the Clatsop County Beekeepers' Association and has assumed responsibility for the update, redesign, and maintenance of the Oregon State Beekeepers' Association web site, [www.orsba.org](http://www.orsba.org). Thom has taught a beekeeping class every winter for the last 5 years at Clatsop Community College. He has presented his Bee School in Bend, Newport, and Boise, Idaho. His articles have been published in *The Bee Line* and *BeeKind*, and his work has been cited on occasion in the *Capital Press*. Though his personal preference and expertise are in chemical-free colony management, Thom's presentations span all aspects of beekeeping.

If you wish to attend Bee School, please e-mail Julian Lewis (Club Secretary) at [lewis\\_adams\\_00@yahoo.com](mailto:lewis_adams_00@yahoo.com) or call (541) 535-5817. Pre-registration is preferred to help determine refreshments, but people are welcome to sign up on the day.

*Hope to see you there!*

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### ADDITIONAL CONSIDERATIONS

We'll learn about regional bee days in the next issue of the newsletter. In the meantime, take care to visit:

❖ <http://maarec.cas.psu.edu/ColonyCollapseDisorder.html> for updates and information related to Colony Collapse Disorder.

❖ <http://bees.library.cornell.edu/> for a lovely collection of materials related to honey bees.

❖ <http://www.orsba.org> for local information. Also see guidelines on caring for your bees this spring in the April 2007 issue of *The Bee Line*, archived with past issues at the site.



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Direct any questions for the Foundation to their Director for Development for the College of Agricultural Sciences, Todd Bastian, at (541) 737-8724.

**IMPORTANT:** Making your check out only as described above ensures that your donation is correctly applied to the Apiculture Endowment and not to any other program.

**MEMBERSHIP AND PUBLICATIONS FORM**

Membership in the Oregon State Beekeepers' Association is open to anyone with an interest in bees and beekeeping. You do not need to own bees or reside in Oregon to join. Membership includes a vote in OSBA elections, discounts on publications, and ten issues of *The Bee Line*. To become a member, send check made payable to OSBA with completed form to: Patricia Swenson, 11665 SE Webfoot Rd, Dayton OR 97114.

**Name:** \_\_\_\_\_

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**Note:** *The OSBA respects the privacy of members and will not sell any information provided. May we include your name and address in a membership list that will be given to OSBA members only? YES/NO (please circle one).*

**Membership:** \$20 per person (\$29 per person outside the US) \$ \_\_\_\_\_

**Publication(s):** Indicate journal(s) and period(s) of subscription \$ \_\_\_\_\_

**Additional voluntary contribution:** Designate Research Fund/ General Fund (please circle one) \$ \_\_\_\_\_

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Newsletter of the Oregon State Beekeepers' Association  
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This issue of *The Bee Line* is printed on recycled paper by Powell Minuteman Press; (503) 234-2040.