



1996 Pacific Northwest Honey Bee Pollination Survey

by Dr. Michael Burgett, OSU Honey Bee Lab

This is the eleventh year that the Honey Bee Laboratory at Oregon State University has reviewed the pollination economics of commercial beekeeping in the Pacific Northwest (PNW). This is the third year in the world of large scale agricultural pollination.

The amount of income generated from pollination

rental is dramatically increasing. This is easily inferred from the parallel

increases in the average rental income generated on a per colony basis (see Table 3). Average per colony rental fees have increased during the past five years from \$19.25 (1992) to \$31.55 (1996). Over the past five years the average annual revenue from pollination

rental increased by a rather remarkable 246% (from \$37,993 in 1992 to \$131,625 in 1996). As economically wonderful as this appears, it needs to be remembered that colony maintenance costs and especially colony replacement costs are on a steep increase. Commercial pollinators require high colony numbers to survive, and replacement costs for the dramatic increase in colony losses, due to mite parasitism, is a heavy fiscal burden for all beekeepers. It needs also to be pointed out that honey bee

colony rental has historically been an underpaid service for decades. It is really only within the past five years that rental fees have begun to more accurately reflect

the enormous value-added service of managed pollination.

For the PNW, tree fruits are the dominant crops for pollination income (see Table 2). In 1996 the combination of pears, sweet cherries and apples accounted for 40% of all reported rentals and 40% of all reported pollination income. Paradoxically, the most important

pollination crop for PNW beekeepers is grown in California,

i.e., almonds. This single crop was responsible for 38% of all rentals and 44% of all rental income in this year's survey. Almonds also provided the highest average pollination fee of all crops reported (\$36.25). More than 95% of all commercial colonies in Oregon

and Washington are taken to California for almond pollination. For crops pollinated in the PNW, apples provided the highest average fee at \$32.30 per colony rental. In terms of acreage, apples are the largest crop grown in states of Washington and Oregon which is reflected in the large number of reported rentals (29% of all reported rentals and 30% of reported rental income). The combination of almonds and apples accounted for 68% of all rentals and 74% of pollination income.

Table 1. Average Pollination Fees 1986-1995

1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
\$14.75	16.15	17.50	16.05	18.40	19.45	19.25	22.50	28.10	29.60	31.55

Table 2. Commercial Pollination Review

Crop	No. Rentals	Avg. Fee	Income
Pears	4,642	\$30.00	\$139,356
Cherries	3,555	30.60	108,660
Apples	23,269	32.30	751,864
Berries ¹	4,538	19.70	89,350
Blueberries	1,787	23.70	42,360
Cranberries	1,450	30.50	44,200
Vegetable seed	3,417	31.15	106,421
Clover seed ²	1,633	14.30	23,326
Crimson clover seed	666	7.40	4,932
Vetch seed	460	5.65	2,600
Radish seed	1,043	20.80	21,713
Sq. & Pump. seed	788	28.20	22,208
Misc. ³	1,778	26.90	47,860
Almonds	30,273	36.25	1,096,654
SUM	79,299		\$2,501,504
Average Pollination Fee		\$31.55	

¹Includes blackberries, raspberries, marionberries, & loganberries.

²Includes red & white clover as grown for seed.

³Includes arrow-leaf clover seed, birds-foot trefoil seed, turnip seed, meadowfoam, & holly.

The crops with the lowest pollination fees are the legumes hairy vetch (\$5.65/colony) and crimson clover (\$7.40/colony), both of

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Basics in Northwest Beekeeping

by Ron Bennett

Now starts the most exciting period of the beekeeping year. Your bees are started, treated and fed, and are in a dramatic growth mode. The queen (bless her little heart) is laying over 1,000 eggs a day. We have had many good days with the air above 50° and winds below 14 mph, and the bees have been out working very hard bringing in pollen and nectar.

But, here in the Northwest, there is about a three week period from the end of April into May where the nectar flow drops to almost zero. This is a very critical situation for your bees. They have been stimulated to build up a huge population to take advantage of the main nectar flow at end of May and are committed to raising and feeding a lot of young bees. Without feed sources around, your bees, which look big and strong and hard working, can actually starve out in the next three weeks.

So, watch your bees carefully and don't let colony stores get below 15 lbs. If the colony starts to get light, FEED!!! Use a light syrup (1:1 sugar to water by volume).

Now is also swarm season. Now is when you hope that your neighbor beekeeper is not as good a beekeeper as you are and you can catch swarms from their hives while your good management practice keeps your hives from swarming. Swarm control is probably one of the least successful areas of beekeeping. Swarming is the natural way for bees to ensure the survival of their species, and like all teenagers, the instinct to reproduce is very difficult to control.

One of the best ways to minimize swarming is by requeening your hives. A swarm is a portion of your bees leaving with the old queen, and this tends to be with queens in their second year. So by requeening with new young queens each year, you not only assure yourself of a strong queen, you cut down on the chance of her swarming.

A second technique is to reverse your hive boxes. The bees will start the swarm process when the queen starts to run out of perceived space in which to lay. Since she tends to only move upward, she does not use the space available below the brood cluster. By reversing the boxes, you force the bees to reorganize their stores and therefore create new space for the queen to lay in.

Another method is to remove queen cells as they appear. This tends to be more

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Beekeeping on Public Land

by Bart Snyder

At the Fall Conference in Seaside, it was suggested that the OSBA take an active role in solving the reports of problems of beekeepers having access to National Forest and Bureau of Land Management lands to collect honey crops. I have had contact with both organizations and requested them to respond to these issues and help beekeepers gain access to public lands.

What follows is the written responses to my requests, which you can use as a reference and guide to the process. The letters are self-explanatory.

USDA RESPONSE

United States Department of Agriculture
Forest Service, Pacific Northwest Region
P.O. Box 3623
Portland, OR 97208-3623
333 S.W. First Avenue
Portland, OR 97204

Dear Mr. Snyder:

You requested information about permitting apiary activities on National Forest Service (NFS) lands in Oregon for a website maintained for the Oregon State Beekeeping Association. The Forest Service (FS) commonly issues permits for the siting of hives and apiary production activities scattered throughout the Region.

The FS does not maintain a list of useable sites for this activity, but instead responds to applications for such use on a case-by-case basis. Written applications are acceptable but I have also enclosed form FS-2700-3, which is especially designed for this purpose, and is available at Forest and Ranger District offices. The applicant should apply to the local Forest and Ranger District offices having jurisdiction over lands where the apiary activity is desired by the applicant.

All applications require some form of environmental analysis under National Environmental Policy Act (NEPA) before a special use for an activity can be approved. For apiary use proposals, this is normally simple and not a time consuming activity. However, the extent of and time required for the analysis is dependent upon the individual local situations. Submitting applications as early as possible is important to receive a timely response from the Forest Service.

You also requested information about fees. The FS is required by law to receive Fair Market Value for special uses allowed on NFS lands. Fees for apiary uses usually are at the minimums established, currently forty dollars (\$40) in the Pacific Northwest Region. However, higher fees could be assessed dependent upon local situations

and land values.

For information and applications, applicants should contact local Forest and Ranger District offices in areas where applicants may want authorization to conduct apiary activity. A list of Forest and Ranger District offices and phone numbers in Oregon is enclosed. (see note at the end of this article)

Thank you for your interest. If you have further questions, please contact Jim Galaba, Special Uses Program Manager, at 503-326-6664.

Sincerely,

JUDITH E. LEVIN
Acting Director of Recreation,
Lands, and Mineral Resources

BLM RESPONSE

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Oregon State Office
P.O. Box 2965
Portland, Oregon 97208

Dear Mr. Snyder:

This is in response to your request on behalf of the Oregon State Beekeeping Association for information on the use of Bureau of Land Management (BLM) lands for apiary sites.

BLM authorizes the placement of beehives on BLM lands through a land use permit. Permits may be issued for not more than three years and can be renewed at the discretion of the authorized officer. They do not convey any possessory interest in the land and can be revoked in accordance with the terms of the permit and the federal regulations.

You must have an approved permit before placing any hives on BLM land. To get a permit, you should contact the BLM district or area office that manages the land that you want to use and discuss your proposal. The BLM office can help you determine whether the site you want to use is actually on BLM land and can discuss any potential problems or mitigation measures that may be required. You can then file an application using BLM Form 2920-1. The BLM will review the application, determine whether the proposed use is consistent with our land use plans and evaluate any potential environmental impacts before making a decision. Our goal is to process applications within 30 to 60 days.

Fees associated with an apiary permit include: fair market rent; and, if the annual rent will exceed \$250.00, a non-reimbursable fee to reimburse the BLM for our cost to process the application.

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(Cont. from Page 3) Currently, the cost reimbursement fee could vary from a minimum of \$125.00 to actual expenses. The cost reimbursement fee schedule is under review and may be revised to reflect current costs.

Enclosed are a sample permit application; and a list of the BLM offices in Oregon and Washington.

Thank you for your interest.
Sincerely,
Elaine Y. Zielinski
State Director

*As you can see from both letters, you cannot just drive into Federal lands and place a hive. You MUST have a permit and go through the permit process. It looks harder than it really is and both the Forest Service and the BLM have expressed a willingness to work with beekeepers. We have published the complete list of BLM and FS District offices on the OSBA HomePage on the WWW. The address is:
<http://members.aol.com/osbeea>*

Beeswax Wood Conditioner

The beeswax formula is a time-tested concoction for reviving furniture as well as leather goods, but the improvement on wood may not be as marked. During its lifetime, footwear can be subjected to many different brands of polish, varying in color from product to product. When you remove the old polish, a noticeable change results.

Furniture, I am pleased to say, does not usually suffer discoloration from the application of different polishes. Instead, dust and the soils of constant use discolor the wood. Polish your furniture with the formula given below and you will, at least, end up with a cleaner piece. The treatment is also ideal for cleaning areas made sticky by food.

Following the recipe given below, mix the conditioner. Apply a small dollop of it to a pad of clean cotton cloth (a piece from an old T-shirt is ideal). Apply the

polish to the surface in small circles, using comfortable pressure. Turn the pad when it becomes too soiled. Finish by buffing with a clean dustcloth. Avoid letting the mixture pile up in any corner, as it may leave a grayish deposit when it dries. To finish any carved or ornate areas, use a shoe brush with medium bristles instead of a pad. Keep in mind that this beeswax face-lift treatment should not replace the regular attention you give the piece with your chosen furniture-care product.

BEESWAX WOOD CONDITIONER

MAKES ABOUT 1 QUART

- 3 ounces beeswax
- 1 ounce white, bleached beeswax
- 1 pint turpentine
- 2 cups water
- 1 ounce pure soap flakes or shredded castile soap
- Tightly stoppered bottle(s)

1. In a nonplastic container, shred waxes into turpentine; cover and place the container in a warm spot away from heat source(s) shake container from time to time.

2. Bring 2 cups water to a boil. Add soap and stir until dissolved. Let mixture cool. Add it to the wax/turpentine, stirring briskly until an emulsion forms.

3. Pour the mixture into bottle(s) and seal. Always shake well before using, Apply sparingly.

by Michale Varese, from COUNTRY LIVING MAY 1994

Ag-Fest a Success

The WVBA and the OSBA produced a exhibition at Ag-Fest April 19 & 20 at the State Fairgrounds. Produced by Ken Meier and Judy Bennett, the exhibit attracted over 20,000 attendees and was noted as the most popular exhibit.

Judy produce for the OSBA the enclosed handout game, which is available from the OSBA for anyone wanting a handout for a school or civic presentation. Contact Judy at 503-838-2328.

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which are grown as seed crops and are also traditional honey producers, hence a historically low fee. The situation is similar for our berry crops, which as late spring to early summer bloomers and copious nectar producers, often result in honey crops, as well as a pollination fee.

The average PNW commercial honey bee colony was rented 3.09 times in 1996 and this includes

California almonds. With the average rental fee of \$31.55, this results in an average per colony pollination income of \$97.50, which represents a new record high. For sideliner beekeepers the corresponding figures are \$27.60 for the average rental fee, with the average sideliner colony being rented 2.17 times for an annual per colony pollination income of \$59.90. This lower colony pollination income reflects the reality that the majority of sideliner colonies are PNW residents and are not taken to California for almond pollination.

The combined colony numbers from those commercial beekeepers who responded to the survey (25,682 hives) represent a conservative one-fourth of the commercial hives in Oregon and Washington. Therefore if we multiply the pollination income (\$2,501,504) by a factor of 4, we have a ball park estimate of the pollination income generated by commercial beekeeping in the PNW, i.e., slightly more than \$10,000,000. This is less than 1% of the estimated farm-gate value of PNW crops that require or benefit from managed pollination. Pollination income in the PNW far exceeds the value of honey and wax sales for our regional beekeeping industry. Pollination rental income is frequently 2 and a half times greater than honey and wax sales in any

given year, a situation that is largely ignored by federal and state agricultural economists, who continue to rely almost solely on honey and wax sales as the yardstick for beekeeping economic health.

Table 3. Average colony numbers, average rental fee per hive, and average annual rental income per hive for a commercial beekeeping operation in the Pacific Northwest 1992-1996.

Year	Average No. Colonies	Average Rental Fee	Average annual Rental Income/colony
1992	765	\$19.25	\$49.70
1993	990	\$22.50	\$62.25
1994	1,225	\$28.10	\$78.70
1995	1,348	\$29.60	\$78.15
1996	1,350	\$31.55	\$97.50

It needs to be remembered that the data presented here represent the pollination rental situation of the average commercial and sideliner beekeeper. For individual beekeepers the data are most useful as a benchmark

against which they should measure the success of their individual operations.

Over the past few years honey bees have received a great deal of attention from the national media. Many stories have been and continue to be generated about the dire plight of the honey bee, our most valued and widely recognized beneficial insect. *Cont. on Page 6*

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And there is no denying the serious losses of honey bees and beekeepers due to a combination of causes, most especially the heavy colony mortalities caused by parasitic mites. However, it is instructive to view the honey bee in the U.S. from three perspectives. The first is the wild honey bee population, which, in the presence of mites and without benefit of human caretakers, has indeed been dramatically reduced in population. Few accurate assessments exist for the current situation of wild honey bee colonies, but most experts will agree that the wild honey bee population has been reduced by as much as 80 to 95%. The second population of honey bees that has suffered greatly in the past decade, has been the hives owned by hobby beekeepers.

Beekeeping management skills vary widely among this largest of beekeeper groups. Those with insufficient knowledge, or the unwillingness to improve their management practices, have lost their bees. Again we have no accurate assessments for the reduction in hobbyist bees, but a figure of 50% would not be unrealistic. The third, and final honey bee population found in America, is that which is controlled by commercial and sideliner beekeepers. This critically essential population of honey bees is larger, economically health-

ier, and more vital than ever before. The losses of colonies from the wild honey bee population and from within the hobbyist ranks has increased the potential value of every living honey bee hive. Commercial beekeepers have taken advantage of this opportunity.

I wish to again thank all those beekeepers in Oregon and Washington who took the time to participate in a survey which has now generated the most accurate assessment of commercial pollination known in the U.S. for which combined data are given for the states of Washington and Oregon. With each year's information, the strength and importance of our region's bee-



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keeping industry is highlighted. All participants in a regional agricultural industry need to understand the vital role played by beekeeping in agricultural produc-

tion. This is especially true today with the increased costs and problems caused by the presence of honey bee mite parasites and the slowly increasing geographical expansion of our honey bee's tropical "cousin" the Africanized honey bee.

The use of managed honey bee colonies for commercial crop pollination remains the most important function of our regional beekeeping industry. An enhanced knowledge of pollination

(Cont. on Page 7)

Summary Information - 1996

A total of 38 beekeepers returned survey forms:
 19 Commercial (>300 hives) owning 25,682 colonies.
 19 Side-liner (<300 hives) owning 1,170 colonies.

The average per colony pollination rental fee (for all beekeepers, for all crops including California almonds) was: \$31.40

The average commercial colony was placed in 3.09 pollination sets in 1996, with an average rental fee of \$31.55, for an average per hive rental income of \$97.50.

The average sideliner colony was placed in 2.17 pollination sets in 1996, with an average rental fee of \$27.60, for an average per hive rental income of \$59.60.

For 1996, 97% of all pollination rentals were done by commercial beekeepers, who also accounted for 97% of all reported pollination income.

The average commercial bee operation maintained 1,350 colonies and grossed \$131,625 in pollination rental income for 1996.
 The average sideliner bee operation maintained 90 colonies and grossed \$5,391 in pollination rental income for 1996.

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The BEE & Honey Game

HONEYBEES pollinate most of our fruits and vegetables, and they give us honey. Color this page and then fold the finger game together and play with your friends. You will learn about bees and their importance in growing the food we eat. *To fold:* [1] Cut off the top section so that you have a square piece of paper. [2] Crease the paper along all the dotted lines. [3] From the backside, fold the corners in to touch in the center to make a smaller square. [4] Turn over to the printed side and fold the corners of the smaller square in to touch the center, making an even smaller square. [5] Bring the four corners of this smallest square together to form a peak. [6] Gently open the petals of the flower so you can put your fingers under the flaps. *To play:* Open and close the petals of the flower, and then pick one of the bees on the inside. Open the flap and find the message - maybe you'll find the one that says "Honey, I love you!" Make up your own games too.

Cut Line

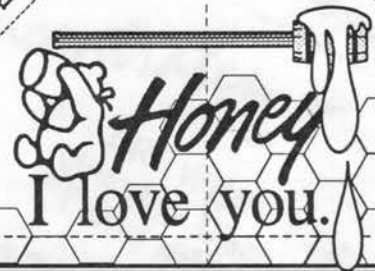
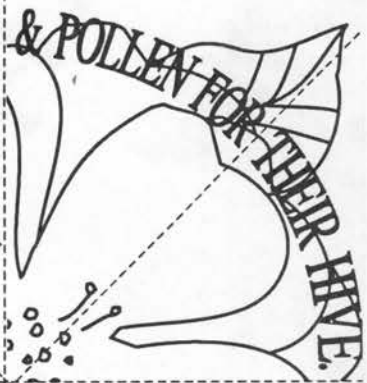
Printed by the Oregon State Beekeepers Association

Cut Line



Field bees collect on their legs as they move from flower to flower.

Worker bees care for baby bees, keep the hive clean, collect nectar and make honey, store pollen, build comb, and protect the hive.



© 1997, J. Bennett

Honey, made from the nectar of flowers, is the great bonus we get when the hive stores more food than it needs to survive the winter.

The sweet watery mixture plants produce is called nectar. The nectar attracts bees to the flowers.

Bees can fly at speeds up to 14 miles per hour and can forage up to 6 miles from their hive.

SEEDS

Crops that are grown for their leaves and roots like lettuce, carrots and beets need bees for pollination to make seeds for new plantings.

Bees pollinate fruit trees in the spring and melons in the summer so that there will be lots of good, big fruit.

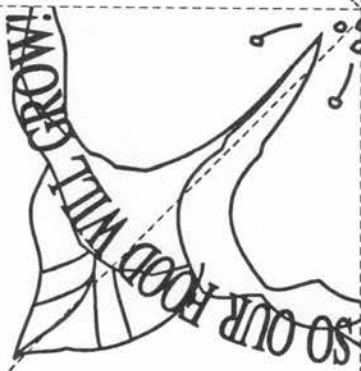


FRUITS

Male bees are called drones, and their only purpose is to mate with the queen. Worker bees take care of them.

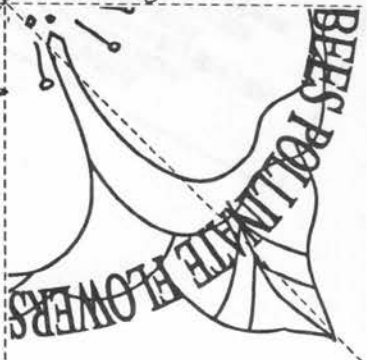
Bees are needed to pollinate lots of vegetables because the parts we eat are the fleshy fruit around the developing seeds.

The Queen bee's only job is to lay eggs to make more bees. She can lay 2000 eggs a day.



Pollen sticks to tiny hairs on the bees and is moved between flowers.

Each honeybee hive can have more than 60,000 bees in the middle of the summer.



VEGETABLES

(Cont. from Page 6) economics is critical to every beekeeper who enters into the world of commercial crop pollination. It is also important for those growers who rent colonies to understand current economic conditions of the beekeeping industry.

This year's survey provides data that continue to show a number of trends, one of which is the ever increasing dependence of PNW commercial beekeepers on the income generated from colony rentals. For 1996 the average commercial beekeeper received nearly 60% of his or her annual operating gross from pollination rental. This is down from the 72% figure reported for 1995. This reduction is, at least in part, the result of the historically high prices beekeepers received for honey in 1996. Sideliner beekeeping operations reported that pollination rental fees represent 30% of their annual gross revenue. For the past five years the average size of a individual commercial operation was increasing; this was not so in 1996. This year the average operation reported 1,350 colonies compared to 1,348 for 1995; averages, which for statistical purposes, are identical.

I am aware of no region in the U.S., or the world for that matter, where honey bee pollination rental is of such importance to the economic survival of a regional beekeeping community. Even in California, the state with the largest and most varied beekeeping industry, pollination rental income is just slightly over 50% of operational revenues.

As in past years, the 1996 year survey was

sent to all Washington and Oregon beekeepers who registered more than 25 colonies with their respective state agriculture departments. A total of 38 beekeepers returned completed surveys. The 19 commercial beekeepers collectively owned 25,682 colonies and the 19 sideliners possessed 1,170 hives. A total of 81,843 colony rentals were reported for all respondents, which produced \$2,571,678 in rental income. The average pollination rental fee, computed from commercial beekeeper rentals on all crops reported, was \$31.55. This is a 7% increase from the average pollination fee charged in 1995 (\$29.60), (see Table 1). Commercial beekeepers were responsible for 97% of all reported pollination rentals and a corresponding 97% of all pollination income. This is very similar to past years and shows how dominant commercial beekeepers have been in the commercial arena.

by
 Michael Burgett
 Department of Entomology
 Oregon State University
 Corvallis, OR 97331



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keeping industry is highlighted. All participants in a regional agricultural industry need to understand the vital role played by beekeeping in agricultural produc-

tion. This is especially true today with the increased costs and problems caused by the presence of honey bee mite parasites and the slowly increasing geographical expansion of our honey bee's tropical "cousin" the Africanized honey bee.

The use of managed honey bee colonies for commercial crop pollination remains the most important function of our regional beekeeping industry. An enhanced knowledge of pollination

(Cont. on Page 7)

Summary Information - 1996

A total of 38 beekeepers returned survey forms:

19 Commercial (>300 hives) owning 25,682 colonies.

19 Side-liner (<300 hives) owning 1,170 colonies.

The average per colony pollination rental fee (for all beekeepers, for all crops including California almonds) was: \$31.40

The average commercial colony was placed in 3.09 pollination sets in 1996, with an average rental fee of \$31.55, for an average per hive rental income of \$97.50.

The average sideliner colony was placed in 2.17 pollination sets in 1996, with an average rental fee of \$27.60, for an average per hive rental income of \$59.60.

For 1996, 97% of all pollination rentals were done by commercial beekeepers, who also accounted for 97% of all reported pollination income.

The average commercial bee operation maintained 1,350 colonies and grossed \$131,625 in pollination rental income for 1996.

The average sideliner bee operation maintained 90 colonies and grossed \$5,391 in pollination rental income for 1996.

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Comments Sought for Annual Honey Survey

Comments are being sought by the USDA's National Agricultural Statistics Service on its intent to continue its annual honey production survey.

The notice was published in the Federal Register on Mar. 26 (*copy available online at <http://was.access.gpo.gov>*). Comments on this notice must be received by May 30 to be assured of consideration. The current approval to collect the information expires on Sept. 30; the annual survey is made in December.

According to the Federal Register notice, the honey survey collects information on the number of colonies and honey production, stocks and prices. The survey provides data needed by USDA and other government agencies to administer programs and to set trade quotas and tariffs. State universities and agriculture departments also use data from this survey. The honey survey has approval from the Office of Management and Budget for a three year period. NASS intends to request that the survey be approved for another three years.

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (b) the accuracy of the agency's estimate of the burden of the proposed collection of information including the validity of the methodology and assumptions used; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on those who are to respond, such as through the use of appropriate automated, electronic, mechanical or other technological collection techniques or other forms of information technology.

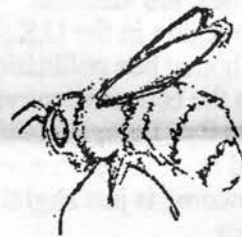
Comments should be sent by May 30 to: Larry Gambrell, Agency OMB Clearance Officer, U.S. Department of Agriculture, 1400 Independence Ave. SW, Room 4162 South Building, Washington, DC 20250-2000. All comments will also become a matter of public record.

The American Beekeeping Federation has adopted a resolution calling on NASS and OMB to renew the survey and continue to publish the report. The resolution notes that the annual honey report is the most reliable source and often the sole source for this type information and that the data is used by several USDA agencies, by state universi-

ties and agriculture departments, and by the U.S. beekeeping industry. The ABF asks that beekeepers, honey packers, and beekeeper associations file comments requesting continuation of the annual honey survey.

On Mar. 7, ABF Executive Director Troy Fore met with NASS Administrator Donald Bay and members of his staff to press the case for continuing the survey. Once Mr. Bay gave assurances that the agency intended to request an extension from OMB, the discussion turned to how the survey could be improved. The NASS staff asked that ABF assist them in expanding their database of producers.

Included in the discussion was the transfer of the Census of Agriculture to NASS from the Commerce Department. Mr. Fore offered to work with the NASS staff on the beekeeping section of the questionnaire for the 2002 Census of Agriculture; the 1997 Census form is already set.



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(Cont. from Page 2) effort than it is worth since the bees are by that point in the swarm mode, all you are doing is cutting down on the number of virgin queens they have available. They always seem to have one more queen cell than you can find, and the constant opening of the hive is creating stress and slowing your bees down. (Opening your hive exposes eggs to ultra-violet light which kills eggs. In theory, you are offing a days laying by the queen when you go through a hive. This statement is for beekeepers who think they can stop swarming by opening their hive every day and knocking off queen cells.)

With that in mind, examine your colonies about every 10 days. Set off the supers; tilt up the second story and look for queen cells along the bottom of the brood comb. If you find only eggs or larvae in the queen cells and the hive is crowded with bees, remove all the cells -- top and bottom. Put the hive body containing mostly worker bees or larvae on the bottom board, and the other containing mostly sealed brood on top. Next put on the queen excluder and add supers to provide 10 to 15 empty full depth comb, or their equivalent in the supers. Place the empty comb directly on the excluder.

If you find sealed or ripe queen cells, or possibly hatched ones, divide the colony. Set the top body, usually with most of queen cells, onto a bottom board and cover with a lid. Put this hive on a separate stand. Remove all queen cells from the lower body; put on the excluder and add supers to provide 10 to 15 empty full depth combs, or their equivalent, above the excluder. Several hours later, look for the queen in the divide. If you find a virgin queen (no eggs layed), let her remain, but if you find the old queen pick her up and let her run into the entrance of the colony on the old stand. Let the queen cells hatch in the divide.

If you find no attempt to rear queens, and the hive is full of bees, examine the supers and add more to provide 10 to 15 empty full depth combs, or their equivalent, above the excluder.

If the bees seem reluctant to work in the supers thru the excluder, reverse the two hive bodies. This causes

them to rearrange their stores and they will move some thru the excluder. Some colonies need training to go thru the excluder.

A method recommended by Dr. Burgett of the OSU Bee Lab to reduce swarming tendencies is the use of slat board spacers between the bottom board and your lower box. These slat board spacers create an area for the newly hatched and "teen" bees to hang out and therefore remove the space pressure in the brood area. I have not used these myself, but if Dr. Burgett says they work, well, that's good enough for me. They are only about \$8 and hobbyist beekeepers might be well advised to add them to their equipment system.

Give your hives a 3/4 inch depth entrance for better ventilation. Some beekeepers use a additional 3/4-1" hole in the upper box as a entrance and to provide ventilation.

Make queen mating nucs from combs with ripe queen cells from the colonies you feel should be propagated.

Give supers with foundation, but only to those colonies that are working in the supers. Place directly over the queen excluder, if you are using one. If you have been fortunate and the honey flow has been good, add new supers under supers with capped honey.

Keep on the lookout for American foulbrood and treat with terramycin, but do not treat with supers on that you intend to extract for honey.

Check your stored comb for possible wax moth infestation - like rust, moths never sleep.

Remove and extract the supers containing well ripened honey.

Recipes of the Month

From the XVith century writings of the popular (*then*) physician Paracelsus (as translated by James Kirkup & Julian Shaw in *The History and Practice of Magic, Volume II*.)

If you wish to enjoy constant good health and reach a ripe old age, take every day two or three spoonfuls of honey before dinner. *OK, no problem with that.*

Goat's blood, heated and then drunk, cures dysentery and dropsy. The gall of the same animal, mixed with honey and applied as a ointment, cures jaundice. *That ought to pump up the price of honey!*

To make hair grow, roast some bees; mix their ashes with mouse-droppings and infuse this mixture in oil of roses; add to this ash of roasted chestnuts or beans, and hair will grow on whatever part of the body you choose to anoint with this preparation. *Or so it is said - any takers?*



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Vice president: Doug Soules, 541-269-7832
Secretary-treasurer: Beverly Berklund, 541-759-3301

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Call officers:

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Vice president: Chet Hamaker, 541-882-2404

Lane County
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Public Employees Credit Union,
1155 Chambers St., Eugene

President: Lee Zigler, 541-688-5675
Vice president: Edgar Elder, 541-998-3199
Treasurer: Jim Sheridan, 541-344-1354

Portland Area
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1823 S. Fischer Mill Road,
Oregon City
President: Jim Allison, 503-663-1058
Vice pres.: Bill Kruger, 503-266-7249
Secretary: Paul Hardzinski 503-631-3927
Treas.: Christian DeHaze 503-266-3356

Southern Oregon
Meets 7:30 p.m. first Mon.;
S.O. Research & Extension Center
569 Hanley Road, Central Point
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Vice pres.: John Campbell, 541-664-4867
Secretary: George Steffensen, 541-474-4305

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Fish & Wildlife Bldg.,
4909 Third St., Tillamook

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Vice pres.: Fritz Hoffman, 541-842-6856
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OSU Extension Office, 18640 SW Walker Rd., Beaverton

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Vice pres.: Jim Marshall, 502-642-3319
Secretary/Treas.: Michael Laux, 503-591-8864

Willamette Valley
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Room 112, Building 50,
Chemeketa Community College, Salem

President: Walt Nichol, 503-585-5705
Vice pres.: Richard Farrier, 541-327-2673
Secretary: Ron Bennett, 503-838-2328
Treasurer: Fritz Skirvin, 503-581-9372

Calendar of Events

May	1	Tillamook Beekeepers
	5	Southern Oregon Beekeepers
	8	Portland Beekeepers
	13	Lane County Beekeepers
	13	Tualatin Beekeepers
	16	Coos County Beekeepers
	26	Willamette Valley Beekeepers
June	2	Southern Oregon Beekeepers
	5	Tillamook Beekeepers
	10	Lane County Beekeepers
	10	Tualatin Beekeepers
	12	Portland Beekeepers
	20	Coos County Beekeepers
	23	Willamette Valley Beekeepers
August	9	OSBA Summer Picnic Salem
Oct. 30- Nov. 1		Tri-State/OSBA Fall Conference, Hood River

Royal Jelly Can Be Life-Threatening

If you suffer from asthma or allergies stay away from royal jelly, a supplement being marketed as an alternative treatment for a variety of ailments from insomnia to liver disease.

According to a report from Australia, ingestion of royal jelly triggered asthmatic reactions in six people with a history of asthma. Symptoms, including diarrhea and respiratory problems, began within 20 minutes of ingestion. An 11 year old girl died; three subjects had to be treated with adrenaline: one required hospitalization in an intensive care unit.

Royal jelly is a secretion from the salivary glands of honey bees. It consists mainly of proteins and water. Australian scientists believe the protein component is responsible for triggering the severe reactions.

- from the Jan 1995 issue of *Environmental Nutrition* magazine, supplied by Joann Olstrom

Joann Olstrom Appointed to National Honey Board

Joann Olstrom, OSBA Regional Representative for the South Coast, has been confirmed to a second term of office as a member of the National Honey Board Nominations Committee by U.S. Department of Agriculture Secretary, Dan Glickman. Joann, long a contributor to the Bee Line, has served the OSBA in a number of capacities and her second term at the National Honey Board continues her commitment to Northwest beekeeping.

Joann said, "I appreciate the OSBA's confidence in me - their suggesting me again for this honor." We all thank her and wish her the very best.



LOOK AT YOUR ADDRESS LABEL

Technology has finally caught up with our mailing list. You will note that there is a code or more likely a date after your last name. This is the date of expiration of your membership. We will be tightening up on past due membership dues starting next month. You will stop receiving the *BeeLine* and your membership will be inactive 60 past the due date.

246% (from \$37,993 in 1992 to \$131,625 in 1996). As economically wonderful as this appears, it needs to be remembered that colony maintenance costs and especially colony replacement costs are on a steep increase. Commercial pollinators require high colony numbers to survive, and replacement costs for the dramatic increase in colony losses, due to mite parasitism, is a heavy fiscal burden for all beekeepers. It needs also to be pointed out that honey bee

Crop			
Pears	4,642	\$30.00	\$139,356
Cherries	3,555	30.60	108,660
Apples	23,269	32.30	751,864
Berries ¹	4,538	19.70	89,350
Blueberries	1,787	23.70	42,360
Cranberries	1,450	30.50	44,200
Vegetable seed	3,417	31.15	106,421
Clover seed ²	1,633	14.30	23,326
Crimson clover seed	666	7.40	4,932
Vetch seed	460	5.65	2,600
Radish seed	1,043	20.80	21,713
Sq. & Pump. seed	788	28.20	22,208
Misc. ³	1,778	26.90	47,860
Almonds	30,273	36.25	1,096,654
SUM	79,299		\$2,501,504
Average Pollination Fee		\$31.55	

¹Includes blackberries, raspberries, manionberries, & loganberries.

²Includes red & white clover as grown for seed.

³Includes arrow-leaf clover seed, birds-foot trefoil seed, turnip seed, meadowfoam, & holly.

For crops pollinated in the PNW, apples provided the highest average fee at \$32.30 per colony rental. In terms of acreage, apples are the largest crop grown in states of Washington and Oregon which is reflected in the large number of reported rentals (29% of all reported rentals and 30% of reported rental income). The combination of almonds and apples accounted for 68% of all rentals and 74% of pollination income.

The crops with the lowest pollination fees are the legumes hairy vetch (\$5.65/colony) and crimson clover (\$7.40/colony), both of

Cont. on Page 5

colony rental has historically been an underpaid service for decades. It is really only within the past five years that rental fees have begun to more accurately reflect

CLASSIFIED ADS

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FOR SALE: 1969 International Loadstar 1600 (2T) Bee Truck with 17-foot flatbed and bee boom. 394 ci V-8 power with good gas mileage, 5x2 rear end, good rubber excellent condition. Call for details. \$3,500 OBO.

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