Section 18 Approved for Coumaphos

By Dr. Lynn Royce

The Section 18 for use of Bayer Coumaphos Bee Strips has been approved. What does this mean for beekeepers?

It was a pleasant surprise to see the Section 18 for Coumaphos Bee Strips go through the system so smoothly. This gives us a year of use and then if the status of Bayer Bee Strips has not changed we will have to apply again. Bayer has said they are pursuing a Section 3, that would mean coumaphos had a more permanent FDA approval. However, if you look at the history of chemical controls on crops you see that the general rule is for removal of older pesticides like organophosphates rather than approval. Thus, I think it would be wise to look at coumaphos as a temporary fix and fluvalinate will be a part of the package.

What we need are some programs that entomologists call ‘Integrated Pest Management Programs’ for honey bee brood mites. Integrated Pest Management programs rely on more than one type of control so control techniques can be mixed up to keep resistance from developing. We have been given time by the approval of a new chemical; we should use it wisely to be sure we do not face a resistance problem again.

Use of Coumaphos Bee Strips

***Use the miticide according to the label supplied by the manufacturer. It is important that if you are using coumaphos bee strips you have the label in hand to satisfy Section 18 requirements.

***Mites seem to leave bees vulnerable to microbial infection and it helps colony health to use Terramycin along with mite treatments; again, follow label directions.

***Know your mite levels.

***Know the resistance status of your mites.

***Communicate with other beekeepers.

WHAT’S INSIDE:
*Details of EPA’s Approval of Coumaphos
*ABF Convention Report
*Apimondia ’99 Update
*Annual Bee Field Day Details

Coming in April:

***Dr. Lynn Royce gives a report on Amitraz Delivery Systems
***Dr. Royce and B.A.Stringer author article on Yellow Starthistle
***NW Watercolors-Made with NW Honey
President’s Notes
by Torey Johnson

Section 18 for coumaphos: what does it mean? First and foremost it means that a prayer has been answered. We have a product which will help us legally combat the most prolific killer of European honey bees known to man. We must now be willing to take advice and use it correctly. What does this mean? It means listen to the experts, use medication by the label, use medication when one should and try to stay ahead of the game.

The Bayer Bee Strip will be a product that will have to be used right or we will lose it, and at this time that is not an option.

We all owe a huge THANK YOU to Dr. Lynn Royce and Dr. Mike Burgett at OSU. We would not be fortunate enough to have been one of the first states on the West Coast to receive this product without their truly great work. Getting a Section 18 on a product is truly a difficult task, probably compounded by being for such a small market. We appreciate their teamwork with Washington and Idaho in making this happen.

The Bee Field Day has been set for April 24th, a Saturday. George and Susan Hansen have again graciously agreed to host the event at Foothills Honey in Colton. This is truly one of the finest bee events held in the nation.

Cost for the event will be $10 for adults, and kids up to 18 are free. To register, call Ruhl Bee Supply at 256-4231 (pay on the day of the event). Registration is limited to the first 150, so call soon to get your name on the list. The Field Day is held rain or shine (hope for shine!).
Use of Coumaphos

Letter dated February 3, 1999 from the US Environmental Protection Agency to the Oregon Dept. of Agriculture:

“The Environmental Protection Agency hereby grants a specific exemption under the provisions of Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended, to the Oregon Department of Agriculture for the use of coumaphos impregnated in plastic strips to be hung in beehives to control varroa mite (Varroa jacobsoni). This specific exemption is subject to the following conditions and restrictions:

1. The Oregon Department of Agriculture is responsible for ensuring that all provisions of this specific exemption are met. It is also responsible for providing information in accordance with 40 Code of Federal Regulations (CFR) 166.32. This information must be submitted to EPA Headquarters and EPA Region X.

2. The product, Bayer Bee Strip, containing 10% coumaphos (currently there is no EPA Registration number) may be used. All applicable directions, restrictions and precautions on the proposed product label submitted by the state must be followed.

3. A maximum of 282,000 Bayer Bee Strips may be used.

4. Treatments must be applied at a time when bees are not producing a surplus honey crop. Gloves must be worn when handling strips.

5. To control varroa mite, use one strip for each five combs of bees in each brood chamber (Langstroth deep frames or equivalent in other sizes). Hang the strips within two combs of the edge of the bee cluster. If two deep supers are used for the brood nest, hang Bayer Bee Strips in alternate corners of the cluster, in the top and bottom super. Remove honey supers before application of Bayer Bee Strips and do not replace until the end of the control period. Treat all infested colonies within the yard. The treatment is most effective when brood rearing is lowest. Effective control may be achieved by treating hives in the spring before the first honey flow and in the fall after the last honey flow. Leave the strips in the hive for at least 42 days (six weeks). Do not leave the strips in hive for more than 45 days. Do not treat more than twice a year for varroa mites.

6. Based on the residue data submitted with the State of Florida’s application for the same use (99-FL-04), the Agency has concluded that there will be no reasonable expectation of finite residues of coumaphos in commercial honey and processed beeswax used for food or cosmetics (taken from the honey supers) provided that the Bayer Bee Strips are used in brood chambers when honey supers are not present (in accordance with the proposed Section 18 label). Therefore, the Section 18 use of coumaphos impregnated in plastic strips to be hung in beehives has been classified as a non-food use and no tolerances will be established in either honey or beeswax.

7. The EPA Headquarters and Regional office shall be immediately informed of any adverse effects or misuse resulting from the use of this pesticide in connection with this exemption.

8. The use of coumaphos impregnated in plastic strips, hung in beehives for control of varroa mites is not expected to have any adverse effects on the environment since it is considered an indoor use.

9. In accordance with 40 CFR 166.32, a report summarizing the results of this program must be submitted to EPA Headquarters and the EPA Region X offices by August 1, 2000.

10. This specific exemption expires on February 1, 2000.

11. Any further correspondence in connection with this exemption should refer to file symbol 99-OR-15.

Please note, an exemption from tolerance for formic acid in and on honey and beeswax has been signed by Marcia Mulkey, Director, Office of Pesticide Programs (OPP). OPP’s Biopesticides and Pollution Prevention Division (BPPD) expects to register an end-use product containing formic acid for control of tracheal mites and suppression of varroa mites in beehives this week. You can contact Diana Horne of BPPD at (703) 308-8376 for more information regarding this product.

This is the first year that Oregon has sought the use of coumaphos impregnated in plastic strips to be hung in beehives to control varroa mite under Section 18 of FIFRA. The decision of whether future requests for this use
are approved will depend, in part, on progress made towards registration. It would be to your advantage to remain current on such progress.

Northwest Beekeeping

March: Fruit tree bloom starts mid-March through April, although this can vary about two weeks

- Swarming season starts; be observant on each inspection. Queen cell construction on the frame bottom can be seen from congested brood area, hive confinement, low quality stores, predators or queen over a year old. Remove each queen cell found on the bottom of the frames. Queen cells in the brood area (sides of frames) indicate a failing queen. Requeen.
- Dust your colonies three times at seven day intervals with a 2 Tablespoon portion of Terramycin (TM25) mixed with eight parts of powdered sugar. Sprinkle on top of the brood frames, towards the end bars, being sure not to douse the brood.
- Don’t let colony stores get below 15 lbs. (3 full frames on honey). Feed light colonies sugar syrup (1 or 1 ½:1 ratio) or diluted (2:1) honey (if no American Foulbrood in honey).
- To equalize stores between the colonies, rob combs of honey from colonies with excessive stores. (Put the empty replacement frames back in the strong colony next to the brood nest, to expand egg laying). When equalizing brood, do not remove over 20% of the sealed brood per colony. Give special attention to the feeding needs of colonies that donated brood and stores.
- A strong colony can also be placed over a weak colony by placing a sheet of newspaper and a double excluder between them. Use a separate entrance for each hive.
- Unite queenless colonies with those needing bees, unless there are laying workers. If so, smoke well and shake all bees from frames and supers onto the ground 50’ away. Leave their hive space empty and most will unite with adjacent colonies.
- Remove mouse guard screens.
- Look for colonies with nosema/dysentery (fecal matter streaked on the hive). Treat with Fumidil B according to label instructions.
- Clean existing bottom boards.
- Place hives on stands about 12-18” above the ground where skunks are a problem.
- Check stored frames for wax moth infestation.

- Attend beekeeping meetings in your area, to learn, have fun and share.

Thank you to Portland Beekeeper Association members Stephanie Barnes, David Gage, Rosemary Marshall, Ernie McCormack and Bill Ruhl, for Almanac review and suggestions, 1996.

CALENDAR OF EVENTS

<table>
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<tr>
<th>Date</th>
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<tr>
<td>Mar. 20</td>
<td>Deadline for The Bee Line</td>
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<td>Mar. 20</td>
<td>Lane County Beekeeping Class, Eugene</td>
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<td>Call Chuck Hunt at 541-607-0106</td>
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<td>Mar. 29-June 4</td>
<td>Backyard Beekeeping, Lane Community College, Eugene</td>
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<td>Call Chuck Hunt at 541-607-0106</td>
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<td>April 17-18</td>
<td>AgFest, Salem</td>
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<td>April 24</td>
<td>OSBA Field Day</td>
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<tr>
<td>Sept.12-18</td>
<td>Apimondia, Vancouver BC</td>
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For further information visit web site: http://www.apimondia99.ca
Bee Musings
By Diane Varner

I have so much material to share it’s hard to know which to choose. From the Missouri State Beekeepers’ Association newsletter:

For your kids, grandkids, and those kids you meet at Farmer’s Markets, Fairs and schools:

Riddles For Your Funny Bone

Q: When do bees fly with their legs crossed?
A. When they can’t find the BP station.

Q. What did the queen bee and the drone do before they flew away from the hive?
A. They hired a bee bee sitter.

Q. What grade did the students get on their pollination experiment?
A. They got all B’s.

Q. What does a bee use to brush her hair?
A. She uses a honey comb.

Q. Why do bees hum?
A. Because they don’t know the words.

Q. What goes “Zzub, Zzub?”
A. A bee flying backwards.

Good/Poor Pollination, as Shown by Counting the Seeds in Apples

Each seed that does not get pollinated limits the development of the apple in size, shape and sugar content. Oftentimes the difference between fancy fruit apples which bring top dollar and the cheap bag apples is three or four seeds.

To check seeds, slice each apple crossways. There are five seed pockets, with two possible seeds in each, making ten possible. Count only fully developed seeds. Do not count obviously withered, or poorly developed seeds. The more seeds (up to ten) means a better pollinated apple.

Seed counts are an important management tool for apple growers to evaluate success of pollination. Some apple varieties are difficult to pollinate. Red Delicious is famous for being hard to pollinate, but seed counts on Empire suggest that this apples’s sizing problems may well be due to need for more effective pollination, like its Delicious parent. Each block and variety should be evaluated by seed counts made at harvest time, with records kept and compared to placement, quantity of hives, hive strength, etc., to aid decisions for the following season’s pollination management.

It surprises me how many growers do not know this simple and basic tool for pollination evaluation. We may also perpetuate false ideas by referring to apples as being “set,” when we really should talk about seeds being set. As if one bee could visit a blossom and “set” a quality apple! It requires careful attention to both pollinizers and pollinators, with multiple visits by the bee in each blossom, to make the apples that make the money.

By David and Janice Green
ABF Annual Convention Report
By George Hansen

The American Beekeeping Federation Convention this year was in Nashville, Tennessee. It gave attendees from the West Coast a chance to visit two American institutions that happen to be located in Tennessee. One might go a lifetime hearing about the Grand Ol’ Opry and the Walter T. Kelley Co. without every having been there.

Nashville is “Music City” and country music is the theme of this tourist destination. I personally enjoyed the blues bar we found downtown more than the tour of the Opry. I will admit, however, I’ll never forget What’s His Name singing “Achy Breaky Heart” wagging his black leather clad backside while droves of not-so-young ladies squealed. My travel plans didn’t allow me to visit Kelley’s in Clarkston. Oliver Petty and Chuck Sowers did go and said they were given a royal tour. The bee supply company founded by the “Bee Man” is celebrating its 75th year in business.

Unlike the Colorado Springs meeting last year that I felt had a depressed atmosphere due to worries about resistant mites and declining honey prices, I thought the industry showed a more resilient, positive attitude in Nashville. Honey prices are a disaster, and resistant mites have been joined by small hive beetles as worries, but there is a feeling that the industry and the scientific community have shown an unprecedented degree of energy in facing these problems, and there are positive results to report.

Coumaphos is now available under a Section 18 as an alternative treatment for varroa. Oregon has been granted a Section 18 along with several other states, and Mann Lake is marketing the new strips manufactured by Bayer. Test results show this strip to be very effective against varroa, when used according to label instructions. One word of warning: the strips have been granted this emergency application as a “Non-Food Use.” That means that no residue is allowed. Bayer says that is used according to the directions, there is no residue. All of us know that beekeepers have been known to be creative in their mite applications. In this particular case, the strip may have its emergency use permit pulled if beekeepers use these strips in ways that put them in contact with honey for human consumption. The cost in bulk is $1.75 per strip.

The Wellmark Company that manufactures Apistan is moving forward with several other compounds that show real promise for the future. At the same time, studies of essential oils continues to show some promise for mite control, and work is being done to try to isolate the compounds in various plants that might have an effect on mites. After having listened to dozens of studies and reports on mite control, I personally wouldn’t gamble my outfit on what essential oils have been shown to be able to do. Something may come of this, but at this time we don’t have the right recipe.

The formic acid gel pack has been approved for use against tracheal mites and will be available by mid-summer. This application is extremely effective and is far safer for the applicator than home applications, as well as being more reliable than menthol during variable weather. There was no information on projected cost.

The small hive beetle is proving to be a lot scarier pest than first thought. Although they are thus limited to the southeast, there is as yet no indication that they cannot live in harsher climates. In hives that were put in very cold conditions, the beetles crawled into cells in the center of the cluster and waited until warmer conditions, completely unaffected. Beetle larvae were frozen and were unaffected. On the bright side, coumaphos has been approved and is effective when placed on the bottom board for three to five days under a cardboard sheet. Beetles avoid light, and lay their eggs in the ground. At this time, those two behaviors are being targeted in control applications. An interesting piece of work at Beltsville involved redesigning the bottom board so that beetles entering the hive, in an attempt to avoid light, are herded into a cavity that does not allow them into the colony proper. Over and over, the emphasis has been placed on developing a series of techniques to control pests, rather than a dependence on one chemical.

The symposium on queens continued to show interesting but inconclusive results to try to explain the general feeling that queens just aren’t what they used to be. Shipments of queens were monitored in transit with small data recorders, and it was found (cont. on page 7)
that queens in the mail are occasionally subjected to some rather harsh temperature and handling conditions. Testing shows that some queens suffer from nosema and tracheal mites even before they are shipped. Sperm counts in mated queens also show great variation. But, overall, decreased vitality and longevity is most likely being caused by conditions in the beekeepers management, mite treatment and hive moving. The Beltsville lab is trying to quantify stress limits in order to find out just how much queens and hives can take before being damaged.

The referendum on changes to the National Honey Board Act is being supported by the Federation, and the American Honey Producers, as well as the Honey Packer’ Association. I’d be happy to talk in detail about its provisions with anybody. This referendum deserves our support because it dedicates a sizeable amount of money to bee research directed by our industry. For the first time there will be significant money contributed evenly by everyone in the bee industry to solve our problems, that can be directed where we want it to go and matched with other funds to make it more effective. Moreover, the quality assurance provisions will give our industry the best long-term protection against contamination and aduleration of honey from foreign and domestic sources.

**Apimondia ’99 Update**

By Connie Petty

Beekeepers, extension people, honey packers, marketing personnel and scientists will speak September 12-18 during the Apimondia ‘99 Congress in Vancouver, BC.

Program coordinator Dr. Mark Winston of Simon Fraser University says the host committee has put together an “astounding program, one that will set a new standard for such meetings in the future.” Winston is known in Canada as an astonishing organizational force. He has addressed meetings of Oregon and Washington beekeepers as well as Northwest meetings involving these states, Idaho, California and British Columbia. Working with Winston are provincial apiculturists, university and research experts. Plans are nearly complete with about 180 speakers lined up so far to speak at 30 plenary and symposium sessions. In addition, the Apimondia committee in Rome has organized some 350-400 papers and posters to be presented at the meeting. Their plans should be completed by the end of March, Winston said.

Why attend Apimondia? Winston suggests nine good reasons, beginning with:

9. Because Apimondia Congresses are rarely held in North America. The Congress met at the University of Maryland in 1967, and in Acapulco, Mexico in 1981.
8. The low value of the Canadian dollar ($1 Canadian currently equals 65 cents US) makes Canada an attractive destination.
7. Participants can compete for medals in contests: beekeeping equipment, photography, films, videos, commercial exhibits, books, etc.
6. Vancouver offers a wide range of accommodations for all tastes and budgets including nearby RV sites, hotels, hostels, B&Bs, motels and first-class hotels.
5. More than 200 speakers will speak and/or present papers.
4. Vancouver, BC was voted the best international destination in 1998! And, it’s a starting point for other destinations in the region, including Washington and Oregon, the coastal and mountain areas of Canada, and cruise and ferry routes north to Alaska.
3. The seven Plenary sessions will feature world authorities on honey bees and beekeeping. Presentations will be translated into French, Spanish, German, and of course, English.
2. ApiExpo ’99 – the International Exhibit and Trade Show, will allow beekeepers to view supplies and products from all over the world.
1. Apimondia ’99 will provide beekeepers and scientists the opportunity to exchange ideas with colleagues from all around the world. Plans – from dawn to dusk – includes ceremonies, presentations, and ApiExpo exhibitions, scientific posters and a mid-week excursion to keep everyone entertained.

For additional information, see the website: [http://www.apimondia99.ca](http://www.apimondia99.ca) or write: Apimondia ’99, c/o Venue West Conference Services, Suite 645 – 376
FIELD DAY IN THE BEEYARD
April 24, 1999
Rain or shine!

Sponsored by: OREGON STATE BEEKEEPERS & RUHL BEE SUPPLY

Location: Foothills Honey 30576 Oswalt Rd., Colton, Oregon

Registration is limited to 150
To pre-register call: Ruhl Bee Supply at 503-256-4231
On-site registration: 9:30-10:15 am
Cost: $10 per person; children under 18 free
Donations will be accepted to defray expenses and support beekeeping activities

Things to bring: Veil Gloves Smoker
Beesuit Hive Tool Honey Samples

Lunch: Bring your own, or Colton Market is one mile away.

Supporting bee clubs: Oregon State Beekeepers
Portland Beekeepers
Tualatin Valley Beekeepers
Willamette Valley Beekeepers

Win a hive of bees! Enter a drawing at $5 per ticket
Donated by Ruhl Bee Supply

Directions: From Oregon City, take Hwy. 213 through Mulino to Union Mills Road. Turn left and continue 8 miles to Oswalt Road., turn right on Oswalt and go ¼ mile. Follow the Bee Day Signs.
Looking Ahead: State Fair News

Farrier Farms is going to sponsor three $20 awards in the Honey Division of the 1999 Oregon State Fair, owner Richard Farrier recently announced. The awards are as follows:

Hobbyist Class 1003 – Honey, other types

$20  Best of Show – Lot 10 and Lot 11  
     (comb honey round or square)

$20  Best of Show – Lot 14  (creamed honey)

$20  Best of Show – Lots 15, 16, 17 and 18  
     (extracting frames)
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Torey Johnson
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Vice President
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Secretary/Treasurer
Phyllis Shoemake
1874 Winchester NW
Salem, OR 97304
503-364-8401

WEB PAGE

http://www.orsba.org (Eff. 2/99)
WebKeeper: Bart Snyder 503-245-4524

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Honey Promotion: CHAIRMEN
Nectar & Pollen Plants: TO BE
Pollination: ANNOUNCED
Laws & Regulations: “ “
Oregon State Fair: “ “

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REGIONAL BRANCH

ASSOCIATIONS

Coos County
Meets 7:30 pm third Friday (except December) Coquille Annex, Coquille
Pres: Wade Weathersby 541-756-3378
VP: Don Barney 541-267-5945

Klamath County
Inactive at the present time

Lane County
Meets 7:30 pm second Tuesday
Pacific Cascade Credit Union
1155 Chambers St., Eugene
Pres: Chuck Hunt 541-607-0106
VPs: Gene Garner 541-746-5972
Denny Jessup 541-687-0912
Treasurer: Frank Svejcar 541-688-9153

Portland Area
Meets 7 pm second Thursday
Clear Creek Mutual Telephone Co.
18238 S. Fischers Mill Rd., Oregon City
Pres: Jim Allison 503-663-1058
VP: Bill Kruger 503-266-7249
Sec.: Paul Hardzinski 503-631-3927
Treas.: Christian DeHaze 503-266-3356

Southern Oregon
Meets 7:30 pm first Monday
S.O. Research & Extension Center
569 Hanley Rd., Central Point
President: Stan Kee 541-564-6238
VP: John Campbell 541-664-4867
Sec.: George Steffensen 541-474-4305

Tillamook County
Meets 7 pm first Thursday
Forestry Building
4909 Third Street, Tillamook
President: Bob Allen 541-322-3819
VP: Doug Taylor 541-842-4245
Sec./Treas.: Wayne Auble

Tualatin Valley
Meets 7:30 pm fourth Friday
OSU Extension Office, 18640 SW Walker Rd., Beaverton
Pres.: Roy MacMillan 503-628-0277
VP: Bob Ward 503-324-8123
Sec.: Mary Moss 503-357-4782
Treas.: Gerry Velery 503-324-8062

Willamette Valley
Meets 7:30 pm fourth Monday
Classified Ads (cont.)

FOR SALE: 400 four and five frame nuc boxes w/new frames $10 each; 300 colonies of bees with inside feeders on 4/way pallets; 250 gallon stainless steel milk tank used for blending medicated syrup, water jacketed with pump. Call 503-225-0755

Check your Mailing Label

In order to stay within our operating budget while providing the best publication possible, expiration dates on mailing labels will be monitored and The Bee Line cannot be mailed to memberships 60 days past the date code. As an additional service, a membership and publications form will be printed on page 11 each month. Note additional savings are available when ordering magazines through OSBA.

Research Contributions

For those of you who want to make tax-deductible contributions for honeybee research at OSU, make your check payable to Agriculture Research Foundation (ARF) and send it to Dr. Royce at OSU (see her address on page 10).

For those of you who want to contribute to OSBA above the $15 membership dues, please note a new line item on the form below. Your contribution can be earmarked for the Research or General Fund (specify your choice). The Executive Board wants to hold the line on increasing dues across the board but recognizes that some members would like to make one-time or ongoing contributions. Thank you for your support!

Membership and Publications

Membership in the Oregon State Beekeepers Association is open to anyone who has an interest in bees and beekeeping. You do not need to own bees or reside in Oregon to join. OSBA membership is $15 per person and includes a vote in OSBA elections, discounts on other bee related publications, ten issues of The Bee Line, and more. Foreign membership is $23.

Name__________________________________________________________

Address:______________________________________________________________________________________________

City/State/Zip________________________________________________________________________________________

Telephone__(_______)_______________ Local Group ________________________________________

Additional Voluntary Contribution: $_____________ Please apply to Research / General Fund (circle one).

Start your savings now! Get a discount on the following subscriptions through the OSBA:

American Bee Journal   _____  1 yr. $14.44   _____  2 yrs. $27.38   _____  3 yrs. $38.96

Bee Culture   _____  1 yr. $12.75   _____  2 yrs. $24.75

The Speedy Bee   _____  1 yr. $13.25   _____  2 yrs. $25.25
Make checks payable to OSBA and send this form with payment to: Phyllis Shoemake
1874 Winchester NW
Salem, OR 97304

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**Classified Ads**

Classified advertising rates per issue: 30 words, per issue: OSBA members, $2.00, non-members $3.00. Copy and payment must be received by editor no later than the 15th of the month prior to publication.

WANTED: Northwest produced honey in 55 gallon drums. Also looking for vetch, snowberry and fireweed honey. Call Bee’s Knees Honey at (503) 225-0755 or (503) 640-5757.

FOR SALE: 55 gallon honey drums $6 to $10 based on grade and condition. Call Bee’s Knees Honey (503) 225-0755 or 503-640-5757.

FOR SALE: 2500 gallon liquid sugar tank with heating coils $2,000. Call 503-835-5300.

NUCS: Five frame, $32.50 w/frame exchange, minimum orders of 50. $35.50 no exchange. Orders under 50, call for details. 541-840-8119.

FOR SALE: Four frame nucs and 9 frame singles. Available April 1. We can build them in your equipment or ours. Small or large quantities. Call for prices. George Hansen 503-824-2265 or 503-799-3463.

FOR SALE: Bees 20-25 colonies. Any number OK. Priced according to bees and equipment. Also new and used wood work. Bill Kruger 503-266-7249.

LOW COST frame assembly. Quality work, glued and stapled. You provide materials and shipping. Call for quote. 541-850-1326.