

## OSU Summer Research Project Update

By Dr. Lynn Royce

Currently we are involved with three related projects focused on control of parasitic honey bee mites. These projects include studies of resistance and performance of Russian stocks of honey bees from the ARS-USDA laboratory in Baton Rouge LA (project located in the apiaries of Chuck and Kathy Hunt, Kenny and Heike Williams, and Bertie Stringer and Marshal Dunham), studies on the affects of varroa mites and coumaphos on honey bee drone longevity and mating ability (Kings Valley apiary), and studies on juniper products, screen bottom boards and formic acid gel packs for varroa control (OSU Hyslop farm). These three projects involve 122 experimental colonies plus support colonies (OSU bee lab).

The spring has been busy obtaining the bees, queens, equipment and labor to get these projects going. We are now beginning to collect our first sets of data. We hope this years work will provide baseline information on these different control techniques as well as pros and cons that go along with using them. In following years we hope to combine techniques with the idea of significantly reducing or removing hard pesticides from varroa management. We are searching for management practices that would be useable by large commercial beekeepers as well as sideliners and hobbyists.

We now have the Russian Queens (both those mated in Oregon and those mated to Russian drones in Louisiana), in hives and laying, and the control colonies for this project are ready as well. The first data sets from this project will be collected towards the end of June and will continue on a monthly basis through September followed by close monitoring through winter.

Our first sets of data from the Hyslop farm site are in and it will soon be time to gather the next set. We will use monthly mite drop counts with bee and brood estimates to keep track of how the bees and varroa are doing. We will also try to do some limited sampling for tracheal mites. This is the first time we have used Formic Acid Gel Pack (ApiCure)

and it caught me off guard. To place the pack on the top bars of the brood chamber you need a spacer so the pack will fit. It is also late to be putting formic acid on the colonies as they recommend 28 days before honey flow and we had less than 20 but these are research colonies and the honey is not for human consumption. It is recommended that one pack be placed on a colony and left for 21 days. As has been reported from several other areas the formic acid leaves the gel quickly, probably in the first week of application. A week of treatment with formic acid will not kill many mites. We may see a slight drop in mite populations in these colonies but expect the populations to recover quickly.

The work at the Kings Valley Site is also underway, now that colonies are set up and rearing drones. There will be improvements to protocol as we get into this project, but we hope to have our first data in two weeks as our first set of marked drones become mature.

Many of you have responded to our request for financial help and this is much appreciated. I will try to have a report in each Bee Line as to our progress so you will know where your dollars are being spent. I may not have time to send out individual letters of thanks; please be patient with me as most of my time must be spent on insect identification and education or outreach regarding wheat insects. Also, globalization not only affects our farming community by lowering prices but it is opening cracks for foreign organisms to get into Oregon. This puts new pressure on Extension to find out how these new organisms will interact with our crops and existing fauna. There are at least two new bugs that may require some attention from me this summer. Thus, without help from you, and a special thanks to Ray Varner and the beekeepers working on the Russian Queen Project for their time, not much honey bee research could get done. These are not Lynn Royce's projects, but they are OUR projects and the amount and reliability of the data will be the result of your perseverance as well as that of myself and others at the OSU Honey Bee Lab.

*Editor's note: While Lynn has received some financial contributions, there is still a deficit. The study depends on funding; whatever individuals and clubs provide would help the research continue.*