

Project Launch

BeesCene JUNE 06

British Columbia Bee Breeders Launch Exciting New Project *Beekeepers throughout the province to benefit*

BC beekeepers have experienced numerous losses of hives due to varroa mites and the viruses associated with them. This spring many hives in the lower mainland succumbed to the double punch of poor wintering weather and mites that no longer were killed by *Checkmite*. Also, outfits in the interior that previously could use *Apistan* to treat hives found that it too would not kill varroa mites in sufficient numbers.

The BC Bee Breeders in association with the BCHPA have begun a project with the financial support of the BIDI to test queens that may help BC beekeepers to resist the varroa mites. The project will import queens for testing from across Canada that have lower mite levels than normal Canadian stocks.

The project will be carried out in the southeastern region of BC's Kootenays near Grand Forks. Packages are to be bought in early May to establish 105 hives. These packages from Vancouver Island were treated with Apistan so that initial mite levels will be very low. The queens from the stocks to be tested will be introduced in late June after the mite levels have been checked and the hives equalized.

The stocks to be tested will include Dr. Tibor Szabo's from Ontario. Dr. Szabo, who spoke at the 2004 BCHPA convention in Duncan, is breeding a stock developed from high honey producing Ontario stock. The results of his breeding program were published annually in the American Beekeeping Journal from 1998 to 2003. Dr. Szabo selected and bred from queens with the lowest mite levels and high hygienic characters. Dr. Szabo is also famous for breeding the Alberta Bee at the Beaverlodge Research Station.

Another stock to be tested, the Russian Petit queens, are from an Ontario breeding program based on imported Russian queens and further selected for Canadian conditions by Francois Petit (*Hivelights*, February, 2006, Vol 19 #1, pg.14).

The project planned to use Saskatraz queens. These queens are from a breeding program started 5 years ago by the Saskatchewan Beekeepers Association. Albert Robertson in Saskatoon heads the project. The Saskatraz stock is based on imports from Russian, German carniolan, Manitoba and Saskatchewan stock. Recent news from the Saskatchewan Beekeepers Association that the queens will be priced from \$600 to \$800 each, and that only one will be sold per person will probably make this stock unavailable to our project. In their place we will attempt to import University of Manitoba stock. Dr. Rob Currie has helped the Manitoba Bee Breeders develop a potentially varroa resistant stock from Manitoba stock known originally for good wintering

ability and high honey production.

Two other stocks will be tested. These are BC survivor stocks both from the Kootenay region of the province. These are queens that have survived heavy mite infestation levels and winter well.

All the stocks will be compared to two control lines. One will exemplify BC acclimatized stock not selected for varroa resistance. The other, the SMR queens (Suppressed Mite Reproduction), were developed by the USDA Honey Bee Breeding Genetics and Physiology Lab in Baton Rouge, Louisiana. (Harbo J, Harris J (1998). SMR or suppressed mite reproduction, is a trait, not a stock. Hopefully bees with this trait will be used as a control to compare varroa resistance levels of the tested queens (Harbo, J.R., Harris, J.W. 2000, Harbo J, Harris J (2003) Harbo J, Harris J (2002). We are still working on importing this stock directly from the Baton Rouge Lab with the help of Dr. Steve Pernal, of the Beaverlodge Research Station. Another option may be to import the hybrid SMR queens from a queen producer in California.

The queens will be tested over the following year for their winter ability, spring build-up, hygienic behavior, honey production and mite levels. Mites will be artificially introduced this year to ensure even starting mite levels and that the mites do build-up enough to be a selection factor.

This year in August, BC beekeepers will be able to have a look at these hives on August 20th. The project is holding a field day on site in Grand Forks. There will be demonstrations of hygienic testing and other selection methods. If beekeepers would like their queens tested at the field day for the hygienic trait please contact Liz Huxter for more information. **Tel (250) 442-5204 or [by email](#).**

In 2007 we will have the winter ability, spring build-up, hygienic behavior data and possibly honey production data soon enough to make a preliminary selection. The BCBBA will sell open mated daughter queens of the top queens from that preliminary testing. These queens should be mated in early July and available in late July. Everyone is welcome to buy one or two or the set of lines chosen at that time to establish and test these resistant queens in their own operation. **Please make sure to order these queens by April of 2007.** Also in 2007 the project is hoping to hold a field day and project discussion on Vancouver Island or in the Fraser River Valley. Clubs interested in hosting such an event should contact Liz Huxter.

In the fall of 2007 the colonies will be treated and the mite levels assessed. The following spring the final selection will be made and queens will be produced for sale to BC beekeepers.

This project intends to provide BC beekeepers with a better idea of how different varroa resistant stocks winter, produce honey, and deal with our varroa mites under our BC conditions. These queens are to be available to BC beekeepers in 2007 and 2008.

Harbo J, Harris J (2003) [An Evaluation of Commercially produced Queens that have the](#)

[SMR Trait](#). American Bee Journal, March 2003

Harbo J, Harris J (2002) [SMR Queens: an Update](#). Bee Culture May 2002

Harris J, Harbo J (2000) [Changes in reproduction of Varroa destructor after honey bee queens were exchanged between resistant and susceptible colonies](#). Apidologie 31: 689-699

Harbo, J.R., Harris, J.W. 2000. [Using Free-mated Queens to Introduce Genes for Varroa Resistance into a Population of Honey Bees](#). American Bee Journal. 140(11):904-905.

Harbo J, Harris J (1998) **Selecting honey bees for suppression of the reproduction of Varroa jacobsoni**. American Bee Journal 138: 295-296.