

The Valley Beekeeper

Volume 15 Issue 2 May 2012 A quinary report from the Cowichan Beekeepers Club, Box 274, Cobble Hill, V0R 1L0

Monthly, the third Thursday, 7:30pm, Feb.-Nov., Cowichan Agricultural Office meeting room, Clements St, Duncan

Stat's in for Honey Bees Losses in Canada (2011)

In 2011, a core set of harmonized winter loss survey questions was devised by CAPA which was used as a basis for each province to implement its own wintering survey. This approach facilitated direct comparison of key winter loss data across regions. Based on results from eight Canadian provinces, 30.9% of the colonies that were wintered during 2010-11 died or were deemed too weak to be commercially productive. This represents 2.1x the long-term winter loss rate for Canada and a substantial increase over the loss rate for 2009-10 (21.0%).

Table 1. Gross Losses by Province, Winter 2010-11.

Province	Number of Colonies Wintered	Number of Dead or Unproductive Colonies ¹	Wintering Losses (% of Provincial Total)
British Columbia	42,000	11,760	28.0
Alberta	265,000	71,550	27.0†
Saskatchewan	101,000	22,220	22.0
Manitoba	80,000	27,200	34.0
Ontario	83,150	35,755	43.0
Quebec	40,000	11,200	28.0
New Brunswick	10,049	3,708	36.9
Nova Scotia	16,500	3,696	22.4
PEI	4,291	990	23.1
CANADA (Not Including Alberta)	641,990	188,079	29.3% (of National total)

¹ Dead and commercially unproductive colonies as of 1 May 2011. Figure calculated from provincial loss rates (derived from survey data) and total colonies put into winter.

† Based on surveys of producers in Alberta with 400 or more colonies.

General Trends

In the years subsequent to the introduction of the ectoparasitic mite *Varroa destructor* into Canada, normal long-term overwintering mortality has been considered to be 15%. During the winter of 2010-11 mortality due to wintering losses and spring dwindling was 30.9%. This loss is greater than the 2009-10 mortality figure of 21.0% and is similar to the three winters previous: 33.9% (2008-09), 35.0% (2007-08) and 29.0% (2006-07).

Compared with the winter of 2009-10, loss rates across all reporting provinces increased with the exception of Nova Scotia. Highest losses were experienced in the province of Ontario. For beekeepers experiencing the highest levels of loss, a number of common reasons were reported by extension professionals in Canada. These include: 1) higher numbers of weak colonies in the fall months being prepared for winter; 2) ineffective *Varroa* control leading to higher mite populations on bees over the wintering period, 3) higher than normal rates of queen loss, and 5) high levels of *Nosema ceranae*. A final common theme reported across all regions was, 6) the exceptionally cold and in many cases rainy weather during spring 2011 which contributed increased dwindling and loss of colonies that emerged from winter. *

Your First purchase of Bees Inspect any honey bees for sale in the same way you might inspect a house or a car. If the beekeeper who has the bees for sale is not happy for you to inspect them you should ask yourself why. Most beekeepers will be happy to help, everyone is a novice when they start out. Someone who is selling beehives might deliver them for you, but you should go and inspect them first.

When you inspect honey bees for sale, look for a hive with a large number of bees in boxes which are in good condition. Make sure there is a good quantity of brood, pollen and some honey, this will of course depend on the time of year? If you can't find the queen bee when you inspect the hive don't worry, but make sure there are fresh eggs and young lava. If the box and bees are in good condition, and you think it's good value, this is a quick way to get some hands on experience. Remember there is the cost of the boxes, roof, floor, the frames with foundation and of course the bees. It takes time and effort to build up the numbers in a colony. A fresh swarm might have around 15,000 individual bees. About 99% of these will be worker bees, the rest will be drones. An established colony might have twice as many as that. If it is a

[Honeybee cell size discussion](http://beehivejournal.blogspot.com/2010/01/cell-size-facts-and-discussion.html)

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1. How many cells are required for a healthy hive.
2. How many cells are on a sheet of foundation.
3. What is best size of cell.
4. How to determine the number of cells on foundation.
5. And so many more your head will hurt.

It is easy to see that over time the cell size offered by foundations has increased. Is this bad? Some say yes, and some say some say no. It is generally agreed that large cells produce larger bees. Some research indicates that these larger cell sizes may play a role in Varrora infestations. Some research and experiments seem to indicate that smaller cell sizes help control Varrora, while other research says it does not.

It takes about 2.6 lbs. of wax to construct about 100,000 cells in comb. Bees generally need to consume between 6-8 pounds of honey or sugar water to make one pound of wax. The honey comb has hexagon (six sided) cells on both sides of a vertical central wall. It actually consists of two layers of cells placed back to back. Such a cell is a prism whose section is approximately a regular hexagon, while the ends are three-faced 'steeple'. The walls of each honey cell are fashioned from the wax and are manufactured to a high tolerance (within 0.2% of their 1/1000 thickness) and support 25 times their weight. These cells are inclined upward 13° from horizontal to retain liquid nectar and honey. All the cell walls stand at 120° to each other, forming a perfect lattice. Natural comb cells for non-Africanized bees are generally 1 inch deep and 4.9 mm wide.

Help Wanted - 2 Apiary Workers : Vancouver (BC); 2 openings for Apiary Workers NOC 8431. Candidates must have at least 1 year of beekeeping experience in a Canadian style commercial apiary. Emmanuel Bilodeau, 3672 45th Ave. East, Vancouver, BC V5R-3G4; email to:emmanuelandhoney@yahoo.ca

Help Wanted- Apiary Technician Mission (Farm Supervisor) (BC)

Golden Ears Apiaries Inc. is looking for 1 Apiary Technician (Farm Supervisor) NOC8253 on a permanent fulltime basis starting Feb. 14th. 2012 with an hourly pay rate of \$13.96 - \$16.00. Applicants must have 5 seasons of beekeeping experience in a large commercial apiary operation. Apply with resume Jean Marc at Golden Ears Apiaries Inc.; 33197 Ito Place, Mission, B.C. V2V-3W7 jeanmarcledorze@gmail.com

What can be expected in a Job Description:

handle, feed and care for honey bee colonies in an appropriate manner for the season; -assist in the production of queen cells, nucs, queens and/or replacement beehives; -recognize and report beehive health issues, and apply appropriate disease cures/controls; -move beehives; -collect and package honey; -drive and maintain vehicles including large trucks and forklifts; -maintain bee yards; -manufacture, assemble and maintain beehive equipment; -operate and maintain other apiary related equipment; -keep limited field and/or production records.*

Mite Away Quick Strips™ has now received registration for use in Canada!

After being available in some other markets for over 2 years Mite Away Quick Strips™ has now received registration for use in Canada.

Mite Away Quick Strips (MAQS) is a 7-day, single application mite control product registered for use against varroa and tracheal mites. There are two critical application times. MAQS can be used during the honey flow but since it is best to have healthy colony populations going into the honey flow, spring treatment 4 to 6 weeks before the flow is recommended. A honey super can be on. To allow the bees time to produce a healthy winter cluster, MAQS should be applied at the end of the honey flow, usually while the last super is still on. For most parts of Canada this will be late August or early September.

The active ingredient is formic acid and its formates, contained in a saccharide gel matrix, wrapped in a specially formulated wicking Ecopaper. Formic acid vapour is released over a 3 to 4 day period at levels sufficient to kill varroa mites on the bees and the mites attempting reproduction under the cap. The colony should not be disturbed during the 7-day treatment period. The hives should have good food reserves at time of treatment, ready to be converted into brood. Feed reserves should be monitored after treatment, and supplemented if necessary. The male varroa are particularly susceptible, so young surviving females are likely to be infertile. Overall efficacy is expected to be in the 95% range over time, when compared to other products that just treat varroa on the adult bees (phoretic varroa). MAQS technology allows for an expansion of the temperature range. Daytime highs, for the first three days, can be in the 10 to 33°C (50 to 92°F) range, which will allow for increased flexibility. Beekeepers need to be certain that the temperatures will be below the maximum temperature on the critical first day, so a maximum high of 85°F is recommended for the day of application.

Beekeepers can expect a brief hic-up in brood rearing in some colonies, which is quickly made up by the queen laying enthusiastically. Treatment may also trigger queen supersedure activity, so some colonies may replace their queens or may end up with mother/daughters both present. This is also fairly common if the bees had already started queen cells before treatment.

The bees will expand the cluster when treated so a bee-beard may form on the hive during the first stage of treatment. This is normal behavior, which varies widely between colonies, even in the same yard. It is more likely to occur at higher temperatures. The bees usually go back in a few hours later, or if the temperatures cool. Having a super on may reduce the bearding behavior.

MAQS has been shown to suppress nosema spore levels in the one trial where levels were monitored. Further work in this area will be undertaken in near future. The mites are not expected to develop resistance to formic acid, so once the transition is made to consistently using MAQS the beekeepers of Canada can relax, knowing that varroa control will be sustainable, with no risk of chemical residues accumulating in wax or honey.

For more information call toll free 866-483-2929 or www.miteaway.com

Apiculture is derived from the honeybee's Latin name *Apis mellifera*, meaning 'honey gatherer'. Since bees do not collect honey but nectar from which honey is made, the scientific name should actually be *Apis mellifica* meaning 'honey maker'.

HONEY BEE EGGS IN THE BROOD NEST

<http://www.honeybeesuite.com/honey-bee-eggs-in-the-brood-nest/>

Once the brood comb is prepared, the queen lays one egg in each cell. Estimates vary widely as to how many eggs a queen can lay, but 1500-2000 per day is a reasonable assumption. Over the course of one spring and summer season, the queen probably reaches a maximum of about 200,000 eggs.

When first laid the eggs are about 1/16 inch long (1.6 cm) and a pearly translucent white. Oddly, they stand on end in the cell. Gradually, within the first day, they tip to one side and lie prone at the base of the cell. After about three days, the chorion—the membrane coating the egg—dissolves and the new larva is exposed. The eggs standing upright in the cells, larvae floating in pools of milky-colored royal jelly. Honey bees keep the brood nest at a constant temperature that ranges from about 91-97° F (33-36° C). This phenomenon is unique in the insect world and requires large populations. If the population isn't large enough to care for all the brood and keep them warm, the queen will slow the rate of egg laying, and the workers may eat some of the eggs.*

Pollen Patties <http://www.honeyrunapiaries.com>

Bees need more than just carbohydrates from honey, sugar syrup or corn syrup to survive. They also need protein that usually comes from pollen especially when raising brood.

Many beekeepers may never need to feed pollen or pollen substitute. The bees typically will store enough for their use and when supplies run short they will stop raising drones and eventually will stop raising brood entirely until pollen again is available. Thus, the bees tend to manage their supplies fairly well and this is enough for many beekeepers. However, There are many reasons why you may want to feed pollen or pollen substitute:

- Early spring buildup so you can make early splits.
- Buildup in preparation for pollination (especially almond pollination).
- To force building in preparation for a strong nectar flow.
- To encourage early drone rearing for preparation for raising early queens.
- To maintain drone and brood rearing through a strong dearth (again important for rearing queens in some areas)

In fact, a protein source (pollen or pollen substitute) is critical for raising drones which is very important for rearing queens. When there is a shortage of protein drone brood is the first to go and in severe dearth even adult drones may be removed from the hive. (Steve Taber covers this in his book 'Breeding Super Bees') In warm weather when bees can fly open feeding dry pollen substitute is a good easy method of feeding. It is as simple as putting out a bucket on it's side with pollen substitute in it. It creates quite a feeding frenzy but doesn't seem to cause any fighting. Of course when the weather isn't warm and dry this obviously won't work. Feeding pollen patties which are placed right in the hive is the solution. You can buy pre-made patties or you can mix your own.

When mixing up small batches of pollen patties it probably isn't worth buying the raw ingredients for the dry substitute and mixing it yourself. Complete pollen substitutes are available from many beekeeping suppliers. However, If you wish to mix them yourself links to pollen substitute recipes are listed on the website.

Bee-Pro from Mann Lake is good, though other substitutes will work as well. None of them are perfect replacement for pollen and you can add about 10% real pollen to the mix to improve acceptance and nutrition. However, be aware that bee pollen can carry American Foul Brood spores and can spread the disease. If you do use real pollen in the mix either collect your own pollen from hives you know are disease free or buy irradiated pollen

Palatability tests by Abdolreza Saffari, Consumption of ...Dry Pollen, Vol 54, No.1, 20120 Journal of Apicultural

Feeding any pollen substitute to honeybee colonies in powder form is an easy method and consumes minimum time and labour. The results of experiments indicate that 'Feedbee' was well accepted by honeybee colonies irrespective of the yards or locations. By and large, pollen is preferred over any substitute diets.

Apimondia Symposium 2012 <http://www.craaq.qc.ca>

Held for the first time in Québec city, Apimondia Symposium 2012 is an international event which will allow you to update your knowledge on honey bee queen breeding and pathology. The program presents several world class speakers, an exhibit hall full of the latest and greatest innovations in beekeeping, a choice of workshops and a thematic dinner with a Quebec taste. It is an absolutely great place to talk to and learn from beekeepers from all over the world and share experiences. Plus Quebec City is an amazing heritage designated city to be a tourist.