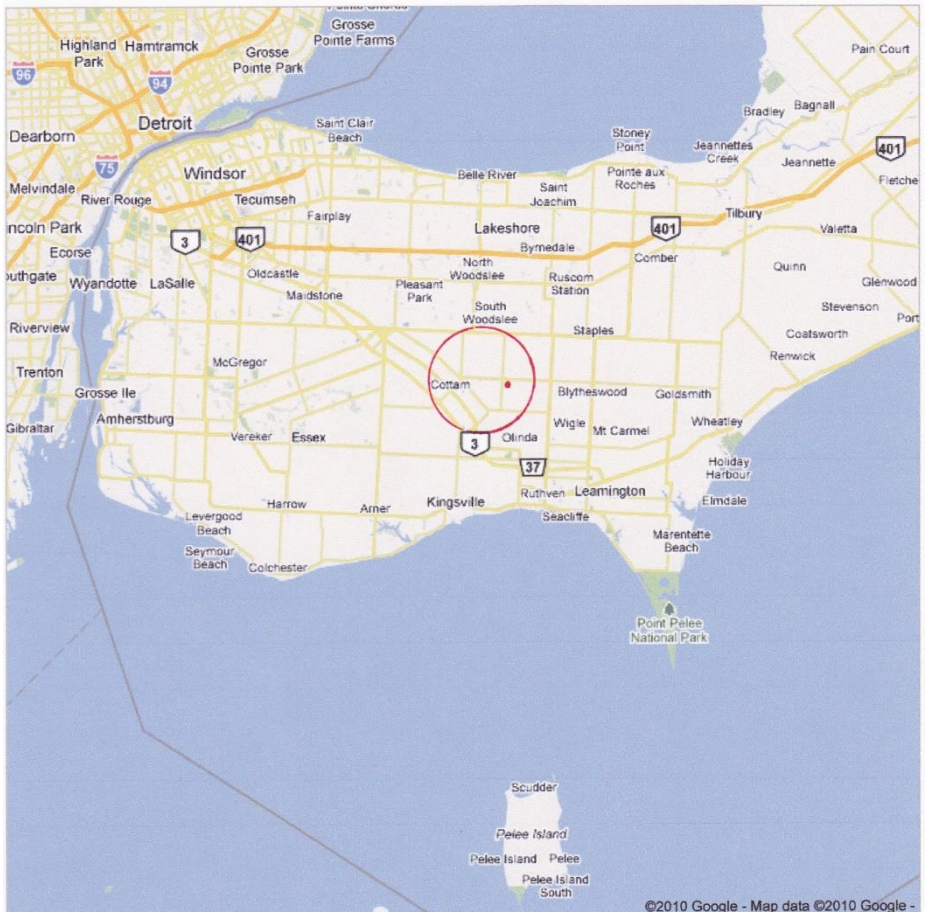
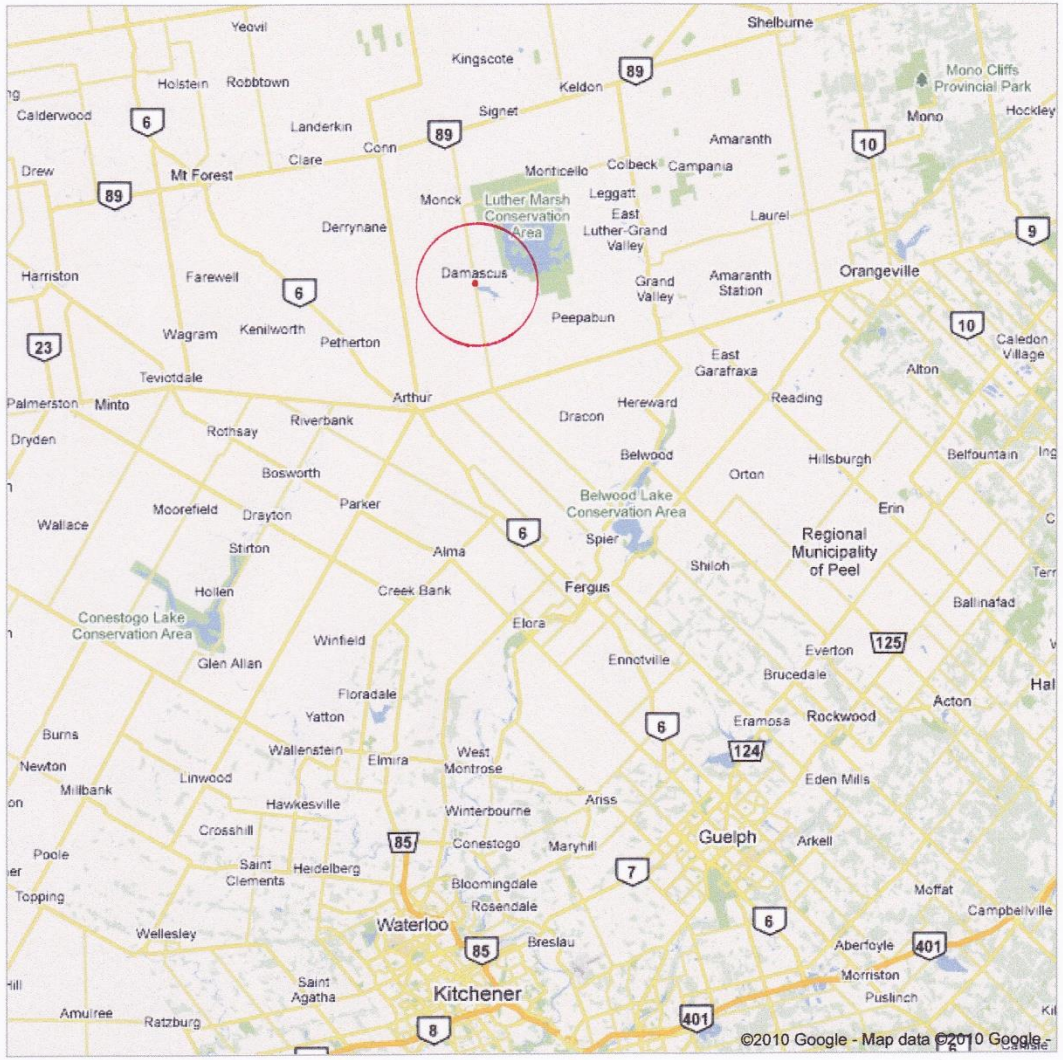
Small Hive Beetle

Why I Don’t Try to Manage Them

The home of Sun Parlor Honey located in the most southern part of Canada.





My second location is 300 km away from the Cottam location, north west of Toronto. This location has remained hive beetle free for over eight years.

I currently operate 800 colonies in the quarantine area and 500 outside of the quarantine area. These numbers have dropped from 2200 when we were first quarantine. Most of the reduction in colonies has been due to the neonicotinoids in our area on corn and soybean crops. Some of the reduction is due to the quarantine and the extra work involved with it.

I first discovered small hive beetle in Essex County in September of 2010 when we were removing honey supers.

Some of my yards were quarantined that fall, I don't recommend this to any one. Government intervention will cost much more than the hive beetle.

Traps used by OMAFRA were mostly ineffective in detecting hive beetles.

The Cost of Quarantines

- Management of equipment
- Extra extracting equipment
- Extra colonies in quarantine area to meet the pollination demand
- Time spent with government officials
- Extra paper work to move colonies in the quarantine area
- Extra beekeeping equipment in the beekeeping area
- More beekeepers required to manage colonies
- More hours required to manage colonies
- Has resulted in loss of sales of bees in our operation outside of quarantine zone

Cost of Small Hive Beetle

- Requires more management of comb before storage
- Requires more colony management that usually means higher honey production and less winter mortality.
- I manage my colonies and they manage small hive beetle

I was involved with TTP's testing of
small hive beetle traps and the study of their life cycles
over the next two years

More hive beetle traps.

Small hive beetle larva trap.

Hive beetles like to hide in small spaces.

Plastic frames provide great places to hide but they don’t seem to increase reproduction of hive beetles.

When small hive beetle larva exit in the colonies of bees they can even survive in water.

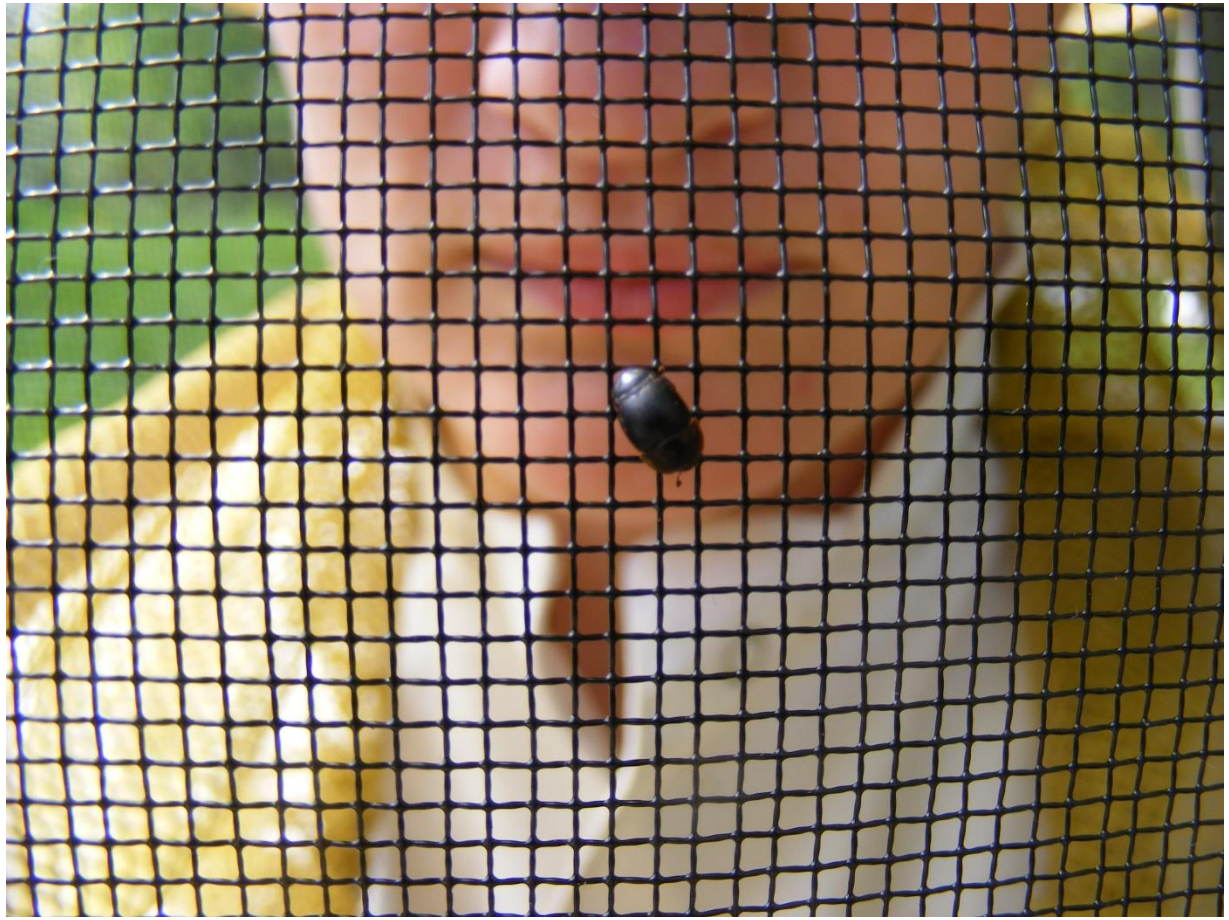
Pollen patties are fast food for hive beetles so don’t put more than the bees can eat in two weeks.

Make sure to clean hive floors in spring
on weak colonies to prevent hive beetle larva from developing in the debris.

Colonies that are weak or have poor queens allow hive beetles to develop rapidly. Try to keep productive queens and maintain strong colonies to prevent hive beetle reproduction.

Hive beetles like to hide in the cells.

A bee interacting with a hive beetle.



Small hive beetle larva trap and dead bee trap.

Remove dead and weak colonies during early spring inspections.

Keeping your colonies strong is the best way to manage small hive beetle.

Hive beetle won’t affect your honey production. Strong healthy hives are not affected by the hive beetles. This year I produced over 15,000 pieces of cut comb with no hive beetle damage.

Pollen will need to be collected more often with small hive beetle. I collect every three to four days.

During honey production it is hard to find hive beetle.

Small hive beetle crawling off the top bars and down the side of a honey super.

Even after honey supers have been in the hot room for a week we do not see any hive beetle damage but we do see wax moth damage.

Freezing cappings and comb to kill hive beetle and wax moth.

All of my comb is frozen to control both wax moth and small hive beetle at the end of the honey season.

Don’t let cappings or hive scrapings sit around your honey house before melting.

One of the steam heated kettles that I use to melt wax.

Steam chest used for melting old comb.

Barrel Feeding

5000 reasons why not to feed old honey, hive beetles love old honey but they do not seem to be attracted to sugar syrup. As you can see the bottom of the bag is full of hive beetle larva.

In conclusion

- Maintain strong colonies
- Replace failing queens
- Clean up dead or weak colonies early in the spring
- Freeze or put comb back on colonies with in a week of extraction
- Brood comb must be frozen if stored for long periods of time
- Cut comb must be frozen shortly after it is removed from colonies
- Keep hive scrapings and cappings melted as soon as possible
- Keep your honey house clean and free of wax debris

Thank you for allowing me to share my experience with small hive beetle

Our family is celebrating over100 years of beekeeping

Developing Best Management Practices

OBA

Tech-Transfer Program

Spring Visit May 2, 2011

- SHB can survive long cold winters!

  - Found On comb with or without bees

  - Hiding in:
    - left over mite wipe fibres
    - Tarp inner covers

Timing of Reproduction

- Egg laying beginning in late April
- "Weak" or Spring Colonies with left over reserves
- Should not allow excess pollen
- Trapping method??

Winter kill of SHB

- **Dead SHB larva and adults found on bottom board "trash"**

- **Amount of kill due to winter??**

Spring Yard Clean-up

- **Reduce locations for SHB eggs laying and larval feeding.**

- **Remove Dead or weak colonies**

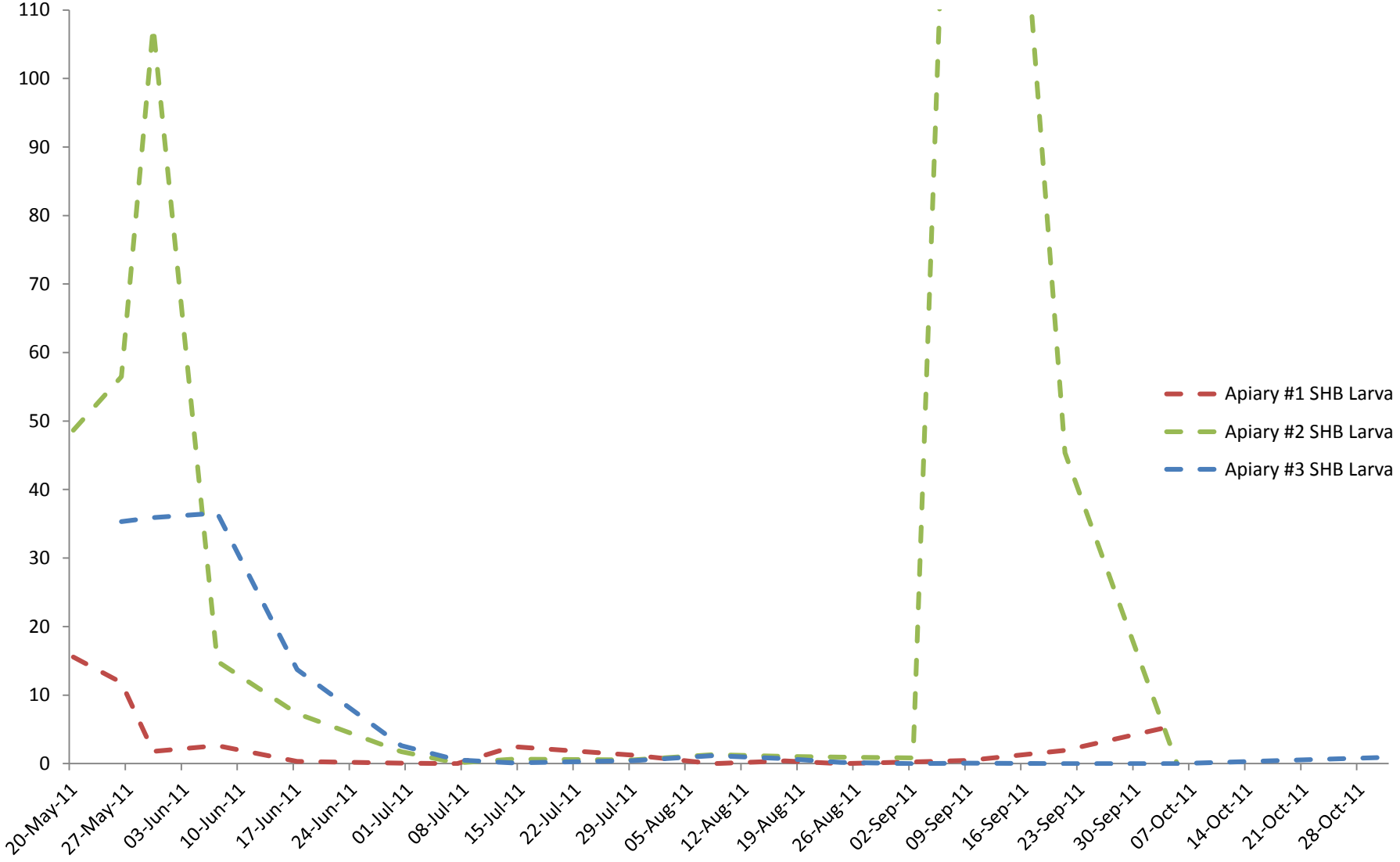
- **Clean bottom boards**

Peter Teal Trap

- **Monitor reproduction of SHB in Northern Climate**

- **Monitor Effect on SHB population**
  - **Colony Strength**
  - **Varroa infestation**
  - **Other traps**

SHB Larva Production Trend



Larva Exiting Colony

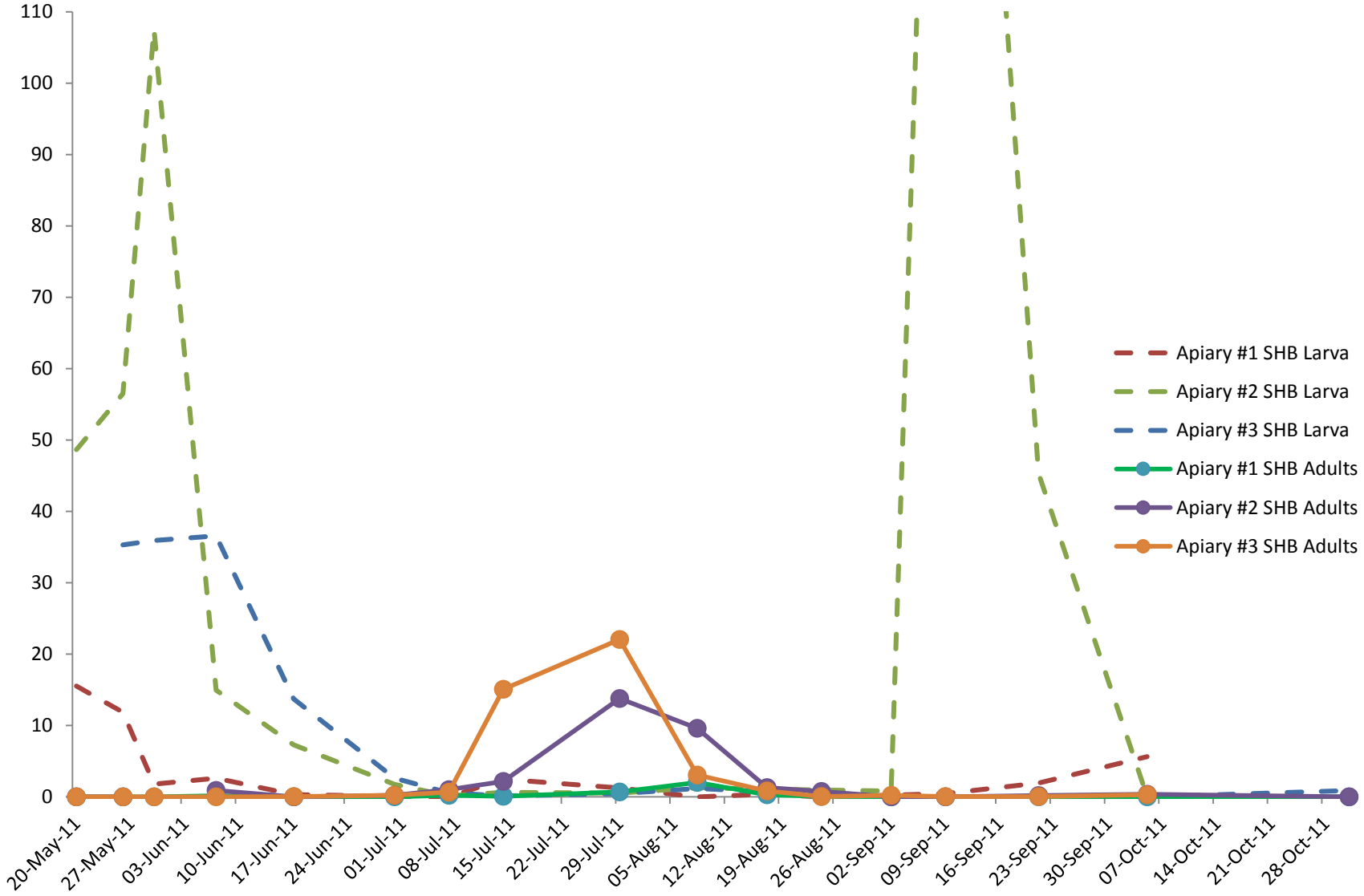
- Larva leave colony before May 20th
- Migration of larva begins before May 20 and last about 1 month
- Stage to focus on larva control

SHB Larva Production related to Colony Status

- Most colonies had som
  larva exiting
- No Correlation betwee
  - Colony Strength
  - Disease Profile

Flooded Bed….No Problem!

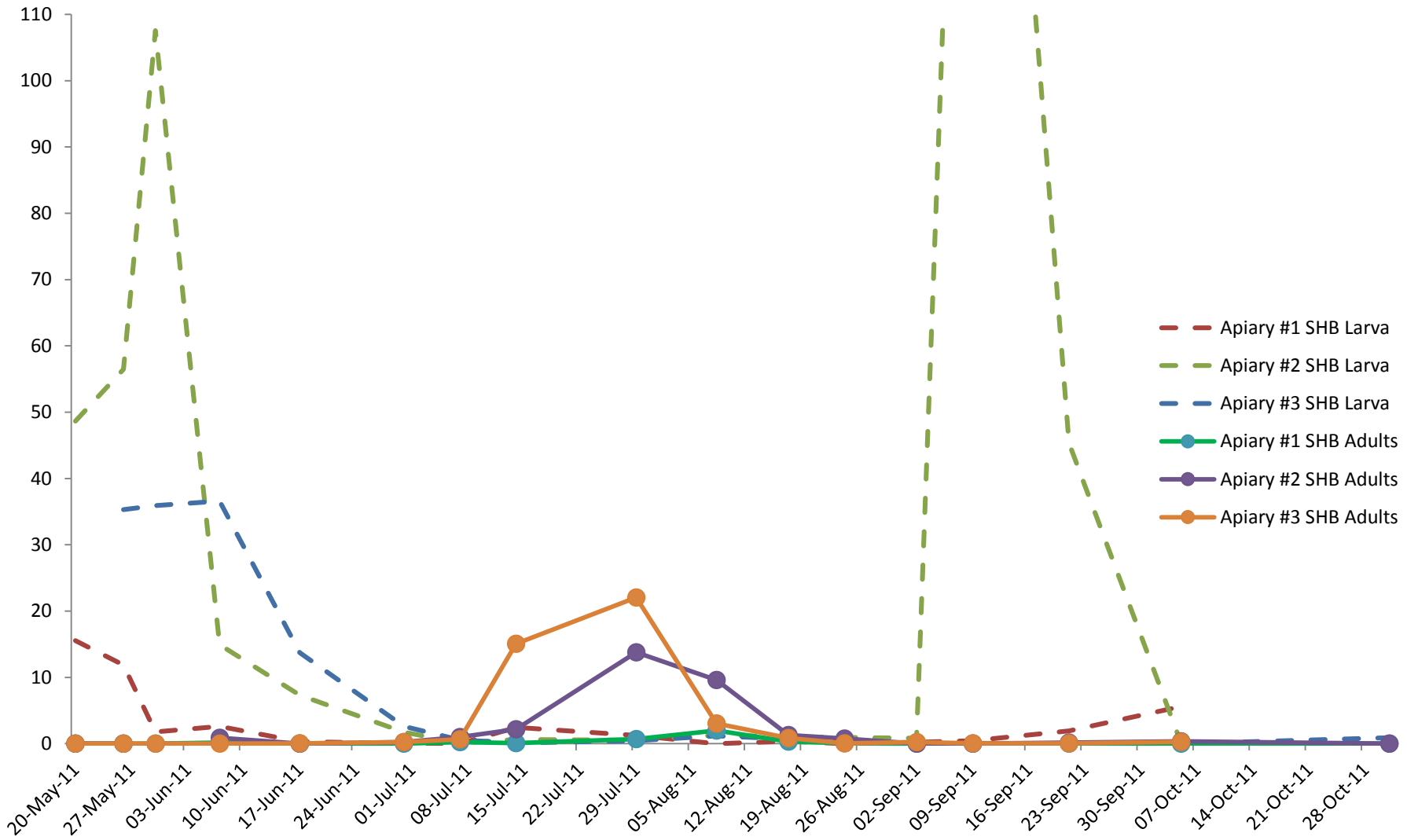
SHB Adult Infestation Trend



Colony Status related to adult SHB infestation?

- No relation to:
  - Colony Strength
  - Varroa Counts
- Relation b/w Yard and amount of Larva Produced
- Individual Yard control does help.
- Don’t Blame neighbour!

Second Round of Larva Production



Collaboration with Quebec SHB