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## Northern Michigan FRUITNET'99 Weekly Update

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### WEATHER:

Frost occurred on the mornings of April 24 and 25, causing some frost injury to fruit buds on sweets, tarts, apples and possibly other fruit. Dry weather for the past 2 weeks probably accentuated the cold damage, as our soils did not have the abundant moisture to help moderate the cold air.

### DEGREE DAYS:

Base 50:74; Base 42: 208.

### GROWTH STAGES:

Apricot: Harcot – 20% bloom  
Plum: Stanley – green cluster  
Apple: Red Delicious – early tight cluster  
Sweet Cherry: Napoleon – bud burst  
Tart Cherry: Montmorency – early bud burst

### COMMODITY REPORT:

European red mite eggs are lower in number on apples than last year. Warm weather this week should provide a great window for applying oil sprays. Oil should not be overlooked for controlling mite eggs, as it also controls San Jose and lecanium scale.

No apple scab infection yet.

In tart and sweet cherries, green fruitworm trap catches remained steady at 7 to 9 per trap.

Copper should be avoided on sweet cherries beyond bud burst.

Psylla eggs can now be found on pear spurs.

As the grape buds continue to swell they will become more susceptible to climbing cutworms.

In apricots, brown rot will be a threat to open blossoms if any rainfall occurs.

The key period for black knot infection in plums is from white bud to shuck split. Growers will need to protect for wetting during this period.

### MISCELLANEOUS:

#### Fruit Pollination

By Jim Nugent

There are places in a fruit operation when times are tough to cut corners and save a few bucks. In my opinion, pollination time is not one of them!

First of all, rent strong hives. A "deal" to rent hives at a lower cost per hive is no deal at all if the hives are weak.

Second, our fruit crops -- all of them -- need bees for good pollination. A crop that is self-fruitful, like tart cherries or strawberries, may not need as many bees as a crop requiring cross pollination, but they still need bees. That's not to say that the absence of bees in a self-fertile fruit will result in no production. In fact, exclude bees from tart cherries and some fruit does develop, however, the yield will be much less than with bees present. With strawberries, the same number of fruit develop without bees, they are just much smaller than bee pollinized strawberries. Then when we get to crops requiring cross-pollination, such as apples and nearly all sweet cherries, bees carry virtually the whole load of pollinization.

Of all the crops we grow, I feel sweet cherries are the most difficult to get adequately pollinated. I recommend two hives per acre for sweets that have a good blend of varieties for cross-pollination. If over 75% of the cherries in a block are of the same variety or same pollen group, then maybe more bees are advisable, or consider purchasing additional pollen for the bees to disseminate.

MSU's new bee specialist in the Entomology Dept, Dr. Zachary Huang, wrote in a recent CAT Alert newsletter the following recommendations:

- " -Three colonies per acre: cranberries, blueberries, high-density apples
- Two colonies per acre for semi-dwarf apples
- One colony per acre: standard apple orchards, and all other fruit (nectarine, apricot, plum, pear, peach, cherry)."

This may over-state the bee needs in high density apple blocks with a good mix of varieties for pollination, but often high density orchards are planted to one major variety with a few crab apples for pollen. These plantings probably do require three hives/acre.

planned to one major honey with a few side applications for pollen. These plantings probably do require three hives/acre.

The recommendation doesn't separate sweets from tarts, and I think he had tarts in mind where one hive/acre is just fine. But as already mentioned, I want to see two hives/acre with sweets. Strawberries were not mentioned, but I feel one hive/acre is generally adequate.

With the virtual total loss of feral (wild) honeybees due to mite infestations, the job of pollination now lies even more squarely on the shoulders of domesticated honey bees that are brought into the orchards. Sure, some wild solitary bees and bumble bees help, but they aren't going to carry the workload.

## Mite Control Strategies

By Gary Thornton

With the change in the Apollo label to allow post bloom applications, I think it is time to revisit European Red Mite and Two Spotted Spider Mite control options. Below are a few of the strategies that growers should consider.

1. Superior oil timed to suffocate the overwintering eggs. Tight cluster is the ideal timing. Ideally this should be applied at no more than 2X. On full sized trees in NW Michigan at that that time of the year a dilute spray would be about 200 to 250 gallons of water per acre. So 2X would be a minimum of 100 gallons per acre. If mite numbers build late in the season, then an adulticide such as Pyramite or Vendex will be needed. Oil remains an important part of a growers spray program. It is the only miticide to which mite resistance will not occur. If left out for too long, San Jose Scale and Lecanium Scale can build to damaging levels.
  - 2) Apollo at petal fall or Savey at pink. Both of these products are ovicides and both sterilize the mites, which in turn prevents further egg laying. If mite numbers are low, either one can be used alone and in most cases should give you season long control. If overwintering egg numbers are high then you should first use oil at tight cluster to reduce the mite pressure. The more leaf area that these products cover the better the chance for season long control of the mites. Understand that these products don't kill the adult forms of mites. They do provide an excellent way to get a biological control system started as they are not harmful to predator mites. Although the label does not restrict their use in back to back years, I would strongly urge you to not use them two years in a row. Resistance can and will occur if overused. Rotate, rotate, rotate!!
  - 3) Agrimek at first cover. If overwintering mites are very high, then oil at tight cluster will help to insure season long control with this product. Agrimek also controls Spotted Tentiform Leafminer.
  - 4) Carzol can be used and is an excellent adulticide, however, it disruptive to predator mites. Carzol also controls tarnished plant bugs and Spotted Tentiform Leafminer adults.
- Growers should attempt to incorporate some of these strategies into their mite control programs and for resistance management they would ideally rotate between them on a three year schedule.

[ACTUAL AND PREDICTED DEGREE-DAY  
ACCUMULATIONS SINCE MARCH 1 1999 \(\\*\)](#)

**Please send any comments or suggestions regarding this site to:**

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