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# Orchard Outlook Newsletter

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*The technical information contained in this Orchard Outlook publication is the result of the combined professional opinions of personnel from AFHRC, AgraPoint and industry.*

## Orchard Outlook Meetings and Newsletter

The last *Orchard Outlook* meeting for the 2006 growing season was held on Tuesday, July 11<sup>th</sup> and I would like to thank all those who attended faithfully throughout May, June and July. We have reached that point in the growing season when disease and insect issues are dwindling, therefore the newsletter will be published periodically for the remainder of the year. This has been a difficult growing year for disease and insect issues and I hope that this newsletter has assisted you in dealing with these issues.

## 2006 Degree Day Accumulations

(Temperature data provided by Jeff Franklin, AFHRC, Kentville)

Table 1.0 Degree day accumulations as of July 18, 2006 taken from Kentville weather data. Degree day accumulations are calculated using the single sine method and are based on a start date of January 1, 2006.

Category	2003	2004	2005	2006	5 year average
Plant development (Base 5°C)	889.3	793.5	821.3	1054.8	855.5
Insect development (Base 10°)	497.5	406.7	417.6	588.8	460.9

## The Good, the Bad and the Ugly of the Season - An Orchard Visit

You are invited to visit Spurr Bros. Farm on Thursday, July 27<sup>th</sup>, at 1:30 PM to discuss some of the problems of the season with Erika Bent and Larry Lutz. Please meet at the pump house on Spa Springs Road.

## **DISEASES**

### **Apple Scab**

One secondary infection period was recorded at Kentville during the past week. This resulted from the 29 hour wetting period that began at 3:00 AM on Thursday, July 13<sup>th</sup>. Kentville recorded 42 mm of rain during this wetting period. In most years growers are able to complete their apple scab fungicide applications in late July. By this time of the year vegetative growth has stopped, the fruit is less prone to infection and there has been a buildup of fungicide residue that will protect the fruit throughout August. A September fungicide is, however, recommended on fresh fruit that will be placed in storage to protect it from storage scab. Wet weather in the fall can result in fruit scab infection that does not show up at the time of harvest but develops on the fruit in storage. I encourage growers to continue with their apple scab fungicide programs up until the end of July and use the cover rate for the final spray. For growers who have a foliage and leaf scab problem you will need to watch the weather during August. If August is wetter than normal then at least one fungicide application would be recommended on blocks with a scab problem. You will definitely need to apply at least one pre-harvest fungicide treatment on these blocks. I have noticed that the spread of scab has slowed these past couple of weeks and with a little cooperation from the weatherman growers should be able to hold it in check.

### **Fire Blight**

As I drive throughout the valley my eyes are constantly on the lookout for fire blight symptoms and I am constantly observing infection in orchards that previously never had fire blight. I have seen it in the backyard of a house with a few apple trees which all the more confirms that the industry will have to deal with this disease on an annual basis. What I have also noted is that Russet is extremely susceptible to this disease. I think it is a toss up between Gala and Russet as to which is the most susceptible. The spread of this disease has started to slow, however shoot infections will continue as long as there is active shoot growth. Mature trees have started to set terminal buds but young trees could continue to grow for a while longer especially if there is regular rain fall. Continue to walk orchard blocks and check for the signs of fresh infections and remove them as soon as they are found.

### **Powdery Mildew**

Mildew will continue to spread until terminal buds have been set thus at least one more fungicide application to slow a mildew problem will be required.

### **Fly Speck and Sooty Mold**

These two secondary diseases are classed as summer diseases and can present problems when growers terminate their fungicide programs too early in the growing season which will likely not be the case for 2006. The application of EDBC class fungicides and Captan during the summer months generally provides adequate control of these fungal diseases. If August is abnormally wet then growers should consider an August fungicide spray to control these diseases. Summer pruning to open the tree to better light penetration will also improve air circulation, which in turn will dry the foliage quicker and reduce infection of the fruit by these two diseases.

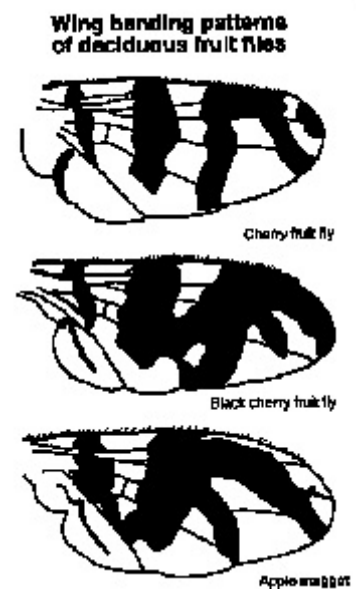
## Brown Rot Control

Fungicide application will be required on stone fruit and as the fruit ripens it becomes more susceptible to infections. Pristine™ was recently granted registration on stone fruit for brown rot, anthracnose, leaf spot, powdery mildew and rhizopus rot on apricot, cherries, plums, peaches and nectarine. Pristine™ is a mixture of the two fungicides Cabrio™ and Lance®. It is recommended that it be used as a preventive spray, applying it before the disease develops. Pristine™ or other group 7 or 11 fungicides should not be applied more than five times a year. Growers should not make more than two sequential applications of Pristine™ before alternating with a fungicide with a different mode of action. The nice thing about this product is that it has a 0 day pre-harvest interval. When applying any of the registered fungicides for stone fruit be sure to check the pre-harvest application interval.

## INSECTS

### Apple Maggot

The treatment period for maggot can begin now and should be based on trap captures. If you have caught one or more maggot flies in a trap then a treatment is required. Check the wing pattern on a captured fly to determine that it is an apple maggot fly and not a cherry fruit fly. Recommended insecticides for maggot are Guthion/Sniper, Imidan, Zolone or Surround. Growers who are planning to use Surround should now be applying this product at a rate of 25-50 kg/ha. The first application should be made with the high rate and repeat applications made every 7 to 14 days using the lower rate. Surround controls maggot with its protective barrier thus if the product is diluted by rainfall then the application interval may need to be reduced to 7 days. A second or third treatment for maggot should be based on trap captures. New maggot captures 7 to 10 days following a pesticide treatment would warrant an additional treatment. Monitor traps until the middle of August.



### Mites

In most growing seasons I observe orchard blocks where the foliage becomes bronzed by mid to late August because of mite feeding. In some cases growers may end up applying a late season miticide after they realize they have a problem however one has to question the payback on a miticide application this late in the season. It is sort of like closing the gate once all the animals have gotten out. Now is the time to determine if there is a potential mite problem and apply a miticide.

### Green Apple Aphid

Continue to monitor mature and young orchards for the buildup of this aphid. On fruiting trees check to see if aphids have moved from terminal shoot growth to the fruit clusters. Green aphid damage on fruit will appear as a red halo and result in downgrading on the packing line. On young trees green aphid feeding on the shoots will reduce growth and deform the shoot. Green aphids will be in orchards throughout the remainder of July and August. Use Admire, Assail or Pirmor. When treating for aphids good spray coverage is required and use a high volume of water especially on thick tree canopies.

## **Pear Psylla**

Check pear blocks for the presence of honeydew which is an indication of a psylla problem. It will be another 4 weeks before pear harvest begins and psylla can ruin a crop within this time period. Timing of treatments can be a bit of an issue at this time because the population is stretched out between eggs, nymphs and adults. Make sure that there are nymphs present when you apply a treatment. Assail or Pyramite would be a good choice where the organophosphate and pyrethroid insecticides are not controlling this pest. Growers should also keep in mind that the activity of pyrethroids is greatly reduced if they are applied when temperatures are above 20°C.

## **HORTICULTURAL TIPS**

### **Summer Pruning**

Summer pruning to control excessive vegetative growth or to improve fruit colour should be delayed until the majority of shoots have set terminal buds. Starting prior to that can result in bud break which produces weak shoots. Prior to summer pruning you should be aware of the fire blight status in your orchards as you could inadvertently spread this disease. The primary objective of summer pruning should be to remove upright shoot growth, limiting cuts to limbs with diameters of 12.5 cm and less. If summer pruning is overdone it can reduce fruit size thus do not cut off this year's terminal shoot growth.

### **Hand Thinning**

Now that 'drop' has been completed, growers should be able to assess crop load and the need to hand thin. Reducing crop load will improve fruit size at the time of harvest. Treat hand thinning as a culling process whereby insect and disease damaged fruit is removed.

### **Orchard Tour**

The tour program has been finalized and will be mailed out shortly. We hope to see you at Scotian Gold (2900 Lovett Road) by 8:30 AM on August 8<sup>th</sup>. The buses will be leaving at 9:00 AM sharp. Coffee will be ready at 8:30 AM. There is a lot to see and we need to stay on time.

### **Tissue and Soil Analysis**

I have observed some orchard blocks where terminal buds were being formed on vegetative shoot growth thus we will soon be reaching the point in the growing season when leaf samples can be collected for tissue analysis. The collection of leaves can begin when terminal buds have set on vegetative shoots. This generally occurs on mature trees during the latter part of July and into early August. Sampling should be completed by mid-August. Nutrient levels in leaf tissue change with the growing season and the desired nutrient levels for apples were based on leaves being collected once the trees have stopped growing (late July to early August in Nova Scotia). Collecting samples prior to, or after, the specified period may give inaccurate nutrient level readings. Annual fertilizer applications should be based on tissue analysis reports and other factors such as pruning, vegetation control and anticipated crop load.

I have included the following information for growers who will be collecting their own samples or giving instruction to hired staff. A sample usually represents a block of orchard 1 to 2 hectares in size. The sample consists of 100 apple leaves collected from 10 trees of the sample cultivar. It is suggested that the trees be marked, and that they represent a typical tree within the block, so that the same trees can be sampled in the future. This will help to eliminate some of the variability in yearly reports.

If there are problem areas within the orchard, then sample trees in this area separately. Ten leaves per tree are collected from the mid-point of this year's terminal growth with terminals being sampled from all sides of the tree. Place the leaf samples in a paper bag (in the past 10 lb brown paper bags were used). The leaf sample needs to be dried as soon as possible after collection, preferably the day of collection, in order to obtain an accurate nutrient analysis. Collecting a soil sample from the block will provide additional information when it comes to determining fertilizer requirements. Soil samples do not need to be collected on an annual basis but should be collected at least once every three years. Two to four soil cores should be taken at the drip line from each of the 10 trees. The soil cores should be mixed and a representative sample placed in a soil box for analysis.

The cost per sample for registered farms is \$11.50 for tissue and \$6.75 for soil and these costs include GST. Boxes and bags need to be clearly identified with the following information: Grower or farm name; mailing address; phone number; farm registration number; orchard block name; cultivar and sample number. Soil boxes can be obtained from the NSDA office in Kentville. Some are also available from the NSFGA office in Blair House.

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