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Bud Development

As you already know, bud development was very slow over the past week resulting from cool temperatures. On Tuesday morning May 22nd, apple buds were at tight cluster to first bloom. In the warmer area of the Valley I did see a few Gravenstein flowers open and one open Idared flower. McIntosh on average was at early pink to bud separation. In comparison to last year, on May 16th king flowers were open on Gravenstain and Idared. Pears ranged from early bloom to bud separation with Bartlett slightly ahead of Clapp's. Sweet cherries were in full bloom as well as peaches in the Greenwich area while Japanese plums were at late petal fall. With warmer temperature forecasted for the end of the week, McIntosh should begin blooming in the warmer areas the later part of this week.

2007 Degree Day Accumulations

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

Table 1.0 Degree day accumulations as of May 21st, 2007 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, 2007.

Category	2004	2005	2006	2007	5 year average
Plant development (Base 5°C)	223.3	182.0	283.6	194.4	211.6
Insect development (Base 10°C)	91.7	46.3	99.4	70.9	71.5

It shouldn't come as a surprise to you to see that degree day accumulations have gone from ahead of average to behind the five year average over the past week.

Frost

Kentville recorded -2°C this morning with temperatures dropping below 0°C just after midnight and staying below freezing until 7 am. The low for Greenwood was also -2°C but the duration of freezing was two hours shorter. Rob Smith reported a low of -3°C for his weather station in Aylesford. All these temperatures were recorded four feet above ground level. These lows should have caused some bud damage but the extent of damage will depend upon the cultivar, stage of bud development and how close the fruit bud is to ground level. A low of -2°C when apples buds are at pink can result in a 10% kill while -4.5°C can kill up to 90%. To check for bud damage cut across the base of the flower and look for browning in the centre of the bud

Apple Scab

One would have thought that given all the wet weather last week, that there would have been one long infection period. This was not the case when the low temperatures and variation of wetting periods within the Valley are taken into consideration. Looking at weather data from three areas within the Valley it is felt that there were two infection periods over the past week. The first infection period began around 7:45 in the Kentville area lasting until 3:30 pm on Thursday the 17th. The average temperature was only 3.5°C and the duration of wetting 27hrs, which places it at a borderline infection. The second infection period ran from Friday morning until late Sunday morning. It appeared that the length of wetting varied from 27 to 39hrs with an average temperature of 11-12°C. The peak period for apple scab infection is from Pink to Caylx so this is not the time to be second guessing infection periods. Keeping the foliage and fruit buds protected against infection period through regular fungicides applications adjusted for rapid bud development should provide clean fruit at harvest. Growers that are using the si fungicides Nova and Nustar should be mixing them with the EDBC or captan broad spectrum fungicides. If applied alone, you run the risk of fruit scab infection.

Apple Scab Spore Release

Dr. Gordon Braun reported that based upon a prediction model, 38% of the overwinter scab spores have now matured. So over the next two to three weeks there should be some heavy spore discharges.

Powdery Mildew

Fungicide application to control both powdery mildew and apple scab should be going on to those blocks where mildew infections were common last year. Refer to last week's Orchard Outlook for options. Young trees are often overlooked and mildew infections can reduce growth. Regular checks of these trees should allow you to head off any serious problems. Mildew can also come on nursery trees thus they should also be checked during June.

Fire Blight

Fire blight should not be an issue until the later part of next week. Temperatures over the next couple of weeks will dictate the risk of blossom infection. We will keep you posted when the risk becomes high.

Brown Rot

As mentioned above, sweet cherry and peach are in full bloom and are susceptible to the blossom blight stage of brown rot. Infected blossoms will wilt, turn brown and persist into summer. Controlling the blossom stage of this disease will help to control the fruit infections. Two to three fungicide sprays during the bloom period should provide control. The number of sprays will depend upon the length of the bloom and amount of wet weather.

Bees

With the apple bloom period just beginning growers should have made arrangements to have beehives placed in their orchards. There has been a lot of media attention given to bee colony collapse in the US and the impact that it might have on their horticultural industry. It is my understanding that we have yet to experience this dilemma however, bee keepers in Nova Scotia did experience hive losses over the past winter. Bee keepers are faced with mite and disease issues as well as pesticides when it comes to maintaining healthy hives. The industry cannot count on native bees to do the job and honey bees will always be needed to ensure for good yields. When given a choice always use pesticides that are less harmful to bees when they might be in the orchard and do not use an insecticide during the bloom period. Your beekeeper is your friend - work with him to prevent bee poisoning.

The general rule for placing hives in an orchard is 2.5 hives per hectare. Placement of hives in an orchard should be delayed until there is lots of bloom to keep them active in your orchard.

Caterpillar Complex

Bud development was very gradual during the past week thus there is still a small window of opportunity to treat for winter moth, pug moth, fruit worm and obliquebanded leafroller, should monitoring indicate that treatment is required. By this weekend there will likely be too much bloom in most orchards for these treatments to go on. The next window of opportunity to treat for these pests will be at calyx.

Tarnished Plant Bug

The same message as above, if monitoring indicates that a treatment for tarnished plant bug is required on the susceptible cultivars such as Gravenstein, Jonagold and Honeycrisp growers will only have the next couple of days to treat Jonagold and Honeycrisp and the pre-bloom window for Gravenstein in some orchards will have passed by Thursday.

Rosy Apple Aphid

The same scenario for this pest as there is still a slight window for treating rosy apple aphid, should monitoring detect a treatable population.

Horticultural Notes

Foliar Nutrient Sprays

Foliar applications of boron can be applied prior to bloom to increase the level of this nutrient in apple trees. Boron plays a role in pollen tube growth and if deficient may have an impact on fruit set and subsequent crop load. A foliar application will be of more benefit on those fruit trees with low foliar boron levels. The benefit would be questionable in orchards with a good boron level. Solubor is still the recommended product for boron sprays. The rate for this product is 5 kg per hectare when applied as a dilute spray. When applied as a concentrate spray the rate per hectare should be cut by half. Soluble spray pouches will not dissolve properly if boron is present in the spray water. If you are using soluble spray pouches when solubor is being applied, pre dissolve the pouches in a pail of water prior to adding to the sprayer. Urea can also be applied pre bloom to increase nitrogen levels in the tree and improve fruit set on trees with low nitrogen levels. The dilute per hectare rate for urea is 18 kg per hectare. This rate should also be cut in half when applied as a concentrate spray. In my travels I do not see many growers that are lacking in nitrogen and calyx might be a better time to apply urea than now. Avoid applying foliar nutrient spray following a frost or during cool wet weather as it may cause fruit russetting.

Fruit Thinning

Provided warmer temperatures occur pears could be at petal by mid to late next week. Amid –thin is still the best thinner to use in Nova Scotia for pear thinning. The recommended rate for Clapp’s favorite is 10 to 12 ppm (400-485 g/ha) and 15 to 20 ppm (600 to 800 g/ha) for Bartlett. Most growers tend to use post bloom thinners for apples however blossom thinners will have a greater impact on return bloom. ATS is the only option at this time for apples and its effectiveness can vary by cultivar. Excessive foliage burn is one of the risks with this product but some growers have been quite successful in using this thinner. ATS should be applied at full bloom at a rate of 33.7 to 42.1 L/ha.

Weed and Grass Control

Last week’s wet weather was good for grass and weed growth and now is the time to be controlling weed growth when orchards will get the biggest growth response to herbicide treatments. Many growers made use of Roundup and 24-D to control row grass and broadleaf growth; however Dr. Mike Hardman points out that the herbicide Ignite is toxic to two-spotted spider mites and so it may be an option for growers who are concerned about controlling this mite.

Upcoming Grower Meetings

Apple Farmers' of Nova Scotia and Scotian Gold Co-op are sponsoring a grafting workshop on spring grafting nursery trees and top working apple trees. This workshop will take place on Thursday May 24th at Orchard View Farm (Dan Gould) 149 Prospect Road, Morristown, starting at 1:00pm. Meet by the large white barn. All producers welcome.

Noon Hour Organic Orchard Walk

The next organic orchard walk to discuss current insects, disease and production issues will take place at noon on Thursday June 7th at the VanMeekeren Farm in Lakeville. Directions to the orchard will appear in the Orchard Outlook the week prior to the meeting.

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