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Fruit Bud Development

Based upon orchard visits Monday and Tuesday I would place apples at the tail end of bloom on the floor of the Valley, past peak bloom for orchards in the higher elevations and peak bloom next to the Minas Basin. The bloom period was well over lapped and short which should result in a heavy set. I noticed that King fruit on Gravenstein were in the 6-7 mm range. Pears are at calyx and set looks good while stone fruit vary from shuck split to beyond shuck fall.

2011 Degree Day Accumulations

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

Table 1.0 Degree day accumulations as of May 30, 2011. All data taken from the Kentville weather station except for observations from April 11th to 28th inclusive which were taken from the Greenwood Airport. Degree day accumulations are calculated using the single sine method and are based on a start date of January 1, 2011.

Category	2008	2009	2010	2011	5 year average	10 year average
Plant development (Base 5°C)	288.6	306.0	377.3	314.2	320.2	284.5
Insect development (Base 10°)	102.6	122.8	152.5	121.4	125.9	109.8

Rain fall for Kentville during the month of June was 170 mm which compares to 29.5 mm in 2010. The 49th year the average was 79.7 mm.

DISEASES

Apple Scab

Good news, there were no apple scab infection periods recorded this past week. The two wetting periods that did occur were not long enough to establish an infection. Yesterday I was collecting leaves from unsprayed trees for apple scab resistance testing. It was no problem to

find scabby leaves and in some cases the infections were quite heavy. If you failed to control scab in the first half of May you should be able to find scab lesions. Spore maturity is now placed at 95% so by next week they should be at or very near to the 100% mark. However, growers would be well advised to stay with cover rates and not length intervals for a while yet. Some infections from May still have yet to show up.

Fire Blight

This past week fire blight infections occurred on Saturday and Monday which you received a notice about. The risk could go up to high on Tuesday if today's temperatures are slightly higher than forecasted. If the risk goes to high and a wetting event occurs, then an infection will take place where there are apple blossoms open. A word of caution for growers that are considering applying Apogee or thinners tomorrow that these products applied with 100+ liters of water per hectare would result in an infection. The forecast is for cooler temperatures for the remainder of the week thus the risk will drop from moderate to low. I will send out a notice tomorrow if the risk goes to high.

Powdery Mildew

The pink to calyx period is the critical period for mildew control. Now that temperatures have warmed up and rain fall has decreased, climatic conditions are more suitable for mildew infections. If you are observing mildew strikes in your orchards and have not applied a fungicide that will control its spread, then you should do so as soon as possible.

Do not forget about mildew on nursery trees. Strikes on one and two year old trees would be noticeable by now. Mildew on new shoot will reduce growth. Apply sulphur, Si or strobilurin fungicide to control mildew in the nursery.

INSECT ACTIVITY

Some apple cultivars are already at the calyx stage of development while others will be there in the very near future. The calyx period is one of the busiest for insect activity and more than one insect may need control at this period. I refer you to Table 1 which lists most of the insect that may require treatment during the calyx, the sampling method to detect these pests and the threshold for treatment. More often than not, more than one insect may require treatment and I refer you to Table 2.

European Red Mite

The calyx period is the period which Agri-Mek at 750 mL/ha plus Superior oil 70 sec at 10L/Ha should go on for European red mite. The closer the application is made to calyx, the better the control. If you were unable to apply a pre-bloom oil treatment this is a good option. The other option is Apollo however it is too early to apply this product because it needs to be timed for the beginning of egg hatch.

Codling Moth Traps

If you do your own monitoring for codling moth, traps could be hung in the near future. There is the odd moth on the wing however no stained catch has occurred to date. Once sustained flight has occurred the bio fix date will be established and the prediction model will be run to determine treatment period.

Pear Psylla

Do not forget to check pear trees for the presence of psylla. The calyx period is a good time to gain control of this pest. Later in the year, the stages of development get spread out and it is harder to gain control. Growers have a wide range of products to choose from, however this pest is likely resistant to the organophosphate and pyrethroid insecticides. Agri-Mek plus 10L of Superior has proven to be an effective season long control for psylla. This treatment needs to be applied now to obtain the best results. Please note that Maestro or Captan should not be applied within 14 days of an oil treatment which complicates the use of Agri-Mek because there are not a lot of options for fungicide treatment for pear scab.

Plum Curculio

This is a beetle that lays eggs in stone fruit from the shuck split to shuck fall period and by harvest time there will be a noticeable fat white grub next to the pit. If you had damage last year there is a high probability that you will have it this year. This pest can be found on plums, cherries and peaches. It would be advisable to apply a second insecticide application 7 to 10 days following the first application where this pest was a problem last year.

Cat-facing of Peach

Plant bug damage to peaches during the shuck fall to first cover stage period, results in misshaped peaches. These peaches often have a cat-face appearance. Shuck fall on peaches will take place shortly after, at which time treatment should take place. Select one of the organophosphate products or pyrethroid products listed in the Stone fruit Management Schedule.

HORTICULTURE

Pear Set and Thinning

I observed what appeared to be heavy set in a block of pears on Monday. There were fairly good pollination conditions during the bloom period and over set could be a problem. Amid-thin has been the most effective thinner for pears in Nova Scotia. Most pears are now past the

petal drop stage which is the most effective period for applying with Amid-thin. If a thinning treatment is required for pears, it should go on as soon as possible. The Amid-thin rate for Clapp's Favorite is 10-15 ppm and Bartlett 15-20. The higher end of these rates would be more effective than the low end, given the stage of fruit development.

Apple Thinning

During the next 7 to 10 days you will need to assess fruit set to determine the need for thinning and products to use. The short bloom period, good overlap of cultivar bloom and good pollination conditions indicate that the set should be heavy and aggressive thinning may be required.

For information on thinners and rates I refer you to:

http://www.extensioncentral.com/eng/index.php?option=com_docman&task=cat_view&gid=142&Itemid=32

This publication contains tables that will help you to determine the amount of NAA, Amid-Thin and maxCel required to obtain ppm at various water volumes. Those growers that received a copy of Charlie Embree and Doug Nichol's report on 2010 thinning trials please look at the table on the back of the publication. This table provides rates and timing for the various thinners.

Contributions and consultations were made in the preparation of this newsletter with the Orchard Outlook Committee

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Table 1 Insect Tresholds

Pest	Sampling method	Susceptible varieties	Thresholds
Stinging Mirids (Apple Brown Bug, Mullein Bug)	Tapping tray - tap 20 limbs	Red Delicious/Spy/Spartan/Jonagold	Total of 8 Stinging Mirids per 20 limbs
Tarnished Plant Bug	Visual and white sticky cards		
Winter Moth	Tapping tray - tap 20 limbs	Any	3 or 4
Speckled Green Fruitworm	Tapping tray - tap 20 limbs	Any	1
Rosy Apple Aphid	Search 3 trees; divide number of living colonies seen by total meters of tree height scanned	Gravenstein/Idared/Cortland	1.0 colony/meter of tree height
White Apple Leafhopper	Scan the underside of 100 leaves near tree trunk	Any	Average of 1 leafhopper/leaf
Pale Apple Leafroller Obliquebanded Leafroller	Check 100 terminals	Any	50 terminals infested (young trees)
European Fruit Tree Borer	Based on traps	Any	Not established
European Apple Sawfly	Based upon traps	Any	Six European apple sawfly per trap if a pre-bloom insecticide has been applied (OMFRA) Three European apple sawfly per trap if no pre-bloom insecticide has been applied

Decision Table 2: Determining the most effective pesticides in order of preference for control of pests at the calyx stage of apples in Nova Scotia (rev. June 2007)

Insect Complex	Products and Rate per hectare	Ratings*and comments
1. Stinging bugs: mullein, apple brown & tarnished plant bug	Actara 160 g, Calypso 145-290 ml, Admire 380 mL, ** <i>synthetic pyrethroids</i>	Actara- 4 ; Calypso- 4 ; Admire- 3 ; Synthetic pyrethroids- 4 but pyrethroids are disruptive to IPM programs;
2. Rosy Apple Aphid	Admire 230mL, Actara 160 g, Assail 70 WP 80-120g, Clutch 140-120g, Beleaf 120-160g or Movento 365-435 ml	Actara- 4 ; Admire- 4 ; Assail- 3 to 4
3. White Apple Leafhopper	Admire 200 mL Calypso 145-290 ml, Assail 80-120 g, Clutch 140-210 g or Sevin XLR 2.3L	Sevin XLR applied for chemical thinning will provide control.** Admire- 4 ; Actara- 4 ; Assail- 4 ; Calypso- 3 to 4 .
4. Rosy Apple Aphid, stinging bugs, White Apple Leafhopper	Admire 380 mL, Actara 160 g, Calypso 145- 190 ml	Each of these products is rated 4 for some of these pests and 3 for others
5. Pale Apple Leafroller, Obliquebanded Leafroller	Intrepid 1.00 L or Confirm 1.00 L Delegate 210-420 g or Success 182 ml	Ratings for OBLR for caterpillar kill are: Intrepid- 4 ; Success- 4 ; Confirm- 3
6. Winter Moth, Fruitworm	An organophosphate (eg Imidan 4.12)	Imidan 4.12 kg or Zolone F 2.0L are the least disruptive to IPM and IFP
7. Stinging bugs, Rosy Apple Aphid, White Apple leafhopper, Leafroller and European Apple Sawfly	Assail 120 g, Calypso 145-290 ml	Each of these products is rated 4 for some of these pests and 2-3 for others
8. Winter Moth/Fruitworm, White Apple Leafhopper and/or stinging bugs	** <i>synthetic pyrethroids</i>	Synthetic pyrethroids are disruptive to IPM programs and their use should be avoided when possible. Not a permitted product in NSFGA IFP program post bloom
9. Winter Moth, Leafroller and Fruitworm	Confirm or Intrepid 1.0L or ** <i>synthetic pyrethroid</i> or an organophosphate (eg Imidan 4.12 kg or Zolone 2.0L)	Synthetic pyrethroids, see above note.
10. European Apple Sawfly	Guthion/ Sniper 2 kg/ha or Assail 120-240 g	

