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Development Stage

Depending upon cultivar and location apple trees were at the calyx to full bloom stage as of Tuesday June 5th. Early fruit set was observed on Gravenstein and McIntosh. Depending on temperatures all apple trees should be at calyx and fruitlet stage by early next week. Pear trees were at calyx and early fruit set was evident. Stone fruit were at shuck split and beyond.

2007 Degree Day Accumulations

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

Table 1.0 Degree day accumulations as of June 4, 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)	284.3	286.4	421.2	307.3	320.5
Insect development (Base 10°C)	105.0	91.9	170.6	125.5	121.7

Apple Scab

Two infection periods were recorded at Kentville during the past week. A 17 hr wetting period starting around 4:00 pm on Friday and lasting into Saturday morning resulted in the first infection period. The second infection period occurred on Monday-Tuesday, June 4-5th as a result of a 23-24 hr wetting period. I observed new scab lesion on unsprayed trees yesterday which were a result of an infection,

14-21 days ago. Now that scab has appeared secondary infections come into play. A shower in Morristown Tuesday evening, around 10PM resulted in a wetting period long enough for a secondary infection. Growers would be advised to check block for scab lesion so that they can take secondary infection into consideration when applying fungicides.

Primary Spore Release

The prediction model for primary scab spore release is now predicting that 91% of the over wintering spores have now matured and been released. Once primary spore release has been completed, which will likely be around mid June, growers will be able to switch to cover rates provided there are no scab lesions on the new foliage.

Fire Blight

The risk factor for fire blight infection has changed from the alert sent out on Tuesday. Maryblyt is still predicting fire blight infections for Wednesday June 6, however Thursday has now dropped to moderate based upon a high of 17°C for Thursday June 7. A wetting event did occur in some areas of the Valley this morning. Streptomycin applied within 12 hours after the wetting event is only about 75% effective in controlling the blossom infections. Streptomycin applied on Tuesday would control Wednesday infection. Growers that applied streptomycin on Monday should reapply it for today's infection because yesterday's heat would have built the level of bacteria back up to an infection level. The rate of streptomycin is 600 g/1000L or 1.5 kg/ha.

Orchard Pests

The calyx period is a very busy time for insect activity in the orchard. I refer you to Table 1 for treatable thresholds and Table 2 for product options for the various pest combinations. Dr. Mike Hardman updated the decision table and has indicated how effective the products are on pests within the combinations that may need treatment.

Table 1 Insect Thresholds

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

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	Pirimor 50 DF 850g-1.7 kg or Admire 230mL, Actara 160 g or Assail 70 WP 80-120g	Actara- 4 ; Admire- 4 ; Assail- 3 to 4
3. White Apple Leafhopper	Pirimor 50 DF 1.7 kg or Admire 200 mL Calypso 145-290 ml or Sevin XLR 2.3L or Assail 80-120 g	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 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 kg or Zolone F 2.0L)	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, and Leafroller	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 Red Mite	Apollo 300-600ml or Agri-Mek 750 + 10 L Superior Oil	Both products are compatible with use of typhs for biological control

* Ratings based on trials in US and Canada: 1- Poor 2- Fair 3- Good- very good 4- Excellent

** Tank mixing Sevin with other insecticides such as Actara, Admire, Assail, or Calypso causes mite flare-ups.

*** Apogee reduces risk from obliquebanded leafroller and green apple aphid

Codling Month

Codling moth treatment period will be later this month and treatment should be based upon trap captures. It is still a bit early to place traps in the orchard but they can go up as soon as bloom is complete. If you need traps they can be purchased from Erika Bent.

Correction to Orchard Management Schedule

Actara needs to be added to the calyx period for mullein bug 315 g/ha and rosy apple aphid 160g/ha.

Stone Fruit

Stone fruit should have been treated for plum curculio at shuck split. Some stone fruit have already passed this stage.

Dick Roger's Insect Report

Dick reports finding newly hatched brown bug, leaf rollers, active stage of red mite, pug moth ready to drop from the trees and newly hatched pear psylla.

Fruit Set and Thinning

Peak bloom of McIntosh occurred late last week with an excellent overlap of bloom which should have resulted in a good supply of pollen from cross pollination. Weather conditions during the bloom period have been good to fair thus given the amount of bloom overset of fruit has likely occurred or will occur. Checking Gravenstein trees that were at calyx on Monday I was able to see set fruit and on pear trees it

was very evident. I am hoping that growers who have pear trees that were able to apply Amid-thin at petal fall because pears are now getting beyond the stage that they can be effectively thinned. Gravensteins are showing signs of fruit set and this is a cultivar that can be difficult to thin especially if you wait until the 12.5 mm stage. An option for Graves would be a treatment of NA5 applied at 5 ppm which was an effective thinner applied at petal fall. In areas where the Graves have passed this stage then NAA + Sevin or Accel + Sevin applied at the 5 to 10 mm would be good options.

Twilight Meeting

There will be a twilight meeting on Monday June 11th to discuss fruit set and thinning. Charlie Embree and Doug Nichols will be on hand to discuss thinning options. The meeting will start at 7:30 PM at John Eisses Honeycrisp block on the north side of the Thorp Road in Centreville. **In the event of heavy rain, this meeting will take place the following evening, Tuesday, June 12th.**

Noon Hour Orchard Walk

There will be a noon hour orchard walk for organic apple producers and those interested in organic apple production. The meeting is being held in VanMeekerens organic Cortland block located in Lakeville on Thursday, June 7th and will get underway shortly after 12:00 pm. Turn north at the corner store in Lakeville continue to you come to a poultry barn on the right and make a right hand turn into the orchards. We will meet next to the pavement and proceed east to the mature Cortland block; this is third block of orchard east from the paved road.

Machinery Day

The NSFGA Production Committee are in the process of arranging an orchard machinery demo day for Saturday June 23 to be held at the farm of Lloyd Dyck's in Waterville from 9:00 am to 12:00 pm. The demo is aimed at apple, grape and high bush blueberry growers. Mark this date on your calendar additional information will be provided in future Orchard Outlooks.

NSFGA Orchard Tour

The NSFGA orchard tour will be held in conjunction with CHC midsummer apple meeting. Please note the change in dates from the traditional date of the first Tuesday after the August Monday holiday. The tour will be held on Thursday August 2, 2007.

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