

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 employees of AFHRC and ADI.

Apple Scab

There were three wetting periods recorded at Kentville during the past week, of which one resulted in a definite infection period. The first wetting period began at 2 am and lasted until 11 am on Thursday, June 27. The average temperature during the 9-hour wetting period was 9°C, which placed the wetting period as a borderline infection period. The second wetting period started at 7 am and lasted until 11 am on Friday, June 28 and was too short for an infection period. The third wetting period began at 9 pm on Friday, June 28 and lasted until 10 am on Saturday, June 29. The average temperature was 18°C and this was classed as an infection period. A fresh scab lesion was observed on July 2, and it is felt that it was a result of a primary infection about two weeks ago. If an orchard check this week does not result in the finding of scab lesions, growers should be able to feel quite confident that they were able to control primary scab infections and can follow a cover spray program for the remainder of the season.

Powdery Mildew

Warmer temperatures during the past week have contributed to the spread of this fungal disease, increasing grower concern about this disease and its impact on the crop. I think that

we all feel comfortable dealing with scab and its impact on tree growth and the crop. However, mildew has always been a minor disease and we do not have the experience when it come to assessing infections, the impact on the crop and controlling its spread. Mildew will continue to spread under warm, humid temperatures. Its spread will slow down when the terminal bud has set and the fruit and foliage become more resistant to infection (late July or early August). Growers that are noticing new mildew infection can protect the foliage against further infection by applying one of the following fungicide treatments at 10 to 14 day intervals. At this time of the season, Sovran would be the product of choice, as it fits into an IFP protocol. Apply Sovran at a 10 to 14 day interval using a rate of 240 g/ha for a light to moderate mildew pressure, and up to 450 g/ha during periods of extreme pressure. These rates of Sovran will provide scab control as well. Nova at 340g/ha and Nustar at 200 g/ha can be used for mildew control. These products will need to be mixed with another fungicide for scab control, as they do not provide effective fruit protection. These two products should not be used more that four times per season. Growers should also note that Nova has a 14-day preharvest interval, Sovran a 30-day preharvest interval and Nustar a 77-day preharvest interval. The other choices of fungicides are Benlate at 550g/ha mixed either with Polyram or Manzate at half rates, Dikar at 6.75 kg/ha, Microscopic Sulphur 19.5 kg/ha or Kumulus DF 22.5 kg/ha. These fungicides are harsher on beneficial insects than the first three choices and can lead to mite problems down the road.

Information on degree days, codling moth, rosy apple aphid, apple maggot and mullein bug is supplied compliments of the 'Integrated Fruit Production' project, Dr. Rob Smith & Michelle Larsen, Atlantic Food & Horticulture Research Centre

2002 Degree Day Accumulations

Table 1.0 Degree Day (DD) Accumulations including July 02, 2002 based on Kentville weather data.

Category	1999	2000	2001	2002	5 year average
Plant development (Base 5°C)	829.0	646.2	558.0	585.2	665.6
Insect development (Base 10°C)	447.1	300.0	269.2	276.4	332.9

Codling Moth (CM)

For CM the treatment threshold is 40 cumulative moth captures, assuming a full crop load. (See the 'Codling Moth Management Decision Table' in the June 26th Orchard Outlook.) CONFIRM has been shown to be highly effective for CM when the 1L/ha rate is halved and applied twice at 7 to 10 day intervals. The first spray should be applied at 211 DD₁₀ (within the next 3 to 5 days). Organophosphate insecticides (ZOLONE, IMIDAN and GUTHION) target 3% CM egg hatch and are recommended for 250 DD₁₀ (within the next 5 to 7 days).

The following table shows degree days accumulated following the 'biofix' from various Valley locations.

Table 2.0 Degree Day Accumulations (base 10 as of **Saturday, June 29, 2002.**)

Morristown	Berwick	Aylesford	Melvorn Square	Wolfville	Kentville
197.7	192.9	203.1	193.5	196.1	199.2

Over the past ten days, there has been an average daily accumulation of 9 degree days, therefore CONFIRM treatments should go on immediately. Organophosphate sprays should be applied later this week. From the 20 commercial orchard blocks in our project, CM trap captures have ranged from 1 to 44 moths per trap (averaging 29 moths).

Rosy Apple Aphid

Populations continue to build, pushed along by the heat. Growers should continue to check their orchards. PIRIMOR or ADMIRE work well at this time; thorough coverage is essential for proper control.

Apple Maggot

Traps should be up a minimum of three per block. See last week's newsletter for particulars. A few flies have emerged in the warmer areas. After first fly captures, growers have a 7 to 10 day window before eggs would be deposited. Organophosphates are our main defense -- consult the Orchard Management Schedules for details.

Mullein Bug

In light of wide-spread damage (regardless of product used) growers may wish to invest in a sex pheromone based trap to get a late summer 'feel' for populations that move back into the orchards in August to deposit over-wintering eggs. Please indicate your interest in ordering a lure and trap (1-2 units per block) by contacting Helen at the NSFGA office at 678-1093.

Green Apple Aphid

Continue to monitor young plantings and mature trees for this insect. In young plantings, if this insect is easy to find, then a treatment is warranted as they can adversely affect terminal growth. On mature trees, some green aphid on the terminal can be tolerated. Growers need to be concerned when green aphid is noted on the fruit cluster, or if a high percentage of terminals are infected. Green aphid will be around for some time.

Red Mite

Hopefully all growers that were planning to use Apollo for mite control have applied this product. In all but the latest areas of the Valley, we have past the optimal period for this product. The next window of opportunity for red mite control will be late July.

Two-spotted Mite

As of yet, no reports of serious problems with this mite, however it is out there and easy to find -- so keep monitoring.

June or July Drop

The June drop, which more often than not occurs in July, started last week. It will be another 7 to 10 days before growers should be able to assess the effectiveness of thinning treatments, and it will likely be mid July before you will be able to determine the need for hand thinning. The bets are for a heavy drop.

Vegetation Control and Water Management

Rainfall for the month of June at Kentville was 45.8 mm, which compares to the 41-year average of 67.5 mm and last year's total of 80.4 mm. We have been receiving some rain, but no good soakings. Does this mean we will experience another drought year? Only time will tell. Growers can, however, take steps to lessen the impact of prolonged dry periods. Vegetation control will reduce the competition for soil moisture. Growers may need to make a second herbicide application to control a flush of weed growth that may have occurred following spring herbicide application. Increasing the width of the herbicide strip may also lessen the impact of drought. Regular orchard mowing should also be conducted. Over the years, orchards that have been mulched have been able to sustain prolonged periods of drought and on many Valley soils, mulch may be as effective as irrigation.

Young Tree Training

Don't neglect your young orchard planting. You have spent a lot of time and money in establishing the planting and your aim is to maximize tree growth. Trees left untied will not put on the terminal growth that tied tree do. Also, movement of these tree in the soil during windy periods could damage roots. Clothespins should also be used to spread new limbs and the terminal growth should be stripped out to one strong terminal.

Deer Damage

I have had one report of deer browsing on newly-grafted trees and deer can cause serious problems in new plantings. If young plantings are not protected by a deer fence, growers should consider hanging a repellent, such as a small bar of soap in every tree or the application of a repellent such as Hinder or Thiram. Thiram 75 wp applied at a rate of 3.5 to 5 kg/ha as a cover spray will control scab and act as a deterrent to deer browsing.

Crop Estimates

I have yet to see an estimate for the size of the 2002 Northern American apple crop, but what information I have received indicates that the crop will only be average to below average. The Eastern and Midwestern US crop will be average to below average for New England; the Hudson Valley/New York 50% of a normal crop; Michigan 50 to 60% of a normal crop; Pennsylvania, spotty crop ranging from very good to below average; Carolinas/Southern Virginia, 80 to 85% of a full crop; Central Virginia 70% of a full crop. Three out of four producing regions in Washington State are reporting good crops at this time. In Canada, no

reports have been made but I have heard of poor crops in Quebec, while the crop in Ontario is variable, depending on the region. The early indications are that the North American apple crop will be below average.

IDFTA Summer Tour

Another successful Summer IDFTA Tour took place in Nova Scotia on June 23-25, which should be seen as a feather in our cap. I can't think of another apple growing region that can boast of hosting the IDFTA Summer Tour three times. We are noted for our hospitality, scenery, orchards that are as progressive as any found in North America, and having the ability to organize and run a great Tour. The Tour was coordinated by a NSFGA committee chaired by Larry Lutz and Lloyd Dyck. As an industry you should feel proud.

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