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Northern Michigan FruitNet 2006 Weekly Update

NW Michigan Horticultural Research Station

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Leelanau Extension Director

April 18, 2006

Welcome to the first FruitNet newsletter for the 2006 growing season.

GROWING DEGREE DAY ACCUMULATIONS AS OF APRIL 17, 2006 AT THE NWMHRS

| Year | 2006 | 2005 | 2004 | 2003 | 2002 | 16yr. Avg. |
|-------|------|------|------|------|------|------------|
| GDD42 | 164 | 194 | 108 | 119 | 150 | 110.9 |
| GDD50 | 65 | 80 | 34 | 49 | 80 | 42.3 |

Growth Stages at NWMHRS (4/17/06—2:00pm)

Apple: ¼" green

Pear: Bartlett: Bud burst

Sweet Cherry: Hedelfingen and Gold: Green tip; Napoleon: Green tip

Tart Cherry: Montmorency: Swollen bud; Balaton: Green tip

Apricot: Bud burst

Plum: Bud burst

Grapes: Chardonnay: Early bud swell

WEATHER

The weather so far in 2006 seems downright cool compared with last year's accumulations at this time, but overall we are ahead of the 16-year average by 20+ GDD, base 50. The forecast is predicting similar temperatures for the remainder of the week.

CROP REPORT

By Nikki Rothwell, District Fruit IPM Educator

In most areas of northwest Michigan, we have not had an apple scab infection where green tissue was showing. However, there is a chance of rain in the latter part of this week (~Thursday or Friday), and spores will surely be discharged with that moisture and continuing warmer temperatures. Make sure to keep an eye on the weather to monitor for spore release and potential scab infection. Check out MSU's new weather-IPM site for more information at www.enviroweather.msu.edu.

As a refresher for apple scab control, I have included a really nice article by **Dave Rosenberger** from Cornell University:

"Most apple growers who successfully controlled apple scab in 2005 can plan to use the same programs in 2006. There have been no major changes in registrations, and no new fungicides have been registered for scab control in the past year, so this article provides a quick review of strategies and fungicide options for early season apple disease control.

Orchards where the SI fungicides are less effective against apple scab must be managed using more conservative pre-bloom spray programs than might otherwise be recommended. A conservative approach is needed because we have no fungicides that can completely arrest a developing scab epidemic in SI-resistant orchards. If scab gets started before bloom in SI-resistant orchards, the remainder of the season can turn into a scab-control nightmare should seasonal weather patterns favor scab development.

To ensure that no primary scab will become established, the scab control program in SI-resistant orchards should include all of the following:

1. The first fungicide must be applied *BEFORE* the first scab infection period after bud break. (A copper spray can count as the first fungicide.) Getting that first spray applied before the first infection period is essential even for SI-resistant orchards that were "scab-free" last year.

2. Any time during the pre-bloom period when rains are predicted and the adequacy of fungicide residues from earlier sprays is questionable, fungicide coverage should be renewed *AHEAD* of the rains.

3. Mancozeb at 3 lb/A applied at roughly 7-day intervals will usually provide good scab control in a clean orchard, but in SI-resistant orchards the rate/A for mancozeb should be increased to 4.5-6 lb/A during the critical period between tight cluster and petal fall. Or combinations of mancozeb at 3 lb/A plus 1.5-3 lb/A of Captan 50W (or an equivalent amount of another captan formulation) can be used. Or Sovran or Flint can substituted for the higher rates of contact fungicides in one or more sprays after tight cluster.

4. If heavy rains remove fungicide residues and wet weather is expected to continue unabated for several more days, it may be necessary to apply mancozeb or captan in the rain to prevent infections from becoming established.

Following are general observations on usefulness of the common scab fungicides:

1 - Mancozeb fungicides at 3 lb/A are probably still the cheapest option for pre-bloom scab control, but they must be applied at 5-7 day intervals during rainy weather rather than at 10-day intervals as was common with SI+mancozeb combinations.

2 - If one compares 3 lb/A of Captan 50W (or the equivalent of another formulation) with 3 lb/A of mancozeb, captan will almost always provide better scab control than mancozeb. Captan usage is limited, however, by captan's higher pricing, its incompatibility with oil sprays, and its lack of activity against rust diseases. Where incompatibility with oil is not a factor, combinations of mancozeb and captan provide the "best of both worlds" in pre-bloom scab sprays.

3 - Dodine may still work in some orchards, but don't trust it unless you've had leaf samples tested for fungicide resistance. I've seen too many crop failures that resulted from just one or two early season applications of dodine in dodine-resistant orchards.

4 - Vanguard and Scala fungicides usually provide scab control similar to that provided by mancozeb at 3 lb/A. However, Vanguard and Scala can both provide 48-60 hr of post-infection activity against apple scab (counting from the start of the wetting period), whereas mancozeb sprays will provide only 18-36 hr of "kickback" activity when counting from the start of wetting periods, with the longer duration limited to colder infection periods. Vanguard and Scala do not redistribute well, so combinations of mancozeb at 3 lb/A plus either 3 oz/A of Vanguard or 5 fl oz/A of Scala are recommended when these products are used. A 2005 trial in the Hudson Valley verified that Vanguard and Scala used at these rates will still provide at least 56 hr of postinfection activity.

5 - Flint and Sovran are good protectant fungicides that provide better scab control than mancozeb or captan used alone. They can also arrest spore production if visible scab lesions are present in trees. However, they will not stop epidemics as effectively as SI fungicides did in SI-sensitive orchards if they are applied after scab infections are established.

6 - Most NY apple orchards should still be receiving an SI fungicide in combination with either captan or mancozeb at petal fall and first cover. SI's applied at that timing will provide significant suppression of powdery mildew as well as post infection activity against any scab and rust infections that may have slipped through during the prebloom and bloom sprays. Using SI's in two applications after bloom should minimize selection pressures for SI-resistant scab while still maximizing the benefits that SI's provide for apple disease management programs".

This issue and past issues of the weekly FruitNet report are posted on our website at:
<http://www.maes.msu.edu/nwmihort/faxnet.htm>

[ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1, 2006](#)

Please send any comments or suggestions regarding this site to:

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Leelanau Extension Director

April 25, 2006

Growing Degree Day Accumulations as of April 24, 2006 at the NWMHRS.

| Year | 2006 | 2005 | 2004 | 2003 | 2002 | 16yr. Avg. |
|-------|------|------|------|------|------|------------|
| GDD42 | 261 | 258 | 159 | 156 | 191 | 156.3 |
| GDD50 | 115 | 113 | 55 | 64 | 103 | 61.8 |

WEATHER

Warm weather the past two weeks has advanced tree development beyond normal. Precipitation has been below normal for April.

GROWTH STAGES at NWMHRS (4/24/06—3:00pm)

Apple: Tight cluster

Pear: Bartlett: Green cluster

Sweet Cherry: Hedelfingen and Napoleon: 1st bloom; **Gold:** Early white bud

Tart Cherry: Montmorency: Bud burst; **Balaton:** Late bud burst

Apricot: Early petal fall

Plum: Green cluster

Grapes: Chardonnay: Late bud swell

CROP REPORT

Apple: A wetting event was reported for Saturday, April 22nd that resulted in a moderate scab infection period in the Traverse City area. Pest insects are still in low numbers, but we have spotted flying spotted tentiform leaf miners (STLM) in the past week. We have also seen mite eggs here and there in apple.

Sweet cherry: Not much to report for pests on sweet cherries, except that the time has passed for copper use for bacterial canker. We have been noticing terminal dieback in sweet cherries, and we believe it is related to the drought stress of last summer followed up by winter injury. This injury may be especially noticeable in sweets that were sprayed with Ethrel under hot temperatures, which resulted in early leaf loss and gummosis. One concern is that a heavy crop of fruit produced on spurs depends in part on leaves from last year's terminal growth to provide adequate carbohydrates to size fruit. If fruit set is heavy, death of terminals may result in smaller fruit because the cherries just do not have the resources from those important terminal leaves.

Growers should try to minimize stress factors in 2006 in all orchards exhibiting symptoms of excessive dieback this spring. This should include: 1) Maintain a good nutrition program. Apply N at higher than normal rates to help stimulate strong growth this season. 2) Maintain a spray program that will keep leaves on trees into the fall. 3) Avoid further Ethrel damage this season.

Tart cherry: No insects or diseases at this point for tart cherries.

Grape: We have seen many cutworms in grapes in the region, and we have witnessed missing or hollowed out buds in warmer vineyards where buds are beginning to swell. Cutworms feed at night and spend the day at the base of the vine. There have been reports of major flea beetle outbreaks in SW Michigan and also in New York. These insects are very active on warm days (65-70^o F), and they can be seen mating or feeding on grape buds. Flea beetle damage is similar to cutworm damage. As flea beetle populations seem higher than normal in other areas and cutworm seem particular active this year, vineyard managers should be looking for both of these pests.

Note for non-bearing orchards: Cutworm populations have been high in some vineyards in the area. Although these larvae are not a common pest of orchards, they can be problematic in young, non-bearing trees in some years. These pests are nocturnal, and unless you are out with a flashlight at night, growers should be on the look-out for feeding damage on the buds at a more convenient hour.

2006 FRUIT INSECTICIDE REGISTRATION UPDATE

John Wise, Rufus Isaacs, and Larry Gut

This is a summary of insecticide/miticide label additions and corrections to the [2006 MSU Fruit Management Guide](#). Agri-chemical labels and regulations change quickly so use this information within the context of each compound's actual label. To order a copy of the guide, call your local extension office or the NWMHRS.

Insecticide additions, label changes, restrictions

| New labeled insecticide descriptions: | | | |
|--|-----------------------------------|--------------------------|--|
| Compound | Label Changes/Restrictions | Crop | Target pests |
| Admire Pro | New use | grape | leafhoppers, mealybug, <i>phylloxera</i> |
| | | cranberry | white grubs |
| | | blueberry | aphid, white grub, Japanese beetle |
| | | strawberry | aphids, white grubs |
| Baythroid XL | New use | pome fruits | codling moth, leafrollers, hoppers |
| | | stone fruits | OFM, leafrollers, cherry fruit fly |
| | | grape | berry moth, flea beetle, hoppers |
| Danitol 2.4EC | Federal label (State pending) | blueberry | fruitworms, Japanese beetle |
| FujiMite 5EC | New use | pome fruits | mites, leafhoppers, psylla |
| | | grape | mites, leafhoppers |
| Oberon 2SC | New use | strawberry | spider mites |
| Onager 1EC | New use | stone fruits | spider mites, European red mites |
| Proaxis 0.5CS | New use | pome fruits | codling moth, leafrollers, hoppers |
| | | stone fruits | OFM, leafrollers, cherry fruit fly |
| Venom 70SG | Change from 20SG to 70SG | grape | leafhoppers, thrips, mealybug |
| Zeal 72WDG | New Use | grape | spider mites, European red mites |
| Imidan 70W | REI change (new product only) | pome fruits – 72 hr REI | |
| | | stone fruits – 72 hr REI | |
| | | blueberry – 24 hr REI | |
| | | grape – 14 day REI | |

Admire Pro (imidacloprid) is a new "thixotropic gel" formulation of this soil-applied insecticide and is registered for use in blueberry, strawberry and cranberry for control of aphids, Japanese beetles and the white grub complex. It is also labeled in grapes for the control of leafhoppers, mealybug and phylloxera. Admire should be applied to moist soil and irrigated in with 0.5 to 1 inch of irrigation within 24 hours of treatment, or by chemigation to the root zone. Admire Pro contains 4.6 lbs of active ingredient per gallon of formulation product, and allows a maximum application of 14 oz per acre.

Baythroid XL (Cyfluthrin) is a new formulation pyrethroid insecticide registered for use on pome fruits, stone fruits and grapes for control of a broad spectrum of insect pests. This material is highly toxic to mite predators and should be used carefully to prevent mite population buildup. Baythroid XL follows the label rates of Baythroid 2E is restricted to two applications per year and a total of 2.8 oz per season.

Danitol 2.4EC (fenpropathrin) is a pyrethroid insecticide newly registered (Federal label, State label pending) for use on blueberries for control of fruitworms, leafrollers, blueberry maggots and Japanese beetles. This material is also highly toxic to mite predators and should be used carefully to prevent mite population buildup. Danitol is expected to have a 3-day PHI and 24-hr REI for use in blueberries.

FujiMite 5EC (fenpyroximate) is an insecticide/miticide registered for use in apples, pears and grapes. FujiMite works as a contact miticide/insecticide that provides good knockdown and residual control of mites, leafhoppers and psylla, and should be applied when pest populations are beginning to build and before they reach economic thresholds. It is effective on a broad spectrum of mite pests (European red mites, two-spotted spider mites, pear rust mites, apple rust mites), but requires thorough coverage to ensure pests will contact the product. FujiMite 5EC has good in-season flexibility and is restricted to two applications per season and a total of 2 pints per acre per year .

Oberon 2SC (spiromesifen) is an insecticide/miticide labeled for use in strawberries for control of spider mites and white flies. Oberon is part of a new chemical class called tetrionic acids and has a novel mode of action characterized as a lipid biosynthesis inhibitor (LBI) and is active by contact to all life stages. Oberon 2SC is restricted to three applications per season and 48 fl oz per acre per year.

Onager 1EC (hexythiazox) is a new formulation miticide (same active ingredient as Savey) for control of European red mites and two-spotted spider mites on stone fruits. It is an active mite ovicide and larvacide, providing 10+ weeks of control depending on mite pressure. Control is achieved when eggs/larvae come into direct contact with the spray or contact with treated plant surfaces. It can be used after bloom up to a 28-day PHI. It may be applied **only** once per year.

Proaxis 0.5CS (gamma cyhalothrin) is a microencapsulated synthetic pyrethroid insecticide that is labeled for use on pome and stone fruit crops. It is labeled for control of a broad spectrum of sucking and chewing pests, including leafrollers, leafhoppers, plum curculio, scarab beetles and internal feeders like codling moth and Oriental fruit worm. This material is also highly toxic to mite predators and should be used carefully to prevent mite population buildup. Proaxis is restricted to 1.6 pints per acre per season.

Venom 70SG (Dinotefuran) is a new neonicotinoid insecticide registered on grapes for the control of

Venom 70SG (acetamiprid) is a new neonicotinoid insecticide registered on grapes for the control of leafhoppers, grape berry moth, multi-colored Asian lady beetle and mealybug. Insecticide application rates in the 2006 *Fruit Management Guide* are for the Venom 20 SG formulation, which are different than the current 70 SG label. For foliar applications Venom 70SG should be applied at 1-3 oz/acre, whereas soil application rates are 5-6 oz/acre to control mealybug, leafhoppers and thrips. Soil applications should be applied to moist soil and irrigated in, or by chemigation to the root zone. Venom foliar applications allow up to 6 oz per acre per season with a 1-day PHI, and soil treatment is restricted to 1 application and a 28-day PHI.

Zeal 72WDG (etoxazole) is a growth regulator miticide newly labeled for use in grapes for control of mites. Zeal is primarily active against major tetranychidae mites (spider mites and red mites) in the egg and larval stages of growth, providing control ranging from eight weeks to full season depending on mite pressure, the extent of tree vegetative growth and predator mite populations. Zeal controls susceptible mites by inhibiting the molting process through disruption of the cell membrane. Since Zeal's activity depends upon mite development, control may not be observable for several days. Etoxazole exhibits pronounced translaminar movement in plant leaves, enhancing activity when the pest is located on the undersides of leaves. Zeal is not known to have risk of cross-resistance with other currently registered miticides. Zeal is restricted to one application per acre per season.

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