Northern Michigan FruitNet 2013
Northwest Michigan Horticultural Research Center

Special Update

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THINNING POINTS 2013

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This 2013 thinning season factors are unique, as always, and will need consideration before performing thinning. Plan on making multiple thinning treatments this year to achieve your target cropload. Plan on starting you thinning early at petal fall. We currently have the potential for a very large crop. This has trigger a biennial bearing cycle (on 2013, off 2014, on 2015 and on). We need to break this potential biennial cycle by thinning this crop down and then use summer NAA to promote return bloom for 2014.

We had no crop last year, which has produced a "green" snowball bloom this 2013 year. No crop last year will strengthen set this year. The "green" bloom refers to abundant amount of leaves that are present on the trees before and during bloom. These leaves will provide additional strength to setting fruitlets. We expect a heavy set this year. Last year, hot and very droughty weather has caused some minor reduction in bloom on limbs, trees and on a few varieties such as Red Delicious, Empire. This is the exception and only in minor areas.

Frost damage is present in some areas. Frost occurred on May 13 with minimum temperatures at 24oF. Excellent sites and frost-protected areas have almost no frost damage. These areas need to be thinned aggressively. Bee activity, pollination and even fertilization appear to be good. Temperatures for the next 7 to 10 days are forecasted to be warm, ideal for excellent fruit set.

Thinning Factors:

1. No crop 2012 (more resistant to thinning 2013).
2. Hot dry 2012 summer (can weaken 2013 bloom, we don't expect weak 2012 flowers).
3. Biennial bearing cycle triggered, we must break the cycle.
4. Strong snowball bloom, many large showy flowers.
5. Abundant leaves ("green" snowball bloom, strengthens set).
6. Good bee activity, predicted good pollination and fertilization.
7. Frost on May 13, near 24oF in unprotected areas (access your own bud strength).
8. Good sites and frost protection (helicopters, wind machines, sprinklers and bale burning) have almost no damage and will need aggressive thinning approach.
9. Some minor areas of reduced bloom (insignificant).
10. Weather forecasts are for warm temperatures over the next several days and colder during the 10 mm stage.
11. Leave CHECK trees.
12. "Nibble" thinning, thin early and often to gradually reduce the crop.
13. Promalin Treatments
14. Multiple Thinning.

Thinning Approach: Nibble Thinning

"Nibble" thinning is a strategy to chemically thin often and multiple times throughout the bloom and fruitset window. Technically "nibble" thinning begins with blossom thinning (Lime-Sulfur & Oil or ATS). This treatment seems to be less successful in Michigan and thus is not practiced very much. The real first thinning period occurs at petal fall to 6 mm. At petal fall trees are not very sensitive to thinning, most years no significant thinning occurs. This year with warm temperatures forecasted for the next several days, some good thinning is predicted, perhaps perfect thinning. This first thinning will nibble off perhaps up to half of the target thinning of this excessive cropload. Usually additional thinning will be required at the 10 mm stage. The next chance to thin will occur at the 10 to 12 mm and the last will be at 18 mm. This process of reducing the crop gradually will result in a better consistent thinning with a reduce risk of over-thinning or under-thinning.

Other Considerations:

1. **Oil** can be added to thinners to increase the thinning by 10%.
2. **Oil** is not compatible with Captan and Sulfur. Where this is a concern, use a surfactant instead of oil.
3. Agri-Mec & **Oil** can cause additional thinning when mixed with thinners.
4. Cloudy warm weather will increase fruit drop.
5. Sunny cold weather will increase set.

Table 1. Thinning Materials and Recommendation for Multiple Thinning.

Variety		Petal Fall to 6 mm	10 to 12 mm Stage		Variety Comment
			If needed	If more aggressive thinning is needed.	
	Kings dead	Sevin or NAA 10 ppm	Standard Rates		
Frost Damage	**Significant Damage**	Wait to access set.	Tops only, mild rates	Standard Rates	
	Cortland, Gingergold, Idared, Jonathan, Jonagold, McIntosh	Use Standard Rates Sevin or NAA 10 ppm	NAA 10 ppm	Sevin + NAA 5 ppm	Easy to thin
Easy to thin varieties	**Jonathan w/ MaxCel**	Sevin	Sevin	Sevin + MaxCel 50 ppm	Small Fruited Easy to thin
	Empire	Sevin + MaxCel 100 ppm	Sevin + MaxCel 100 ppm	Sevin + MaxCel 150 ppm	Small Fruited
	Honeycrisp	Sevin + NAA 10 ppm	Sevin + NAA 10 ppm	Sevin + NAA 15 ppm	Tend to set multiple fruits/cluster, biennial
Intermediate to thin varieties	**Reds**	Sevin + MaxCel 100 ppm	Sevin + MaxCel 100 ppm	Sevin + MaxCel 150 ppm	Biennial, Sensitive to NAA
Difficult to	**Gala**	Sevin + MaxCel 100	Sevin + MaxCel 100	Sevin + MaxCel 150	

thin varieties		ppm	ppm	ppm	
	Goldens, Paulared	Sevin + NAA 10 ppm	Sevin + NAA 15 ppm	Sevin + NAA 15 ppm	Biennial
	Rome	Sevin + NAA 10 ppm	Sevin + NAA 15 ppm	Sevin + NAA 20 ppm + 1 qt Oil	Tend to set multiple fruits/cluster.
	Fuji	Sevin + MaxCel 100 ppm	Sevin + MaxCel 150 ppm	Sevin + MaxCel 150 ppm + 1 qt Oil	Biennial, Sensitive to NAA

Consider Sevin + NAA Combinations			
Variety / Materials	Rate	Timing	Comment
Golden Delicious			
Sevin + NAA	1 + 10 to 15 ppm	10 to 12 mm	Difficult to thin. Return bloom.
Sevin + 6-BA	1 + 100 ppm	10-12 mm	If fruit size is a problem, switch to 6-BA.
Rome			
Sevin + NAA	1 + 12 to 15 ppm	8 to 15 mm	Tends to set multiple fruits per cluster.
Honeycrisp			
Sevin + NAA	1 + 7-8 ppm	8 to 15 mm	Tends to set multiple fruits per cluster. Return bloom.
Paulared			
Sevin + NAA	1 + 10 to 12 ppm	8-10 mm	Difficult to thin, return bloom
Consider Sevin + 6-BA Combinations			
Red Delicious			
Sevin + 6-BA	1 + 100 ppm	8 to 10 mm	NAA cause pygmy's, Return bloom, difficult to thin.
6-BA or Sevin	100 ppm or 1 qt	8 to 15 mm	If fruit set is light, or frosted.
Fuji			
Sevin + 6-BA	1 + 100 ppm + Oil	8 to 10 mm	NAA cause pygmy's, Return bloom, difficult to thin.
Jonathan			
Sevin + 6-BA	1 + 50 to 75 ppm	10 to 12 mm	Easy to thin, small fruit variety.
Empire			

Sevin + 6-BA	1 + 100 ppm	8 to 10 mm	Thin early, Easy to thin, small fruit variety.
Sevin	1	Later	If additional thinning is needed.
Gala			
Sevin + 6-BA	1 + 100 ppm	8 to 12 mm	Difficult to thin, small fruit variety.
Sevin + NAA	1 + 15 ppm	15 mm	If late.
Consider NAA			
Idared			
NAA	10 to 12 ppm	8 to 12 mm	Self thinning, large fruit size.
Gingergold			
NAA	8 to 10 ppm	8 to 12 mm	Thins easily.
McIntosh			
NAA	10 ppm	8 to 12 mm	Tend to get large and soft if over-thinned.
Jonagold			
NAA	8 to 15 ppm	8 to 12 mm	Large fruit, return bloom.
Honeycrisp young trees			
Sevin	1	8 to 12 mm	Large fruit, return bloom. Hand Thin, pick off larger fruitlets?
Braeburn			
NAA	8 to 12 ppm	12 mm	Easy to over-thin.

Consider applying a Petal Fall thinner to start reducing this year's predicted heavy set.
Use the same rates and materials as you would use at 10-12 mm.

WEBSITES OF INTEREST

Insect and disease predictive information is available at:
http://enviroweather.msu.edu/homeMap.php

60 Hour Forecast
http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc

Information on cherries is available at the new cherry website:
http://www.cherries.msu.edu

Fruit CAT Alert Reports have moved to MSU News
http://news.msue.msu.edu