

# Northern Michigan FRUITNET'99

## *Weekly Update*

**James E. Nugent  Gary E. Thornton  William M. Klein**
**NW Michigan Horticultural Research Station**
**Michigan State University**

**August 10, 1999**

**Weather:** The season continues to be very wet, with 0.95" of rain this past week at the NWMHRS. A storm with high winds hit the area on July 31, with highest winds in the Northport vicinity. Since June 28 at the NWMHRS we have recorded 10.27", with precipitation being recorded on 24 of 43 days! It can't get much better than this for growing most agricultural crops, as well as most fungal diseases!

### Growing Degree Days:

| | 1999 | 1998 | 1997 |
|---|---|---|---|
| **DD42** | 2686 | 2734 | 2187 |
| **DD50** | 1760 | 1778 | 1404 |

**INSECTS & DISEASES**

**Tart cherry** harvest concluded last week. Tart cherry growers hopefully applied a post harvest application of Bravo. Growers with **cherry leaf spot** problems should consider two post-harvest sprays, due to a combination of the early harvest, amount of rain, and multiple infection periods. Leaf spot continues to show up in sweet cherries where no post harvest applications were made. Most **sweet cherries** should receive a post-harvest treatment.

In **plums, apple maggot** may need control this year. Pressure is heavy; high trap catches are reported. **Brown rot** pressure in plums is also higher than in recent years.

**Peaches** have a high incidence of **split pits** this year, as a result of the environmental conditions that we have had this season. Rapid growth at the time of pit formation causes the fruit to have a split pit. Light crops, with large fruit, will also increase the incidence, as will the genetics of the variety. Red Haven is one variety prone to split pit. **Brown rot** pressure is high.

**Apples** are sizing well. **Apple maggot adults** continue to move into commercial apple orchards. Moist conditions have allowed for constant emergence of this pest. **Codling moth** trap catches rose only slightly this week. I don't believe we have seen the peak flight for the second generation yet. Many apple orchards have excellent biological control of mites so far. Mite predators have been plentiful this season. **Potato leaf hoppers** continue to infest young apples. Guthion and Imidan are the two best controls for this pest. Provado will only control them for a short time. Potato leaf hopper injury should be dissipating quickly as terminal buds set**. Spotted tentiform leafminer** adult trap catches remained high this week. Tissue feeding mines from this generation are present and more will likely show up due to high adult catches. Growers with an average of 2 mines or more per leaf or more should consider an application of Provado to prevent additional mines from showing up.

**MISCELLANEOUS**

**Leaf Sample Window Closing**
By Bob Tritten, Genesee Co. MSUE

The nutritional health of tree fruits is best assessed by measuring the concentration of nutrients in plant parts. These nutrient concentrations are a direct measure of the nutritional status of the crop. In contrast, soil tests only estimate the ability of soils to supply nutrients and may not predict actual nutrient levels in the crop.

The window for sampling leaves for tissue analysis is closing towards the middle of this month. Leaf samples are best collected during July through mid August. The sampling procedure is fairly easy. Simply collect 100 leaves that are fully expanded and from the middle of the current season's growth. Do not sample spur leaves or leaves damaged by insects, disease, wind or abrasion. Remove the leaves by pulling down toward the base of the shoot so that the stem remains on the leaf. If a strip of bark remains attached to the leaf, it is most likely too early to do leaf sampling. Collect leaves from as many different plants as possible throughout the variety or sampling area. Use leaves that can be reached from the ground from all sides of the tree. Once collected, simply lay the leaves out on a sheet of paper and allow them to dry. Once dry they can be placed in a paper bag with some holes punched along the edges so the leaves will continue to dry and not mold.

Leaf samples can then either be sent directly to the lab at MSU or taken to your local Extension Office. The address for the lab is: MSU Soil Testing Laboratory, Plant and Soil Science Building, Michigan State University, East Lansing, MI 48824. Please pre-pay with a check for $20.00 for each sample, payable to Michigan State University. Samples taken to the County Office need the same procedure. Please also include the variety of the sample and the age of the tree.

Please call your local Extension Office or the NW MI Horticultural Research Station to request the appropriate form to enclose with your sample.

**Northwest Michigan Horticultural Research Station Annual Fall Open House**

The NW MI Horticultural Research Station Open House and Equipment Show will be held on Thursday, Sept. 2nd. The equipment display area will open at 1:00 p.m. There will be a program from 2:15 until 3:00 p.m. to commemorate the 20th anniversary of the Research Station. Sprayer demonstrations will begin at 3:45 p.m. A social time, beginning at 5:30 will be followed at 6:30 by a pig roast, sponsored by the Leelanau County Horticultural Society. Tickets for the pig roast will be available at the door for $15. The evening will conclude with a short program conducted by the Leelanau Horticultural Society. Everyone is invited to attend!

**Answers To Questions About Sovran and Cherries**

In experimental trials conducted in the United States between 1996 and 1998, **Sovran® fungicide** (*a.i. – kresoxim methyl*) has demonstrated excellent activity against cherry powdery mildew and cherry leaf spot. These studies were conducted on Bing and Montmorency cherries. No phytotoxicity was observed in any of these trials.

There were some instances of phytotoxic symptoms on a relatively small number of sweet cherry varieties such as Van, Sweetheart and Summit in Europe after exposure to kresoxim-methyl. These observations were made on cherry varieties that were sprayed directly; symptoms were less pronounced when sensitive cherry varieties were exposed to drift. There are no indications that spray tank contamination with **Sovran** has caused injury on cherries. BASF is in the process of investigating the crop safety of **Sovran** on cherry varieties in the U.S. in controlled phytotoxicity trials.

Preliminary results from these studies confirmed previous observations that numerous U.S. varieties had no phytotoxicity problems. These varieties included: ***Bing, Brooks, Cashmere, Gold, Hardy Giant, Hartland, Hedelfingen, Hudson,***

***Kristin, Lapins, Lambert, LJ 436, Montmorency, Napoleon, Nelson Black Sweet, Rainier, Royal Ann, Sam, Stark Crimson, Stella, Sue, Tehranivee, Tulare, Ulster, Vega, Vic, Viscount, Windsor.***

The following varieties showed minor to moderate phytotoxicity following application of **Sovran** at the highest proposed label rates: ***Cavalier, Coral Champagne, Emperor Francis, Royalton, Schmidt, Summit, Viva.***

The following varieties showed severe phytotoxicity following application of **Sovran** at the highest proposed label rates: ***Somerset, Sweetheart, Valera, Van, Vandalay***. These varieties may also be injured by spray drift containing **Sovran**.

On all sensitive varieties the injury manifested itself as leaf burning. Affected trees resumed growth and produced normal foliage after exposure to **Sovran**. As leaves matured, they became less sensitive to **Sovran**. Fruit injury by **Sovran** has not

foliage after exposure to **Sovran**. As leaves matured, they became less sensitive to **Sovran**. Fruit injury by **Sovran** has not been observed in any trial in any variety tested, including those varieties that showed leaf burn.

Supporting studies indicated that the injury risk from spray equipment used to spray **Sovran** was negligible when spray equipment was thoroughly cleaned prior to using it on sensitive cherry varieties.

Based on the results to date, BASF recommends the following use directions in areas where cherries are grown:

- do not apply **Sovran** near cherries of varieties ***Somerset, Sweetheart, Valera, Van,*** and ***Vandalay***
- avoid exposure of cherry varieties ***Somerset, Sweetheart, Valera, Van,*** and ***Vandalay*** to spray drift containing **Sovran**.
- thoroughly rinse spray equipment, including the inside of the spray tank, hoses and nozzles, after spraying **Sovran** and before using the same equipment in cherries that are sensitive to **Sovran**.

BASF Corporation has information that shows **Sovran** is not phytotoxic to most cherry varieties grown in the U.S. BASF is continuing to collect data to determine the safety of **Sovran** on cherry varieties grown in the U.S. The outcome of these ongoing studies will be released as soon as results are available.

Sovran is a registered trademark of BASF Corporation


Rev. 5/28/99

**NW Michigan Horticultural Research Station**
**Insect Trap Count Averages - 1999**

| DATE | Codling Moth | Spotted Tentiform Leaf Miner | Lesser Peach Tree Borer | American Plum Borer | Oblique Banded Leafroller | Grape Berry Moth | Greater Peach Tree Borer |
|---|---|---|---|---|---|---|---|
| **5/18** | 0 | 660 | 8 | 30 | | | |
| **5/24** | 0 | 88 | 1.3 | 14.3 | 0 | | |
| **6/1** | .6 | 85 | 17 | 4.6 | 0 | 9 | |
| **6/8** | 2 | 15 | 17.3 | 2.7 | 0 | 7.7 | |
| **6/14** | 1 | 342 | 11 | .3 | 7 | 4.3 | 6 |
| **6/21** | .33 | 511 | 10 | 0 | 2.3 | 1 | 5 |
| **6/28** | .75 | 455 | 6.3 | .75 | 2.3 | 16.3 | 1.6 |
| **7/5** | 0 | 327 | 7.3 | 2.6 | 0.3 | 2.3 | 1.6 |
| **7/12** | 0.3 | 274 | 6.6 | 3.6 | 7.6 | .3 | 3.6 |
| **7/26** | 0.3 | 233 | 4.6 | 11 | 1 | 5 | 4 |
| **8/2** | 2.3 | 570 | 7.3 | 4.3 | 1.6 | 35 | 4.6 |
| **8/9** | 4.3 | 396 | 1.3 | 3.3 | 0.6 | 15 | 3.3 |

**NW MI Horticultural Research Station**
**Growing Degree Day Accumulations for July 10 - Aug. 9, 1999**

| Date | Max | Min | GDD 50 | Total Base 50 | GDD 42 | Total Base 42 |
|---|---|---|---|---|---|---|
| 7/10 | 68 | 55 | 11.5 | 1134.95 | 19.5 | 1820.54 |
| 7/11 | 78 | 52 | 15 | 1149.95 | 23 | 1843.54 |
| 7/12 | 81 | 55 | 18 | 1167.95 | 26 | 1869.54 |
| 7/13 | 81 | 60 | 20.5 | 1188.45 | 28.5 | 1898.04 |
| 7/14 | 79 | 64 | 21.5 | 1209.95 | 29.5 | 1927.54 |
| 7/15 | 86 | 68 | 27 | 1236.95 | 35 | 1962.54 |
| 7/16 | 89 | 71 | 30 | 1266.95 | 38 | 2000.54 |
| 7/17 | 81 | 68 | 24.5 | 1291.45 | 32.5 | 2033.04 |
| 7/18 | 80 | 59 | 19.5 | 1310.95 | 27.5 | 2060.54 |
| 7/19 | 78 | 61 | 19.5 | 1330.45 | 27.5 | 2088.04 |
| 7/20 | 81 | 61 | 21 | 1351.45 | 29 | 2117.04 |
| 7/21 | 73 | 66 | 19.5 | 1370.95 | 27.5 | 2144.54 |
| 7/22 | 84 | 67 | 25.5 | 1396.45 | 33.5 | 2178.04 |
| 7/23 | 84 | 67 | 25.5 | 1421.95 | 33.5 | 2211.54 |
| 7/24 | 86 | 68 | 27 | 1448.95 | 35 | 2246.54 |
| 7/25 | 81 | 67 | 24 | 1472.95 | 32 | 2278.54 |
| 7/26 | 83 | 66 | 24.5 | 1497.45 | 32.5 | 2311.04 |
| 7/27 | 79 | 65 | 22 | 1519.45 | 30 | 2341.04 |
| 7/28 | 84 | 65 | 24.5 | 1543.95 | 32.5 | 2373.54 |
| 7/29 | 87 | 65 | 26 | 1569.95 | 34 | 2407.54 |
| 7/30 | 93 | 65 | 29 | 1598.95 | 37 | 2444.54 |
| 7/31 | 80 | 67 | 23.5 | 1622.45 | 31.5 | 2476.04 |
| 8/1 | 74 | 63 | 18.5 | 1640.95 | 26.5 | 2502.54 |
| 8/2 | 73 | 59 | 16 | 1656.95 | 24 | 2526.54 |
| 8/3 | 72 | 61 | 16.5 | 1673.45 | 24.5 | 2551.04 |
| 8/4 | 75 | 62 | 18.5 | 1691.95 | 26.5 | 2577.54 |
| 8/5 | 71 | 57 | 14 | 1705.95 | 22 | 2599.54 |
| 8/6 | 70 | 59 | 14.5 | 1720.45 | 22.5 | 2622.04 |
| 8/7 | 78 | 57 | 17.5 | 1737.95 | 25.5 | 2647.54 |
| 8/8 | 67 | 57 | 12 | 1749.95 | 20 | 2667.54 |
| 8/9 | | 51 | 0 | 1749.95 | 0 | 2667.54 |

## CIAB Weekly Production Reports can be accessed at the following web address

http://www.cherryboard.org/prodrept.html

ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1 1999 (*)

**Please send any comments or suggestions regarding this site to:**
Bill Klein, kleinw@pilot.msu.edu

Last Revised:8-10-99



# Northern Michigan FRUITNET'99

## *Weekly Update*

**James E. Nugent  Gary E. Thornton  William M. Klein**
**NW Michigan Horticultural Research Station**
**Michigan State University**

**August 19, 1999**

**WEATHER**

**Cooler temperatures this past week have slowed evaporation and degree day accumulation. Evaporation the past week was 1.06", with total evaporation for August of 3.04". Rainfall at the NWMHRS during the week of 8/10-8/17 was 0.3", but a trace or more precipitation was recorded on 6 of the 7 days. Since August 1, 1.26" of rain has fallen, with only 6 of the first 19 days recording no precipitation.**

**GROWING DEGREE DAYS**

| As of 8/19 | **1999** | **1998** | **1997** |
|---|---|---|---|
| **DD42** | 2939 | 3002 | 2395 |
| **DD50** | 1918 | 1966 | 1532 |

**INSECTS**

**Codling Moth –** Trap catches were down this week at the Station and at the abandoned orchard. Growers should continue to monitor for flight though. Last year adult flight peaked at the end of August, long after the peak should have occurred.

**Apple Maggot –** Adults continue to emerge and infest commercial blocks. Adult emergence has slowed in the abandoned block we monitor.

**Potato Leafhoppers** continue to be active in unsprayed blocks. Plums, apples and strawberries are most susceptible. This year they have also infested sweet cherries to some degree.

**Green Apple Aphids** have slowed way down now that the terminal buds have set.

**Mites** – Two spotted spider mites have not built up to the high numbers in tart cherries that they have in the last few years, although there are scattered blocks with levels above threshold. Adequate moisture in the groundcover keeps them from migrating into the trees. At the Station, European red mites have built up higher than in recent years in tarts, although still

fairly low. At this time it is too late to justify any treatment for mites in tart cherries. The two spotted spider mites will start to migrate out of the trees in about two weeks. Apples may require a miticide if above threshold. The European red mites will lay their eggs in the calyx end of the apples if populations are very high. Pyramite is the best adulticide for European red mites that is available

mites that is available.

**Spotted Tentiform Leafminer** – Tissue feeding mines continue to show up. Trap catches are up this past week, so growers will likely see more mines showing up. If fruit size is critical, then a Provado spray may be worth the extra money, even this late in the year. This would more likely be worthwhile on late season varieties. Provado will also control the white apple leafhoppers.

**DISEASES**

**Cherry Leaf Spot** continues to show up in many orchards. The worst orchards are now defoliated. Most orchards, with only one post harvest spray, are now likely to be unprotected from further infections from leaf spot. Young trees, in particular, may benefit from another Bravo application. Leaf spot has also shown up in plums this year. Growers should check their plum blocks and if present, treat with Benlate/Captan.

**Sooty Blotch/Flyspeck** – The sooty blotch fungus can be found on abandoned apples. Growers of fresh market apples should apply a Benlate/Captan or Topsin M/Captan spray as soon as possible, if fungicides have not been applied in July and August.

**Fireblight –** If fireblight has spread further in young orchards and if it is not too advanced, it can be cut out now.

**Brown Rot –** Plums should be watched closely. As harvest nears, they become much more susceptible to brown rot. Peaches, that have not been harvested, should have fungicide protection against brown rot, particularly if shelf life is required.

**MISCELLANEOUS**

**Apple Maturity Program**

Once again, we will be conducting an apple maturity program at the NWMHRS this fall. We will be running starch iodine, pressure tests and some brix tests. If you have apples that you would like tested, feel free to drop them off at the Station. Gary Thornton will be collecting samples as well, so if you let me know, I may be able to pick them up.

The data that we obtain will then go out via this FruitNet, as well as being available on the Pome Fruit code-a-phone – 947-3063.

**NW Michigan Horticultural Research Station**
**Insect Trap Count Averages - 1999**

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|---|---|---|---|---|---|---|---|
| **5/18** | 0 | 660 | 8 | 30 | | | |
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| **6/1** | .6 | 85 | 17 | 4.6 | 0 | 9 | |
| **6/8** | 2 | 15 | 17.3 | 2.7 | 0 | 7.7 | |
| **6/14** | 1 | 342 | 11 | .3 | 7 | 4.3 | 6 |
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| | | | | | | | |
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| **8/2** | 2.3 | 570 | 7.3 | 4.3 | 1.6 | 35 | 4.6 |
| **8/9** | 4.3 | 396 | 1.3 | 3.3 | 0.6 | 15 | 3.3 |
| **8/16** | .67 | 640 | 3 | 4.3 | 2 | 9.3 | 5 |

**NW MI Horticultural Research Station**

**Growing Degree Day Accumulations for July 26 - Aug.19, 1999**

| Date | Max | Min | GDD 50 | Total Base 50 | GDD 42 | Total Base 42 |
|---|---|---|---|---|---|---|
| 7/26/99 | 83 | 66 | 24.50 | 1497.45 | 32.50 | 2311.04 |
| 7/27/99 | 79 | 65 | 22.00 | 1519.45 | 30.00 | 2341.04 |
| 7/28/99 | 84 | 65 | 24.50 | 1543.95 | 32.50 | 2373.54 |
| 7/29/99 | 87 | 65 | 26.00 | 1569.95 | 34.00 | 2407.54 |
| 7/30/99 | 93 | 65 | 29.00 | 1598.95 | 37.00 | 2444.54 |
| 7/31/99 | 80 | 67 | 23.50 | 1622.45 | 31.50 | 2476.04 |
| 8/1/99 | 74 | 63 | 18.50 | 1640.95 | 26.50 | 2502.54 |
| 8/2/99 | 73 | 59 | 16.00 | 1656.95 | 24.00 | 2526.54 |
| 8/3/99 | 72 | 61 | 16.50 | 1673.45 | 24.50 | 2551.04 |
| 8/4/99 | 75 | 62 | 18.50 | 1691.95 | 26.50 | 2577.54 |
| 8/5/99 | 71 | 57 | 14.00 | 1705.95 | 22.00 | 2599.54 |
| 8/6/99 | 70 | 59 | 14.50 | 1720.45 | 22.50 | 2622.04 |
| 8/7/99 | 78 | 57 | 17.50 | 1737.95 | 25.50 | 2647.54 |
| 8/8/99 | 67 | 57 | 12.00 | 1749.95 | 20.00 | 2667.54 |
| 8/9/99 | 69 | 51 | 10.00 | 1759.95 | 18.00 | 2685.54 |
| 8/10/99 | 72 | 53 | 12.50 | 1772.45 | 20.50 | 2706.04 |
| 8/11/99 | 77 | 60 | 18.50 | 1790.95 | 26.50 | 2732.54 |
| 8/12/99 | 82 | 63 | 22.50 | 1813.45 | 30.50 | 2763.04 |
| 8/13/99 | 72 | 66 | 19.00 | 1832.45 | 27.00 | 2790.04 |
| 8/14/99 | 71 | 58 | 14.50 | 1846.95 | 22.50 | 2812.54 |
| 8/15/99 | 76 | 56 | 16.00 | 1862.95 | 24.00 | 2836.54 |
| 8/16/99 | 81 | 56 | 18.50 | 1881.45 | 26.50 | 2863.04 |
| 8/17/99 | 73 | 64 | 18.50 | 1899.95 | 26.50 | 2889.54 |
| 8/18/99 | 70 | 61 | 15.50 | 1915.45 | 23.50 | 2913.04 |
| 8/19/99 | | 59 | 0.00 | 1915.45 | 0.00 | 2913.04 |

## CIAB WEEKLY RAW PRODUCT REPORT FOR AUGUST 14, 1999

***FINAL REPORT***

| DISTRICT | 8/14/99 | 1999 YTD | 1998 YTD |
|---|---|---|---|
| NW MI | Correct YTD | 107,665 | 158,081 |
| WC MI | 0 | 47,217 | 55,305 |
| SW MI | 0 | 28,574 | 14,743 |
| New York | Correct YTD | 16,909 | 11,975 |
| OR | 188 | 5,108 | 2,159 |
| PA | 0 | 6,889 | 4,019 |
| Utah | 1,318 | 14,539 | 14,776 |
| WA | 2,079 | 16,600 | 13,729 |
| WI | 0 | 7,892 | 14,609 |
| **Total** | **3,585** | **251,393** | **289,397** |

The harvest is complete. Oregon, Utah and Washington finished their harvests this week.

Total production was 251.4 million pounds. Production from normally regulated districts was 215 million pounds. Total production is about 10 million pounds less than the USDA estimated in June. Please recall, that the USDA revised Penn.'s estimate from 9 to 5.5 million pounds. This reduced the total USDA estimate to 256.2 million pounds.

It was good to have a smaller crop this season. The Board will meet Sept. 9 & 10, 1999 to set the final percentage.

ACTUAL AND PREDICTED DEGREE-DAY
ACCUMULATIONS SINCE MARCH 1 1999 (*)

**Please send any comments or suggestions regarding this site to:**
Bill Klein, kleinw@pilot.msu.edu

Last Revised:8-20-99



# Northern Michigan FRUITNET'99

## *Weekly Update*

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**NW Michigan Horticultural Research Station**
**Michigan State University**

**August 26, 1999**

### WEATHER

**Rainfall total for August is 1.48", to date. It was dry last week, and only 0.22" has fallen since Monday at the NWMHRS. Evaporation last week totaled 1.27".**

#### GROWING DEGREE DAYS

| As of 8/26 | **1999** | **1998** | **1997** |
|---|---|---|---|
| **DD42** | 3099 | 3207 | 2539 |
| **DD50** | 2044 | 2115 | 1620 |

### INSECTS & DISEASE

In ***apples***, **apple maggot** adults continue to emerge, although numbers declined this past week in the abandoned apple block. Growers who are not trapping should keep their apples protected. **Codling moths** continue to emerge, averaging 3 to 4 per trap. Depending on trap catches, growers may need a second spray for this generation. **European red mites** continue to be a threat to fresh market apples in particular. In general populations are down, but where they are up, high numbers can lay eggs in the calyx end of the fruit. **White apple leafhoppers** are not above threshold, but they can be a nuisance to pickers. **Spotted tentiform leaf miners** continue to emerge in very high numbers. Trap catches were up from last week. In blocks with 3 or more mines per leaf it still may be worthwhile to control them where fruit size is a critical issue.

**Two spotted spider mites** and **European red mites** continue to build in ***tart cherries***, but it would not pay to control them at this time**. Cherry leaf spot** is showing up in many orchards. These infections probably occurred prior to most post harvest spray applications (heavy infection July 21$^{st}$.) It would be of little value to try to control leaf spot any more this season.

As ***plums*** near harvest, growers should keep fruit protected against **brown rot**. **Leaf spot** has again shown up in Damson plums. Growers should check theirs, and if present, an application of an appropriate fungicide would be wise to prevent early defoliation. Early defoliation in plums can lead to

severe winter injury.

## MISCELLANEOUS

**REMINDER:** The **NW Michigan Horticultural Research Station Open House and Equipment Show** will be held on **Thursday, Sept. 2nd.** The equipment display area will open at 1:00 p.m. There will be a program from 2:15 until 3:00 p.m. "Celebrating 20 Years of Service" to commemorate the 20th anniversary of the Research Station. Sprayer demonstrations will begin at 3:45 p.m. A social time, beginning at 5:30 will be followed at 6:30 by a pig roast, sponsored by the Leelanau County Horticultural Society. Tickets for the pig roast will be available at the door for $15. The evening will conclude with a short program conducted by the Leelanau Horticultural Society. Everyone is invited to attend!

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| | | | GDD | Total Base | GDD | Total Base |
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| | | | | | | |
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| 8/9/99 | 69 | 51 | 10.00 | 1759.95 | 18.00 | 2685.54 |
| 8/10/99 | 72 | 53 | 12.50 | 1772.45 | 20.50 | 2706.04 |
| 8/11/99 | 77 | 60 | 18.50 | 1790.95 | 26.50 | 2732.54 |
| 8/12/99 | 82 | 63 | 22.50 | 1813.45 | 30.50 | 2763.04 |
| 8/13/99 | 72 | 66 | 19.00 | 1832.45 | 27.00 | 2790.04 |
| 8/14/99 | 71 | 58 | 14.50 | 1846.95 | 22.50 | 2812.54 |
| 8/15/99 | 76 | 56 | 16.00 | 1862.95 | 24.00 | 2836.54 |
| 8/16/99 | 81 | 56 | 18.50 | 1881.45 | 26.50 | 2863.04 |
| 8/17/99 | 73 | 64 | 18.50 | 1899.95 | 26.50 | 2889.54 |
| 8/18/99 | 70 | 61 | 15.50 | 1915.45 | 23.50 | 2913.04 |
| 8/19/99 | 74 | 59 | 16.50 | 1931.95 | 24.50 | 2937.54 |
| 8/20/99 | 74 | 55 | 14.50 | 1946.45 | 22.50 | 2960.04 |
| 8/21/99 | 77 | 54 | 15.50 | 1961.95 | 23.50 | 2983.54 |
| 8/22/99 | 80 | 59 | 19.50 | 1981.45 | 27.50 | 3011.04 |
| 8/23/99 | 73 | 64 | 18.50 | 1999.95 | 26.50 | 3037.54 |
| 8/24/99 | 83 | 63 | 23.00 | 2022.95 | 31.00 | 3068.54 |
| 8/25/99 | | 63 | 0.00 | 2022.95 | 0.00 | 3068.54 |
| 8/26/99 | | | 0.00 | 2022.95 | 0.00 | 3068.54 |

ACTUAL AND PREDICTED DEGREE-DAY ACCUMULATIONS SINCE MARCH 1 1999 (*)

**Please send any comments or suggestions regarding this site to:**

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