



# Ohio Fruit ICM News



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### Calendar

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**September 20-22: Farm Science Review**, Molly Caren Agricultural Center, London, OH. Details at: <<http://fsr.osu.edu>>

**November 15: Ohio Ag and Hort Human Resource Managers' Forum**, Hilliard, OH, 10:00 AM-2:30 PM. Registration and fee requested by November 8. Contact Mid American Ag and Hort Services at 614-246-8286, [maahs@ofbf.org](mailto:maahs@ofbf.org) or visit <[www.midamservices.org](http://www.midamservices.org)> and click on 'Events' for registration form and details.

## Calendar

**July 14: Penn State Grower Field Day**, Penn State University, Fruit Research and Extension Center. See following article.

**July 14: Piketon Berry/Horticulture Field Night**, 1864 Shyville Poad, Piketon, OH 44661. Contact Shawn Wright at 740-289-2071 for details.

Source: Elizabeth Wahle, University of Illinois Extension Specialist  
One of the wine world's most celebrated figures will soon be visiting Illinois to learn more about its emerging grape and wine industry. Dr. Richard Smart, a global grape-growing consultant, and author of the revolutionary vitacultural book, *sunlight Into Wine*, has accepted an invitation by the Illinois Grape Growers and Vintners Association to see its industry first-hand, consult with growers and conduct seminars to share his vitacultural concepts. Dr. Smart has worked with major vineyards across the New World wine scene, including vineyards in Australia, New Zealand, California, South Africa, and South America. Many Old World grape growers have also learned to respect his understanding of grapes and successful growing practices and are adapting many of his ideas as well. His book describes the impact of grape canopy management techniques which optimize the penetration of light into the canopy and balance the

**Many Thanks to the Burnhams**  
We extend our sincere thanks to the Burnham family and their crew for hosting the 2005 Ohio Fruit Growers Society Summer Tour. About 300 people enjoyed their fine hospitality and fruit-related activities. Also thanks go to the sponsors of the noon meal - AgCredit, UAP Great Lakes, and Hillis Electric. We all appreciate the effort in making the day a success. THANKS!!!

## Australian Grape Expert Visiting Illinois

goals of both large yields and high quality in the fruit. Respect for his ideas is so high that he was chosen as a Wine International Personality of the Year in 2004 by Wine International magazine, along with such international wine celebrities as Hugh Johnson and Piero Antinori. Dr. Smart will share many of his insights with Illinois young grape-growing industry in two seminars. Anyone interested in growing wine grapes or making wine should mark their calendar and plan to attend one of these seminars to hear one of the worlds leading experts in the production of quality grapes. The first seminar will be in northern Illinois on July 26th at the Galena Cellars Winery in Galena, IL. The winery is east of Galena, just one half mile west of Stage Coach Road on Ford Road. The second seminar will take place at the SIU Vineyard at the Horticultural Research Center (HRC) in Carbondale, IL. To find the HRC, take Rt. 13 to the western edge of Carbindale. Turn south on Old Rt. 13. After 3/8 mile, turn left onto Tower Rd. At the

second light, turn onto Chautauqua Road. Look for Rowden Road and turn onto it. The HRC will be about 3/8 mile on your right. Look for signage at these directional points. Both of these seminars will cost \$35 for each person to attend. Preregistration will allow participation in a rustic meal and an informal wine-tasting following the seminar. Registration at the door is also \$35 and will gain entrance to the seminar but not to the meal and wine tasting. To preregister, send a check made out to IGGVA to Mr. Bill McCartney, IGGVA, RR#3, Pittsfield, IL 62363. Indicate in the memo line on the check whether you are attending Galena or Carbondale. For more information, go to the Illinois Grape Growers and Vintners Association Website at <http://www.illinoiswine.com> To learn more about Dr. Smart, visit his Website at <http://www.smartvit.com.au>

### **Evaluation of Peach Cultivars 1996-2003 Yield, Bloom, Efficiency Final Summary, Recommendations**

*Source: Richard C. Funt and Mark C. Schmittgen, Department of Horticulture and Crop Science, The Ohio State University*

#### **Introduction:**

This is the final report for the peach cultivar evaluations completed at The Ohio State University, Waterman Farm in Columbus, Ohio. Trees were planted in 1996/1997 and were removed after the 2003 harvest. Annual reports for this study and general peach cultivar evaluations can be found in 'Ohio Fresh Market Peach Business Plan – 2003', which is available from R.C. Funt at [funt.1@osu.edu](mailto:funt.1@osu.edu).

#### **Yield – 2003:**

The 2003 yields for peaches were the highest ever for most cultivars when the mature trees were in their eighth leaf (Table 5). PF12A, Redstar, John Boy, White Lady, Allstar, PF15A, Starfire, Glowingstar, Bounty, Harrow Beauty and Coralstar had yields exceeding 50 kilograms per tree.

Trees with more than 60 kilograms per tree had an average yield of 132 pounds or 2.75 bushels per tree.

In comparison to 2002, the average fruit weight for most cultivars was higher in 2003 than in 2002 (data not shown). Fruit number per tree varied from year to year. Fruit thinning was heavy with good spring and early summer growing conditions; little or no irrigation was required in 2003. Tree

growth was good. Fruit number per tree ranged from 200 to 350 fruit per tree for most cultivars. Some were higher (Table 5).

#### **Trunk Circumference - 2003**

The 2003 season had the last recorded harvest after which the trees were removed. Trunk circumference measurements were taken to provide some measure of tree size. White Lady, John Boy, PF12A, Snow King, Blushingstar and Bounty were the largest trees (Table 5). Lauro1, PF1, Redstar, Blazingstar, PF15A and Starfire tended to be the smallest trees. Tree size, when fully mature, determines yield potential for several additional years over the life of the planting. Initial tree spacing could also be more accurately determined from trunk circumference data. Accurate tree spacing at planting can provide greater yields over the life of the planting.

#### **Date of Bloom - 2003**

The average dates for bloom were April 4 to 11 in 2003 (Table 6). Trees reached 100% bloom on April 14, a day earlier than in 2002 and two days earlier than in 2001. PF1, Risingstar, Redstar, PF17, PF15A, Starfire, Harrow Beauty and Lauro1 tended to be late bloomers in 2003.

#### **Bloom – 2001 to 2003**

A majority of peach trees had 100% bloom in 2001, 2002 and 2003 on April 16, April 15 and April 14, respectively which eludes to progressively warmer spring temperatures (Table 6). Previously at a location south of Columbus, average bloom occurred between April 15 to April 21, during the 1980's and 1990's. Late blooming cultivars were consistent for late bloom from 2001 to 2003 as compared to other cultivars. Late blooming cultivars are most advantageous for southern Ohio.

#### **Average Yield, Size, Number of Fruit and Ripening Date – 1999 through 2003**

PF12A, John Boy, White Lady, Allstar, Bounty and Harrow Beauty had an average of 50 or more kilograms (110 lbs) of fruit per tree per year from the fourth to the eighth leaf (Table 7). Trees with less than 30 kilograms of fruit per tree per year were

Risingstar, Blazingstar and Lauro. Blazingstar and Lauro trees were planted in 1997, and thus, were harvested between their third to seventh leaf.

The largest fruit, averaging more than 150 grams (5.2 ounces), were from Redstar, PF17, John Boy, Allstar, Bounty, Harrow Beauty, Coralstar, PF23, Snow King and Lauro (Table 7). Peaches weighing less than 130 grams (4.5 ounces) were from PF1, Risingstar, PF12A and Blazingstar. Generally larger peaches were produced late in the season and smaller peaches early in the season. Early fruit thinning is necessary to improve the size of early ripening peaches. The number of peaches per tree also had an effect on fruit size. Trees with an average of less than 300 peaches per tree were Risingstar, Redstar, PF17, Blazingstar, Blushingstar,

Starfire, PF23, Snow King and Lauro (Table 7). Fruit size for these cultivars ranged from 129 to 177 gms per fruit with five of them between 129 and 151 gms per fruit. Generally these trees tended to have fewer fruit regardless of the amount of hand thinning.

The average earliest ripening date for this research was July 3 for PF1 and the latest ripening date was September 13 for Lauro (Table 7). The average ripening date was determined to be when 40 to 50 percent of the peaches had been harvested. Those ripening before August 8 (220 days) were PF1, Risingstar, PF12A, Redstar, John Boy, White Lady, Blazingstar, PF14A and Starfire. All of the remaining cultivars ripened after August 8.

#### **Total Weight per Tree, Weight per Acre and Yield Efficiency**

The total weight of peaches from the fourth to the eighth leaf is shown in Table 8. Trees exceeding 250 kilograms (550 pounds) of fruit per tree were from PF12A, John Boy, White Lady, Allstar, Bounty and Harrow Beauty. Those below 150 kilograms (330 pounds) per tree were Risingstar, Blazingstar and Lauro. The cultivars with the highest and lowest yield per acre are the same as those listed above.

The highest yield efficient trees were Glowngstar, Harrow Beauty, Allstar, Redstar, and Bounty (Table 8). These champions are a reflection of small size trees with a high number of peaches of good size. Cultivars with low yield efficiency were Risingstar, PF1, PF23 and Lauro.

## Conclusion and Ratings

The shining “stars” in this research should receive four to five stars in each of their ripening seasons. A five-star rating considers optimal yield, fruit size, late blooming, fruit firmness and fruit color as characteristics for Ohio marketing conditions. Therefore, the following yellow-fleshed peaches meet most of these characteristics in the respective ripening season.

### Ratings for Yellow Peaches

July 1-15: PF1 \*\*\*  
Risingstar \*\*\*

July 16-31: PF12A \*\*\*

August 1-15: Redstar \*\*\*  
Blazingstar \*\*  
PF15A \*\*\*  
Starfire \*\*  
John Boy \*\*\*\*  
PF17 \*\*\*  
Bounty \*\*\*\*\*  
Coral Star \*\*  
Harrow Beauty \*\*\*\*\*

Allstar \*\*\*\*  
Glowingstar \*\*\*  
PF23 \*\*\*\*

### Ratings for White Fleshed Peaches

August 1-15: White Lady \*\*\*\*  
Blushingstar \*\*\*

August 15-30: Snow King \*\*\*\*

Table 5. Peach weight and fruit per tree, weight per fruit and yield per acre for different cultivars, Waterman, 2003.

Cultivar <sup>z</sup>	Weight		Number Fruit/tree <sup>x</sup>	Kg/Acre <sup>y</sup>	Avg Trunk Circumference(cm)	Trunk Cross Area
	Fruit (gm)	Fruit (gm)				
PF1	35.6 cde	116.0 h	299.2 bcde	4706 cde	35.9 cdef	103.3 def
Risingstar	36.5 cde	156.5 efg	240.2 cde	4821 cde	38.4 bcde	117.2 bcdef
PF 12A	62.0 abcde	159.8 efg	407.2 abc	8191 abcde	43.7 abc	154.5 abc
Redstar	66.0 abcd	201.3 abcd	326.7 bcde	8708 abcd	33.4 def	89.4 ef
PF17	42.4 cde	190.7 bcde	224.8 cde	5604 cde	35.0 def	99.1 def
John Boy	52.0 bcde	157.6 efg	328.8 bcde	6868 bcde	44.9 ab	162.0 ab
White Lady	94.8 a	156.8 efg	621.0 a	12510 a	48.5 a	189.6 a
Allstar	83.1 ab	161.7 efg	515.5 ab	10976 ab	38.4 bcde	119.4 bcdef
Blazingstar <sup>x</sup>	39.0 cde	143.0 gh	263.7 bcde	5149 cde	32.9 ef	86.7 ef
Blushingstar <sup>x</sup>	33.0 de	154.8 fg	230.2 cde	4358 ed	40.9 bcd	139.4 bcd
P15A <sup>x</sup>	53.2 bcde	160.8 efg	352.7 bcde	7022 bcde	33.9 def	91.8 ef
Starfire	56.4 abcde	163.0 efg	358.7 bcde	7444 abcde	35.5 def	103.5 def
Glowingstar	60.1 abcde	180.4 cdef	377.8 abcde	7937 abcde	37.4 bcdef	116.3 bcdef
Bounty	63.0 abcde	208.0 abc	319.8 bcde	8310 abcde	40.0 bcde	129.1 bcde
Harrow Beauty	65.2 abcd	171.3 defg	394.2 abcd	8611 abcd	38.2 bcde	118.9 bcdef
Coralstar	73.8 abc	225.0 ab	334.8 bcde	9747 abc	37.4 bcdef	111.4 cdef
PF23	31.9 de	225.4 a	144.7 de	4216 de	39.4 bcde	124.7 bcde
Snow King	24.3 e	186.2 cdef	129.4 e	3206 e	43.2 abc	151.7 abc
Lauro <sup>y</sup>	31.2 de	153.9 fg	201.7 cde	4120 ed	30.4 f	76.0 f

<sup>z</sup>Means followed by the same letter are not significantly different at =0.05, LSD.

<sup>x</sup>Planted in 1997, all others planted in 1996.

<sup>y</sup>Multiplied by 2.2 for pounds/acre. Total average weight per tree times 132 trees/A.

Table 6. Average percentage of peach bloom of several peach cultivars in 2001, 2002, and 2003 OSU Waterman Farm, Columbus, OH

Average % Bloom Open

Cultivar <sup>z</sup>	2001 <sup>y</sup>			2002		2003	
	4/11	4/13	4/09	4/11	4/04	4/08	4/11
PF1	2 f	74 d	0 d	7 hi	5 cde	22 fgh	50 e
Risingstar	2 f	28 e	0 d	2 i	2 de	28 efgh	60 cde
PF12A	8 f	84 cd	4 d	20 fgh	15 abc	50 abcde	92 a
Redstar	2 f	25 c	0 d	20 fgh	0 e	20 hg	57 de
PF17	14 f	94 abc	4 cd	22 efgh	5 cde	45 abcde	72 abcde
John Boy	26 bc	92 abc	18 ab	52 b	18 ab	68 a	95 a
White Lady	8 f	86 bc	5 cd	22 efgh	12 abcd	42 bcdefg	75 abcde
Allstar	16 cde	92 bc	4 cd	24 efg	12 abcd	42 bcdefg	82 abcd
Blazingstar	23 bcd	95 ab	5 cd	38 bcde	13 abcd	47 abcdef	73 abcde
Blushingstar	14 cdef	96 ab	8 cd	32 cdef	8 bcde	32 defgh	68 abcde
P15A	22 bcd	94 abc	0 d	18 fghi	0 e	18 h	60 cde
Starfire		30 b	96 ab	2 cd	28 defg	5 cde	38 cdefg
Glowingstar	14 cdef	94 abc	8 cd	28 defg	8 bcde	48 abcde	83 abcd
Bounty	22 bcd	98 a	5 cd	45 bc	18 ab	65 ab	90 ab
Harrow Beauty	12 def	92 abc	0 d	14 ghi	5 cde	35 defgh	62 bcde
Coralstar	22 bcd	94 abc	10 bc	42 bcd	10 bcde	60 abc	93 a
PF23	48 a	92 abc	22 a	70 a	13 abcd	57 abcd	87 abc
Snow King	6 ef	92 abc	4 cd	26 defg	22 a	65 ab	95 a
Lauroi	10 def	92 abc	10 bc	26 defg	5 cde	35 defgh	75 abcde

<sup>z</sup> Means followed by the same letter are not significantly different at 0.05 LSD.

<sup>y</sup> In 2001 a majority of trees reached 100% bloom on April 16, in 2002 on April 15, and all trees reached 100% bloom in 2003 on April 14.

Table 7. Average peach fruit weight and fruit per tree per year, weight per fruit per year and average ripening date for 1999 through 2003, OSU.

Cultivar <sup>z</sup>	Avg. weight/yr		Avg. Number		Date/yr. <sup>y</sup>
	Tree(Kg)	Fruit(gm)	Fruit/tree/yr		
PF1	30.1 efg	114.2 k	304.6 cd		184.4 l
Risingstar	29.8 efg	129.0 jk	258.2 d		196.0 k
PF 12A		54.1 abc	129.4 ij		466.5 a
Redstar	42.6 bcdef	177.5 ab	296.3 cd	214.4 h	
PF17	40.9 cdef	166.1 abc	280.7 d		220.0 f
John Boy	55.0 abc	151.1 defg	399.3 abc		218.0 fg
White Lady	60.1 a	148.4 efgh	421.6 ab		215.5 gh
Allstar	56.6 ab	152.5 defg	394.5 abc		226.4 cde
Blazingstar <sup>x</sup>	28.5 fg	129.8 ij	249.6 d		211.0 ij
Blushingstar <sup>x</sup>	39.1 def	142.3 fghij	291.9 cd		229.2 c
P15A <sup>x</sup>	36.3 ef	133.8 hij	307.7 cd		214.0 h
Starfire	36.8 ef	144.8 fghi	268.2 d		214.5 h
Glowingstar	44.2 bcde	140.4 ghij	331.5 cd		225.1 de
Bounty	53.7 abcd	181.5 a	305.4		224.8 de
Harrow Beauty	56.3 ab	151.3 defg	438.4 ab	224.8 de	
Coralstar	44.2 bcde	162.1 bcde	360.7 abcd		223.5 e
PF23	31.9 efg	157.5 cdef	248.9 cd		227.0 cd
Snow King	41.8 bcdef	151.4 defg	294.9 cd		240.6 b
Lauro <sup>x</sup>	18.5 g	169.3 abc	115.2 e		256.8 a

<sup>z</sup>Means followed by the same letter are not significantly different at =0.05, LSD.

<sup>x</sup>Planted in 1997, all others planted in 1996.

<sup>y</sup>Day 184 is July 3; 220 is August 8 and 240 is August 28.

Table 8. Average per year for total weight per tree, total kilograms per acre, and yield efficiency for 1999 to 2003, OSU Waterman Farm.

Cultivar <sup>z</sup>	Total		Efficiency <sup>x</sup>
	Wt/tree(Kg)	Acre(Kg)	
PF1	150.7 efg	19890 efg	4.07 def
Risingstar	149.3 efg	19702 efg	3.90 ef
PF 12A	270.6 abc	35719 abc	6.01 abcd
Redstar	213.1 bcdef	28123 bcdef	6.88 ab
PF17	204.4 cdef	26986 cdef	6.07 abcd
John Boy	275.2 abc	36321 abc	6.07 abcd
White Lady	300.4 a	39649 a	6.33 abc
Allstar	283.0 ab	37350 ab	6.91 ab
Blazingstar <sup>y</sup>	142.5 fg	18804 fg	4.82 cdef
Blushingstar <sup>y</sup>	195.7 def	25827 def	4.60 cdef
P15A <sup>y</sup>	181.7 ef	23988 ef	5.41 bcde
Starfire	184.0 ef	24291 ef	4.67 cdef
Glowingstar	221.1 bcde	29182 bcde	7.63 a
Bounty	268.4 abcd	35427 abcd	6.60 abc
Harrow Beauty	281.5 ab	37153 ab	7.29 ab
Coralstar	220.8 bcde	29146 bcde	5.94 abcd
PF23	159.7 ef	21075 ef	3.65 ef
Snow King	208.8 bcdef	27564 bcdef	5.3 bcde
Lauro <sup>y</sup>	92.4 g	12198 g	3.2 f

<sup>z</sup>Means followed by the same letter are not significantly different at = 0.05 LSD.

<sup>y</sup>Planted in 1997, all others planted in 1996.

<sup>x</sup>Yield efficiency is a measure of trunk cross section area taken in 2003 and average total yield per acre from 1999 to 2003.

**Pest Phenology**

**Coming Events**

**Degree Day**

	<b>Accum.</b> Base 50°F
Oriental fruit moth 2 <sup>nd</sup> flight peak	972- 368
Redbanded leafroller 2 <sup>nd</sup> flight peak	972- 368
San Jose scale 2 <sup>nd</sup> flight begins	1000- 1294
Dogwood borer flight peak	1001- 1327
Codling moth 2 <sup>nd</sup> flight begins	1018- 1540
American plum borer 2 <sup>nd</sup> flight begins	1020- 1224
Apple maggot 1 <sup>st</sup> oviposition punctures	1021- 1495
Codling moth 2 <sup>nd</sup> flight peak	1337- 1977
Oriental fruit moth 2 <sup>nd</sup> flight subsides	1379- 1771
Apple maggot flight peak	1458- 1770
San Jose scale 2 <sup>nd</sup> flight peak	1459- 1805

Revised thanks to *Scaffolds Fruit Journal* (Art Agnello)

## Degree Day Accumulations for Ohio Sites

July 6, 2005

Ohio Location	Degree Day Accumulations Base 50°	
	Actual	Normal
Akron-Canton	1099	1104
Cincinnati	1493	1537
Cleveland	1133	1068
Columbus	1361	1285
Dayton	1260	1328
Kingsville	996	955
Mansfield	1069	1097
Norwalk	1174	1072
Piketon	1386	1502
Toledo	1185	1067
Wooster	1147	1021
Youngstown	988	998

## Fruit Observations and Trap Reports

### Site: Waterman Lab, Columbus

Dr. Celeste Welty, OSU Extension Entomologist and Gretchen Sutton

<b>Apple:</b> 6/30to 7/6/05	
Redbanded leafroller	23 down from 48
Spotted tentiform leafminer	175 up from 112
San José scale	0 same as last wk.
Codling moth (3 trap mean)	2.6 down from 6.0
Lesser appleworm	11 down from 12
Tufted apple budmoth	0 same as last wk.
Variiegated leafroller	0 down from 1
Obliquebanded	



leafroller	0 down from 16
Apple maggot (sum of 3 traps)	0 same as last week

**Site: East District; Erie and Lorain Counties**  
Jim Mutchler, IPM Scout/Technician

<b>Apple: 6/28 to 7/5/05</b>	
Codling moth (3 trap mean)	0.2 down from 1.5
Oriental fruit moth	1.8 down from 2.8
Redbanded leafroller	18.1 down from 20.5
San Jose scale	0.0 same as last wk.
Spotted tentiform leafminer	175 up from 83
Lesser appleworm	12.0 up from 3.5

Beneficials found: lacewings, native lady beetles,  
orange maggots, brown lacewings

<b>Peach: 6/28 to 7/5/05</b>	
Redbanded leafroller	20.3 down from 21.0
Oriental fruit moth	0.7 up from 0.0
Lesser peachtree borer	6.6 down from 11.7
Peachtree borer	0.9 down from 1.7

Beneficials found: lacewings, native lady beetles

**Site: West District: Huron, Ottawa,  
Richland, and Sandusky Counties**

Lowell Kreager, IPM Scout/Technician

<b>Apple: 6/27 to 7/4/05</b>	
Codling moth	0.1 down from 1.4
Oriental fruit moth	1.3 down from 4.5
Redbanded leafroller	51.9 down from 51.9
San Jose scale	0.0 same as last week
Spotted tentiform leafminer	5085 up from 495
Lesser appleworm	5.3 down from 5.7

Beneficials found: lacewings, orange maggots

<b>Peach: 6/27 to 7/4/05</b>	
Redbanded leafroller	49.0 up from 34.3
Oriental fruit moth	1.0 up from 0.8
Lesser peachtree borer	3.0 down from 3.7
Peachtree borer	0.1 up from 0.0

Beneficials found: brown lacewings, lacewings

## Preliminary Monthly Climatological Data for Selected Ohio Locations June 2005

Weather Station Location	Monthly Precipitation	Normal Monthly Precipitation	Year-to-Date Precipitation	Normal Year-to-Date Precipitation	Average High	Normal High	Average Low	Normal Low
Akron-Canton	0.84	3.55	17.40	18.82	82.5	78.2	61.6	56.1
Cincinnati	2.92	4.42	21.21	22.54	85.3	82.4	64.0	61.0
Cleveland	1.64	3.89	18.26	18.47	83.6	77.4	63.8	61.0
Columbus	2.69	4.07	24.16	18.82	84.5	81.6	64.2	60.1
Dayton	3.49	4.21	22.93	20.59	83.0	80.1	63.5	60.1
Kingsville	1.91	4.20	15.51	16.90	82.6	76.5	61.4	56.1
Mansfield	3.51	4.52	20.88	21.27	82.0	77.8	61.3	55.1

Norwalk	1.54	3.89	19.45	16.97	87.3	78.5	61.5	57.4
Piketon	0.42	3.70	13.13	22.30	85.3	81.2	61.7	58.5
Toledo	1.69	3.80	14.53	16.61	85.9	79.5	62.7	58.2
Wooster	1.39	3.47	16.57	17.38	84.7	79.5	60.5	55.6
Youngstown	2.77	3.91	21.61	18.11	81.9	77.1	59.0	54.6

Temperatures in degrees F, Precipitation in inches

Record high tied: June 8<sup>th</sup> - Youngstown 88 °F;

*Table Created by Ted W. Gastier, OSU Extension, from National Weather Service, OARDC & Local Data*