

# *Kentucky Fruit Facts*

May 2005 (5/05)

Fruit Facts can be found on the web at: <http://www.ca.uky.edu/fruitfacts/>

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## **Fruit Crop News**

Fortunately, the forecasted April 24<sup>th</sup> advective frost/freeze turned out to be a non event for just about all growers as temperatures did not get as low as predicted. Thus, all but a few fruit growers are looking at full crops this season. Unfortunately the peach crop was lost in the Owensboro area in December when temperatures dropped to around -18 F. Illinois reports indicate that this freeze caused substantial peach flower bud losses in many parts of the state and the loss varied considerably with tree location, age, and variety.

Please note that Kentucky will host the annual Mississippi Valley Orchard Tour this year in conjunction with Illinois, Missouri, and Tennessee apple and peach growers. The meeting will be held at Jackson's Orchard in Bowling Green, Kentucky on May 13<sup>th</sup>. You can find directions and the meeting program below.

Apple and peach growers should be thinking about making arrangements for fruit thinning to maximize their yields of large quality fruit. Also note that the second boron (solubor) spray should be applied at petal fall and calcium sprays for cork spot and bitter pit begin at first cover on apples.

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## **Upcoming Meetings**

**May 2 Blackberry and Blueberry Production**, Whitesburg, (Letcher county), 6:00 p.m. Contact Shad Baker 606-633-2362.

**May 13 Mississippi Valley Orchard Tour with Illinois and Missouri Growers**, Jacksons Orchard, Bowling Green. Contact John Strang 859-257-5685.

**June 11 Kentucky Herb Festival "Herbs Italiano"**, 9 to 4 pm, EST Lakeview Park, Frankfort KY. Annual educational event and trade show -- come learn, grow, and celebrate herbs. Contact: Sue at 859--234-1452

**Jun. 15 Woody Cut Stem Field Day**, U.K. Horticultural Research Farm, Lexington. Contact: Dr. Robert McNiel, 859-257-8903, [rmcniel@uky.edu](mailto:rmcniel@uky.edu); Sharon Bale, 859-257-8605, e-mail: [sbale@uky.edu](mailto:sbale@uky.edu); or Amy Fulcher 859-257-1273, e-mail: [afulcher@uky.edu](mailto:afulcher@uky.edu).

**Jun. 16 Eden Shale Field Day and Celebration**, U.K. Eden Shale Farm, featuring grape variety and training trials, Owenton. Contact Kim Strohmeier 502-484-5703.

**Jun. 18 Kentucky Vineyard Society Summer Meeting**, Talon Winery, Lexington. Contact John Pitcock, Talon Winery Winemaker 502-229-0334.

**Jun. 23 Madison County Field Day, Acres of Land Winery**, 2285 Barnes Mill Rd., Richmond, KY 40475. Contact Madison County Extension Office 859-623-4072 or Lowell and Katherine Land 859-328-3000, web site: [www.acresoflandwinery.com](http://www.acresoflandwinery.com)

**Jul. 11 Summer Viticultural Workshop**, Elk Creek Hunt Club, Owenton, KY. Contact Kim Strohmeier 502-484-5703.

**Jul. 12-13 Kentucky Farm Bureau 5<sup>th</sup> Annual Farm Marketing Bus Tour**, Gagel's Truck Farm, Louisville, KY; Corya Farms, Seymore, IN; Oliver Winery, Bloomington, IN; Anderson Orchards, Mooresville, IN; and Dillman Farms, Bloomington, IN. Cost: \$30, registration fee, \$93.24 hotel. Contact J. K. Henshaw, Kentucky Farm Bureau, P.O. Box 20700, Louisville, KY 40250. Phone: 502-495-5000; e-mail [jkhenshaw@kyfb.com](mailto:jkhenshaw@kyfb.com)

**Jul. 13-15 American Society for Enology & Viticulture Eastern Section 30th Annual Technical Meeting and Symposium, Cutting-edge Cultivars: Highlighting Pinot gris, Traminette, Norton, and New Cold Hardy Cultivars**, St. Louis, MO. For information see web site at [www.nysaes.cornell.edu/fst/asev/](http://www.nysaes.cornell.edu/fst/asev/)

**Jul. 28 U.K. Research and Education Center All Commodity Field Day**, Princeton, KY. Contact Richard Coffey 270-365-7541 ext 244.

**Aug. 17-19 North American Strawberry Grower Associations 8<sup>th</sup> Annual Summer Tour, Farming on the Urban Fringe**, lower Hudson area of New York. Check the NASGA website for details, <http://www.nasga.org/>

**Sept. 19 Harvesting the Fruits of Your Labor**, (A walk through the orchard to observe different varieties and different rootstocks). Sun Ray Orchard, Shepherdsville, KY. 6:00 p.m. Contact Darold Ackridge 502-543-2257.

**Oct. 17 Tasting the Fruits of Your Labor** - (taste about 20 different apple varieties) Bullett County Extension Office, Shepherdsville, KY. 7:00 p.m. Contact Darold Ackridge 502-543-2257.

**Jan. 10-11 2006 Kentucky Fruit and Vegetable Grower Conference and Trade Show**, Holiday Inn North, Lexington, KY. Contact: John Strang 859-257-5685, e-mail: [jstrang@uky.edu](mailto:jstrang@uky.edu)

## Advancing the Utilization of Weather Information with Technology

*by Tom Priddy, U.K. Agricultural Meteorologist*

The rapid advancements of computers and communications when combined with the latest National Weather Service weather advances now provides a “**quantium leap forward**” for the dissemination of weather information.

The University of Kentucky, Agricultural Weather Center, in exploring these advances is developing a weather information service that utilizes all of these advances for Kentucky residents in the **palm of their hands**. Now, residents can get the latest weather maps/county-based ag. weather info on their web-accessable Personal Data Assistants (PDA's) and cell phones.

This new service is available at: <http://www.wagwx.ca.uky.edu/pda.shtml>

## Pheromone Trapping for Fruit Pests Begins at Bloom

*by Ric Bessin, U.K. Extension Entomologist*

The start of bloom is time to begin monitoring for fruit pests with pheromone traps in your orchard. We are recommending the use of pheromone traps for monitoring of codling moth, Oriental fruit moth, grape berry moth, peachtree borer, and lesser peachtree borer. These pheromone traps use specific lures that attract the male of the pest species. Unlike Japanese beetle traps, these traps do not attract female moths and they do not increase damage in the orchard.

We use the pheromone traps to determine when the moths become active. Capturing many moths in a trap usually means that the egg laying will likely occur soon and hatch of the larvae is not far off. We use the traps to identify when the peak flight has occurred, then time our treatments accordingly. For example, with codling moth, after the fifth moth is captured in the spring, we wait from 100 to 250 DD (base 50) before applying an insecticide. Some insecticides that use insect growth regulators are best applied earlier (100 to 150 DD) while others perform better close to egg hatch (250 DD). With Oriental fruit moth, degree days are accumulated after the first sustained moth flight and an insecticide applied after 75 to 175 DD (base 45). As with the sprays for codling moth, those that use insect growth regulators are best applied earlier.

We also use pheromone traps to estimate the relative number in a particular generation. For example, if we are capturing less than 5 codling moths per trap per week, then we do not need to be using an insecticide for codling moth larvae.

## Mississippi Valley Orchard Tour - Friday May 13

Jackson's Orchard  
1280 Slim Island Rd., Bowling Green, KY 42101  
Bill and Shirley Jackson, Owners  
Phone: 270-781-5303

This will be our first joint orchard tour with Missouri, Illinois, and Tennessee Fruit Growers. Jackson's Orchard consists of approximately 80 acres of apples and peaches, all of which are marketed through u-pick and the on-farm market. Bill specializes in producing high quality tree ripened full flavored fruit and you will quickly recognize this as a first class operation. The family organizes up to five special fall weekend events a year that maximize their traffic handling capabilities.

In recent years high density apple plantings have been established and new peach cultivars have been planted. This is the orchard where Ruby Jon, a limb sport of Jonnee was discovered. Recently a new pesticide mixing facility was completed that reduces sprayer down time. Bill also operates a large cider pressing and flash pasteurization facility that has been set up to make cider for other apple growers.

The program will focus on pest control, fruit nutrition, reducing pesticide costs and answering grower questions.

### Directions:

Proceed south on I-65 to the first Bowling Green exit, exit 28 (at the Corvette museum). Exit to the right and drive towards the downtown area (mostly on 31W). At the 4<sup>th</sup> stop light turn right on to 6<sup>th</sup> street. Proceed under the RR (1 block) to the 1<sup>st</sup> stop light and turn right on to Rt. 185. Follow Rt. 185 for about 3 miles across the river. Roughly 200 yards after crossing the river will be a Jackson's Orchard sign. Turn left and follow the signs to the orchard

### Program: (Central Time)

10:00 a.m. Registration  
10:10 Grower Roundtable Discussion  
- Walter Mathis, President KSHS  
11:00 Tree Fruit Disease Control  
- John Hartman, U.K. Extension Plant Pathologist  
11:30 Insect Management - Ric Bessin,  
U.K. Extension Entomologist

Noon Lunch  
(Apx. \$6.00 for those that preregister.)

**Preregister for lunch by Wednesday May 11.** Call Mary Ann Kelley at 270-365-7541 Ext. 216 between 8:00 a.m. and 4:30 p.m. Central time weekdays. Give her a count for the Mississippi Valley Orchard Tour at Jackson's Orchards.

1:00 p.m. Wagon Tour of Jackson's Orchard  
- Bill Jackson  
2:00 Herbicide Costs on A Per Acre Basis  
- Joe Masabni, U.K. Extension Fruit and Vegetable Specialist  
2:30 Apple Boron and Calcium Nutrition  
- John Strang, U.K. Extension Fruit and Vegetable Specialist  
3:00 Adjourn

## Strawberry Fruit Rot Cultural Control Reminders

*by John Hartman, U.K. Extension Plant Pathologist*

Strawberry fruit rot diseases make it difficult to produce high yields and quality berries in Spring-time under typically moist Kentucky growing conditions. Strawberry producers need to manage strawberry diseases by providing a consistent and acceptable level of disease control with minimal fungicide use.

The following cultural practices are essential to best manage strawberry fruit rot diseases such as leather rot, anthracnose, and gray mold.

— Select a planting site with good soil drainage. Leather rot requires free water (saturated soil) in order to develop.

— Avoid the use of excess nitrogen fertilizer. Excess nitrogen promotes dense foliage that stays wetter longer and also results in softer berries that may be more susceptible to fruit rots.

— Weeds in the planting prevent air circulation and result in fruit and foliage staying wet for longer periods. Gray mold, in particular, is a more serious problem in strawberry beds with poor weed control compared with beds with good weed control.

— Straw mulch keeps berries from contacting the soil where the leather rot fungus overwinters. In addition, it aids in preventing infested soil from splashing up onto the berries.

— Remove old leaves and other plant debris from the bed to reduce the amount of fruit rot pathogen inoculum. Leaf removal at renovation is helpful. Removal of rotted fruit from the planting is probably not practical, but could be highly beneficial.

— Schedule irrigation so that foliage and fruit will dry as soon as possible. If diseases such as gray mold, leather rot, anthracnose, or angular leaf spot (bacterial blight) become established in the planting, overhead irrigation should be avoided.

— Avoid moving people (pickers) and machinery from a field or area that is infected to a clean or uninfected field so that fungal spores or bacteria are not transported on shoes, hands and clothing.

— Because strawberry fruits are very perishable, the following harvest and post-harvest practices should be considered.

- a) Pick berries as soon as they are ripe; avoid overripe berries.
- b) Pick fruit frequently and early in the day.
- c) Handle berries with care during harvest to avoid bruising.
- d) If possible, pick and remove rotted fruits from the field.
- e) Get the berries out of the sun as soon as possible.
- f) Refrigerate berries immediately (inform your customers).
- g) Market the berries as rapidly as possible.

#### **Additional notes on fungicides for fruit rots:**

Remember that fungicides applied for gray mold control need to go on during bloom. Research clearly shows that growers who apply just two bloom sprays get as good control of gray mold as a full-season fungicide program. Sprays applied after bloom have relatively little effect, since infections often occur through the flowers. Late maturing varieties usually require more fungicide protection than early strawberries because warm, disease-favorable weather is more likely, and high levels of fungal inoculum are left over from the earlier varieties.

For commercial growers, suggestions of fungicides for strawberry fruit rot management, can be found in U. K. Cooperative Extension Publication ID-94 Midwest Small Fruit and Grape Spray Guide 2005, available at county extension offices.

## **Kentucky Winery Purchasing and Production Survey**

*by Chris Smigell, John Strang and Kaan Kurtural,  
Extension Associate and Extension Horticulturists*

### **Introduction**

The Kentucky Vineyard Society and the Kentucky Agricultural Development Board requested a survey of Kentucky wineries to obtain grape source and wine production data. The primary objective was to determine the percentage of Kentucky grown grapes used in 2003 wines, and projected for the 2004 vintage.

There are 21 Kentucky wineries selling wine as of October, 2004, which is up from 16 in October of 2003. Twenty of the wineries sell grape wine. Nineteen of the 20 wineries responded to the survey, although not all surveys were answered completely.

The units of measure used in the returned surveys varied. Reported juice gallonage was converted to tonnage using the conversion factor of 165 gallons of juice per ton of grapes. Some winery owners gave the projected 2004 vintage case production; others reported their current wine tank volumes. These were converted to case quantities using the conversion factor of 2.38 gallons of juice per case of wine. Volume losses that typically occur in producing wine were not considered.

Unless otherwise noted, all numbers reported in this survey are derived from the survey respondents' information.

### **Synopsis**

Overall, the Kentucky wineries indicated that Kentucky winegrape production more than doubled from 2003 to 2004, and the 2004 vintage case production is expected to be almost twice that of 2003. The Kentucky wineries have increased the proportion of Kentucky-grown grapes used in their wines significantly, from 55% to 71%. Half of the Kentucky wineries are using 100% Kentucky-grown grapes for

their wines. These wineries accounted for a third of all Kentucky winery production in 2003, and should account for almost half of all production in 2004.

## **Data Summary**

### Wine and Winegrape Production

Kentucky wine production increased from 2002 to 2003 and from 2003 to 2004. The estimated 2004 vintage production will be just over 40,000 cases, a 70% increase over 2003, when just over 23,800 cases were produced (Table 1). Figure 1 shows the percent change in case production in the counties where wineries are located. The map clearly shows that wine production is focused in the Central Kentucky area. The very large percent increases for some counties resulted from either large increases in case production by a winery or from a winery opening for business in 2004.

Kentucky winegrape production increased from 190 tons in 2003 to 423 tons in 2004, an increase of 123% (Table 1). This includes grapes purchased by wineries and the wineries' own grape production.

The Kentucky Revenue Department reported that 10,382 cases of wine were sold by Kentucky wineries in 2003, and 10,625 cases in 2004. These numbers include direct sales and wholesale figures.

### Kentucky Content

In 2003 winegrapes purchased from Kentucky vineyards contributed only 20% to Kentucky wine production. That fraction increased to an estimated 45% in 2004 (Table 2). More importantly, from a grape grower standpoint, the wineries bought 68 tons of grapes from Kentucky vineyards in 2003, and 270 tons in 2004 (Table 1). This large increase occurred because many Kentucky vineyards are five years old or less, and reached their full production potential in 2004. (Several of them were planted as part of the 1999 Kentucky vineyard assistance cost-sharing program). Also, grapes are a new crop for most Kentucky grape growers, and as they have gained crop management experience, their crop yields have increased. Thirteen wineries purchased Kentucky-grown grapes in both years, with the average quantity increasing from 5.3 tons in 2003 to 20.5 tons in 2004.

The wineries' own winegrape production contributed 35% and 26% to total wine production in 2003 and 2004, respectively (Table 2). When these

quantities are combined with the purchases from other Kentucky vineyards, Kentucky-grown content was 55% of the 2003 vintage and will be approximately 71% of the 2004 vintage.

The proportion of out-of-state grapes and juice used in Kentucky wines decreased from 45% in 2003 to 29% of the estimated 2004 production total (Table 2).

Just under half of the surveyed wineries used 100% Kentucky grapes for their wines in 2003, and just over half did so in 2004 (Table 3). Some wines made by the remaining wineries may have been produced solely with Kentucky grapes. Excluding these, 33% of the wine produced in 2003 was 100% Kentucky-grown product and in 2004 47% will be 100% Kentucky-grown (data not shown).

Seven of the nine wineries that did not use 100% Kentucky grapes for their wine in 2003 increased the proportion of Kentucky grown grapes in their wine in 2004, with three of them going to 100% Kentucky content. The remaining two wineries used the same proportion of Kentucky grown grapes both years. One winery that used 100% Kentucky grapes in 2003 decreased its Kentucky content in 2004, to 93%.

Figure 2 shows the change in Kentucky-grown grape use between 2003 and 2004.

### The Larger Kentucky Wineries

The six largest Kentucky wineries (based on case production) produced about 75% of all Kentucky wine in both years (Table 4). They also purchased about 70% and 80% of the Kentucky-grown grapes in 2003 and 2004, respectively, and about 70% of the out-of-state grapes in both years.

These six wineries have decreased the proportion of out-of-state grapes used in their combined wine production from 43% in 2003 to an estimated 28% in 2004 (data not shown). Furthermore, they have increased their proportion of grapes grown by Kentucky farmers from 18% of their combined case production in 2003 to 53% in 2004.

Table 1. Kentucky Winery Grape/Juice Sourcing and Production Figures, 2003-2004.

Grape/juice source	2003 Production	2004 Production	Percent change
	(tons)	(tons)	
Wineries' own grape production	121.3	152.7	+25.9
Kentucky commercial vineyards	68.3	270	+295.3
Total Kentucky production	(189.6)	(422.7)	(+122.9)
Out-of-state sources	156.5	171.1	+9.3
Totals	346.1	593.8	+71.6
<b>Cases of wine*</b>	<b>23,789</b>	<b>40,322</b>	<b>+69.5</b>

\* assuming 69 cases /ton of grapes, 165 gal. wine/ton grapes

Table 2. Grape/juice sources and their percent contribution to total Kentucky wine production, 2003-2004.

Grape/juice source	Percent contribution to total Kentucky wine production		Percent change
	2003 vintage	2004 vintage	
Wineries' own grape production	35.1%	25.7%	-26.8
Kentucky commercial vineyards	19.7%	45.5%	+131.0
Total Kentucky contribution	(54.8%)	(71.2%)	(16.4%)
Out-of-state sources	45.2%	28.8%	-36.3

Table 3. Distribution of wineries based on Kentucky grape content, 2003-2004.

Proportion of Kentucky grapes used in wine (%)	No. of wineries	
	2003 vintage	2004 vintage
100	9	10
80-99	1	2
60-79	1	1
40-59	1	0
20-39	0	1
1-19	3	2
0	3	1
Information unavailable	1	2

Table 4. Grape purchasing by the six largest Kentucky wineries (based on case production), 2003-2004.

Case production	2003		2004		
	Non-Kentucky Grapes Purchased (tons)	Kentucky Grapes purchased (tons)	Case production	Non-Kentucky Grapes Purchased (tons)	Kentucky Grapes Purchased (tons)
5,000	0	9	3,176	3.4	8.2
4,200	53.6	0.3	6,735	82	8
2,193	5.8	2	3,250	0	20.6
2,080	15	12	3,025	6.5	27
2,000	24	1	8,250	0	120
2,500	13.3	22.7	4,396	23.3	35.5
<b>Total 17,973</b>	<b>111.7</b>	<b>47</b>	<b>28,832</b>	<b>115.2</b>	<b>219.3</b>
<b>% of State Total 75.6%</b>	<b>71.4%</b>	<b>68.8%</b>	<b>71.5%</b>	<b>67.3%</b>	<b>81.2%</b>

### Kentucky Winery Grape/Juice Sourcing and Production Figures.

Winery (ranked by 2003 production)	2003 Production					2004 Production					Eventual Production Capacity (tons)
	Cases of Wine	Non-Ky Grapes/ Juice Purchased (tons)	Ky Grapes/ Juice Purchased (tons)	Winery's Own Grape Yield (tons)	% Ky Content	Projected Cases of Wine	Non-Ky Grapes/ Juice To Purchase (tons)	Ky Grapes/Juice To Purchase (tons)	Winery's Own Grape Yield (tons)	% Ky Content	
1	5,000	0	9	63.4	100	3,176	3.4	8.2	34.4	93	?
2	4,200	53.6	0.3	7	12	6,735	82	8	8	16	145
3	2,500	13.3	22.7	0	63	4,396	23.3	35.5	5	63	
4	2,193	5.8	2	26.5	80	3,250	0	20.6	26.5	100	?
5	2,080	15	12	3.25	50.5	3,025	6.5	27	7.2	85	70
6	2,000	24	1	0	4	8,250	0	120	0	100	175
7	1,250	18	0	0	0	100			1.4	100	
8	925		6.2	2	100	465	0	6	2	100	58
9	760	10	0.5	0.9	5	1,660	18.8	2.2	3	10	?
10	750	15	0	0	0	1,250	25	0	0	0	2,000
11	500	0	3	1	100	800	0	7	0	100	
12	450	0	2	10	100	500	0	3.5	3	100	25
13	345	0	5	0	100	3,100	0	5	40	100	?
14	220	0	2.6	0	100	1,000	0	10	5.5	100	90
15	200	0	1	2	100	1,250	0	13	13	100	?
16	166	0	0	2.4	100	NA	0	0	NA	NA	14.4
17	125	1.8	0	0	0	1,145	12.1	4	0.5	27	30
18	125	0	0	1.8	100	220		0	3.2	100	?
19	NA	NA	1	1	NA	NA	NA	NA	NA	NA	?
<b>TOTAL</b>	<b>23,789</b>	<b>156.5</b>	<b>68.3</b>	<b>121.3</b>		<b>40,322</b>	<b>171.1</b>	<b>270</b>	<b>152.7</b>		

\* assuming 69 cases /ton of grapes, 165 gal. wine/ton grapes

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