

---

# *Kentucky Fruit Facts*

---

August/September 2006 (8/9/2006)

---

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

---

John Strang, Extension Fruit Specialist, Editor  
Karen Shahan, Administrative Assistant

---

## **Fruit Crop News**

Kentucky successfully hosted the Annual Meeting of the North American Fruit Explorers this month, which had the participation of over 120 amateur fruit growers from across the US and Canada. The meeting included a day of educational talks, an exceptional auction of many exotic fruit plants, and tours of the U.K Horticultural Research Farm, Boyd's Orchards and the Kentucky State Research Farm.

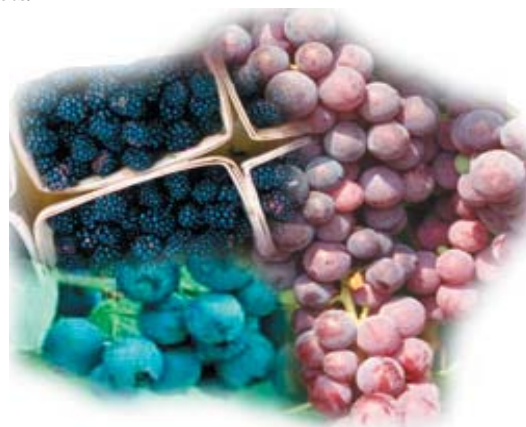
Ed Fackler, former owner of Rocky Meadow Orchard & Nursery, has moved back to New Salisbury, IN. I for one am happy to have Ed in our backyard again and look forward to seeing him more often as he is a traveling whirlwind of horticultural information.

The Japanese and Green June beetles are finally gone and apple and winegrape harvests are in full swing across Kentucky. Red apple color is exceptional this year due to the cool nights, while yellow varieties are a little slow in developing color. Apple fruit size is also excellent due to continued rainfall throughout the summer in many areas of the state. However, varieties susceptible to cracking are not restraining themselves very well. Harvest labor is in short supply. Don't forget the late season codling moth sprays! Jon Clements, University of Massachusetts, has put together pictures of Honeycrisp apple maladies, which should be interesting for those that are growing this variety. <http://www.fruitadvisor.info/honeycrisp/honeycrispo.html>

---

## **Inside This Issue:**

- 1 -- Fruit Crop News
  - 2 -- Upcoming Meetings
  - 2 -- Skin Cancer Update
  - 3 -- Robinson Station Horticulture Tour and Farmers Market Workshop
  - 6 -- Appalachian Heirloom Seed Conservancy Fall Conference
  - 7-- Wine Making Tips
  - 9-- Standardizing NaOH Normality
  - 10 - Receiving Fruit Facts Electronically
- 



Winegrapes are maturing slightly later than last season and Brix levels have been slow to increase due to summer rainfall and continued vine growth. Powdery mildew has substantially reduced yields, particularly of vinifera grapes for many growers this season. Wineries are indicating that they will not be able to acquire all of the Kentucky grapes that they would like. Bird and raccoon depredation have been particularly bad this season and have finally slowed down in the last two weeks. Tom Barnes, UK Wildlife Specialist, indicates that bird populations for this year are normal. Peach harvest is winding down after an excellent season. Fruit size and color have been very good as have sales.

Weed growth has been excessive this year and fruit growers should be planning to eliminate the weeds in and around their plantings to avoid providing a haven for voles.

Kentucky pumpkins will be in short supply due to the hot summer temperatures and lack of fruit set. Plantings that went out on the early side set well, but pumpkins are sparse in later plantings.

It is with great sadness that I report that Bill Young passed away this summer. Bill was a strong supporter of our Kentucky fruit industry, made available many difficult to obtain pesticides through the various companies that he operated

and worked for. He contributed a substantial amount of his time and effort to our Kentucky Fruit and Vegetable grower meetings over the years. He will be missed!

## Upcoming Meetings

**Sept. 18 Harvesting the Fruits of Your Labor,** SunRay Orchard on Alpar Lane, Shepherdsville. 6:00 p.m. Contact Darold Akridge 502-543-2257.

**Sept. 21 Grape and Pawpaw Field Day.** KSU Research Farm, Mills Lane, Frankfort. Contact Kirk Pomper at 502-597-5942; e-mail: kirk.pomper@kysu.edu

**Sept. 28 Robinson Horticultural Tour and Farmers' Market Workshop,** Robinson Station, Quick-sand. Contact Terry Jones 606-666-2438 x 234. See program below.

**Oct. 4 Midwest Apple Improvement Association Annual Meeting,** St. Clair Farm Bureau. The afternoon program will move to Jim Eckert's Country Store & Farms in Belleville, IL for a tour of seedling blocks. Invited speakers include Jim Eckert (MAIA President), Peter Hirst (Purdue University), Diane Miller (The Ohio State University), Wally and Wanda Heuser (Summit Sales), Mitch Lynd (Lynd Fruit Farm) and Chris Doll (Univ. of IL Extension, retired). A complete program is posted at <http://web.extension.uiuc.edu/regions/hort/> Contact Elizabeth Wahle phone: 618-692-9434, e-mail: wahle@uiuc.edu

**Oct. 7-8 Appalachian Heirloom Seed Conservancy Fall Conference,** Sustainable Mountain Agriculture Center, Berea. Registration \$15-20 plus nominal meal cost. Contact Bill Best phone: 859-986-3204. See program below.

**Oct. 28 Kentucky Nut Growers Assoc. Fall Meeting.** KSU Research Farm, Mills Lane, Frankfort. Contact Kirk Pomper at 502-597-5942; e-mail: kirk.pomper@kysu.edu

**Nov. 9-10 2006 Tomato Disease Workshop,** North Carolina State University, Mountain Horticultural Crops Research and Extension Center, 455 Research Drive, Fletcher, NC. 28732. This meeting is coordinated by Dr. Kelly Ivors and Dr. Randy Gardner. Registration (\$50) should be completed and sent in on or before October 23, 2006 and includes lunch. Contact Kelly Ivors, e-mail: kelly\_ivors@ncsu.edu or Jeanine Davis phone: 828-684-3562 for registration information.

**Nov. 9-11 Southeast Strawberry Expo,** Sea Trail Conference Center, Sunset Beach, NC (between Wilmington, NC and Myrtle Beach, SC) Includes a farm tour, two intensive workshops (high tunnel production and strawberry plasticulture for new growers), an extensive trade show, and a day and a half of educational sessions. The Expo is the leading strawberry conference

in the Southeast and attracts growers from as far away as Canada and Texas. For more information call Debby Wechsler 919-542-3687, email ncstrawberry@mind-spring.com, or visit [www.ncstrawberry.com](http://www.ncstrawberry.com)

**Dec. 10-12 Tennessee Fruit and Vegetable Growers' Conference,** Marriott Hotel, Nashville, TN. This years program is excellent and will feature a number of out of state speakers. Contact Dave Lockwood Phone: 865-974-7421, e-mail: dlockwood@utk.edu

**Jan. 8-9 Kentucky Fruit and Vegetable Conference and Trade Show,** Holiday Inn North, Lexington, KY. Contact John Strang 859-257-5685; e-mail jstrang@uky.edu

## Skin Cancer Update

*By Peter Hirst, Facts for Fancy Fruit Newsletter, Purdue University, with info from the American Cancer Society*

With many of us working outside in the sun, we need to stay alert to spot the signs of skin cancer. Skin cancer is the most common form of cancer, accounting for almost half of all cancers. More than 1 million cases of non-melanoma skin cancer are found in this country each year. The American Cancer Society estimates that more than 62,000 new melanomas will be diagnosed in the United States during 2006. Melanoma is a cancer that begins in the melanocytes - the cells that produce the skin coloring or pigment known as melanin. If melanomas are detected early, the 5-year survival rate is 98%, but if left undetected and only found later, the survival rate drops to 16%. In 2006, about 11,000 people in the US will die from skin cancer (7,910 from melanoma and 2,800 from other skin cancers).

### The risk factors include:

- Unprotected and/or excessive exposure to ultraviolet (UV) radiation
- Fair complexion
- Occupational exposures to coal tar, pitch, creosote, arsenic compounds, or radium
- Family history
- Multiple or atypical moles
- Severe sunburns as a child

### The signs and symptoms of skin cancer include:

- Any change on the skin, especially in the size or color of a mole or other darkly pigmented growth or spot, or a new growth

- Scaliness, oozing, bleeding, or change in the appearance of a bump or nodule
- the spread of pigmentation beyond its border such as dark coloring that spreads past the edge of a mole or mark
- A change in sensation, itchiness, tenderness, or pain

The best ways to lower the risk of skin cancer is to practice sun safety:

- Avoid the sun between 10 a.m. and 4 p.m. (ok, maybe this is not practical for those working outdoors, but read on)
- Seek shade: Look for shade, especially in the middle of the day when the sun's rays are strongest. Practice the shadow rule and teach it to children. If your shadow is shorter than you, the sun's rays are at their strongest.
- Slip on a shirt: Cover up with protective clothing to guard as much skin as possible when you are out in the sun. Choose comfortable clothes made of tightly woven fabrics that you cannot see through when held up to a light.
- Slap on sunscreen: Use sunscreen with a sun protection factor (SPF) of 15 or higher. Apply a generous amount (about a palm full) and reapply after swimming, toweling dry, or perspiring. Use sunscreen even on hazy or overcast days.
- Slap on a hat: Cover your head with a wide-brimmed hat, shading your face, ears, and neck. If you choose a baseball cap, remember to protect your ears and neck with sunscreen.
- Wear sunglasses with 99% to 100% UV absorption to provide optimal protection for the eyes and the surrounding skin.
- Follow these practices to protect your skin even on cloudy or overcast days. UV rays travel through clouds.

In farming, it may be impossible to avoid exposure to the sun. However some of the steps listed above can be followed to reduce the harmful effects of the sun. And if you do spot something suspicious on your skin, get it checked out by a medical professional immediately.

## **Robinson Station Horticulture Tour and Farmers Market Workshop**

September 28, 2006

Robinson Station, Jackson Kentucky

The faculty and staff at Robinson Station, University of Kentucky College of Agriculture, would like to welcome you to the All Commodity Field Day. Robinson Station conducts research and educational programs in the areas of Forestry and Wood Technology, Agronomy (corn, tobacco, forages), Horticulture (vegetables, small fruit, other supplemental crops) and Family and Consumer Science Programs to meet the needs of people throughout Kentucky and Appalachia. There are many excellent workshops and tours planned for this event. I hope you will spend the entire day with us.

### Farmers Market Workshop

10:00 a.m. - 3:00 p.m.

- 10:00 a.m. Marketing Opportunities for Expanding Farmers Market Sales in Kentucky  
Speaker: Dr. Tim Woods. (20 min.)
- 10:20 a.m. Successful Product Additions for Kentucky's Farm Markets  
Speaker: Janet Eaton. (20 min.)
- 10:40 a.m. Value Added Products for Farmers Markets  
Speakers: Carol Rison and Peggy Powell, FCS Agents Bath and Montgomery Counties. (50 min.)
- 11:30 a.m. Fall Decorations and Crafts.  
Speaker: Sharon Bale (20 min.)
- 11:50 a.m. Flower Arrangements for Farmers Markets  
Speaker: Lori Bowling, Horticulture Agent, Boyd County (20 min.)
- Lunch\*\*
- 1:00 p.m. Maintaining Fruit and Vegetable Quality after Harvest  
Speaker: Dr. John Strang, UK Extension Horticulturist. (30 min.)
- 1:30 p.m. Gourd Crafting  
Speaker: Ray Wilson, Extension Agent for Leslie County. (30 min.)
- 2:00 p.m. Decorating and Marketing Gourds  
Speaker: Rufus Fugate, Retired Extension Agent for Leslie County
- 2:30 p.m. Basket Weaving for Retail Sales  
Speaker: Jennifer Hall

\*\* Box lunch provided for \$5.00 for those who have pre-registered.

## Horticulture Tours (3:30 - 6:30 p.m.)

- 2:00 p.m. \*Registration Begins  
\*Exhibits open  
\*Antique Garden Tractor Show  
\*Research Equipment Demonstrations
- 3:30 p.m. \*All tours start at the registration area  
(Each tour will be done two times.)
- 6:30 p.m. \*Dinner will be served in the Auditorium

### **Tour A (60 minutes)**

Tour Guide: Sherri Stewart, Breathitt County High School Agriculture Teacher

1. **Pumpkins, Gourds and Fall Decorations**

Speaker: R. Terry Jones, UK Extension Specialist for Horticulture.

This stop includes a pumpkin cultivar trial and plantings of various gourd and ornamental corn species.

2. **Fall Fresh Market Staked Tomato Cultivar Trial**  
Speaker: To be announced

This trial will be looking at several new and numbered tomato cultivars for yield, quality and disease resistance.

3. **Sweet Potato Cultivar Trial**

Speaker: Darrell Slone, UK Horticulture Research Farm Manager.

This cultivar trial will discuss four sweet potato cultivars that may have Farmers Market potential for Central and Eastern Kentucky. Darrell is a Johnson Co. native, a commercial producer of vegetables and has worked at the Horticulture Farm for 28 years.

4. **Hydrangeas and Other Cut and Dried Flowers**  
Speaker: Sharon Bale, UK Extension Floriculture Specialist.

This stop shows the results of various flower cultivars grown for sale as fresh cut or dried flowers.

5. **Small Fruit Cultivars for Kentucky**

Speaker: Dr. John Strang, UK Extension Specialist for Horticulture.

This stop looks at raspberry, blackberry and blueberry cultivars suitable for Farmers Market Sales. John works with fruit and vegetables at UK and has a strong background in tree and small fruit production. If you are interested in fruit production you will want to see John.

### **Tour B (60 minutes)**

Tour Guide: Sarah Fannin, Agriculture and Natural Resources Agent, Morgan County

1. **Herb Garden, Decorative Dried Grains and Season Extension High Tunnel**

Speaker: Amanda F. Sears, UK Extension Associate for Horticulture.

Amanda is a Laurel County native. She graduated from UK with a Masters Degree in Horticulture and accepted the Extension Associate position at Quicksand in 2005.

2. **Useful Horticultural Equipment**

Speaker: Phil Hays, Farm Research Technician.

Phil is a Breathitt County native and began working with the University of Kentucky Robinson Station in 2005.

3. **Mini Straw Bales / Fodder Shocks**

Speaker: Bonnie Sigmon, U.K. Extension Associate for Horticulture.

Bonnie is a Rockcastle County native and serves the Horticulture Industry in an eight county area around Laurel County.

4. **Farmers Market Booth Display**

Boyd County Master Gardeners



**2006 Field Day**  
**Quicksand, KY**  
**Fall Farmers Market Workshop**  
**September 28, 2006, 10:00 a.m. – 3:00 p.m.**

**Pre-Registration**

A Farmers Market workshop will be offered to anyone interested in product ideas for fall farmers markets and roadside sales. Topics at the Fall Farmers Market Workshop will include: value added products, fall decorations and crafts, flower arrangements, fall raspberries, gourd crafting and basket weaving. There is a registration fee of \$5.00. A box lunch will be provided to all registered attendees. Please fill out the form below and return before August 31, 2006.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ E-mail: \_\_\_\_\_

- Please register me to attend: My \$5.00 registration fee is enclosed.
- Please register me to attend: I will pay my registration fee at the door.
- I can not attend, but would like to receive any hand-out materials that are developed for this workshop.

Please complete a registration form for each person attending.

Return the completed form to one of the following:

By FAX:

606-666-2215

Attn: Terry Jones

By mail:

Dr. Terry Jones

University of Kentucky

130 Robinson Road

Jackson, KY 41339

By e-mail (please provide the information requested above):

tjones@uky.edu

# Appalachian Heirloom Seed Conservancy Fall Conference

Sustainable Mountain Agriculture Center  
1033 Pilot Knob Cemetery Rd.  
Berea, KY 40403

Our Third Annual Fall Conference is set for October 6-8. Once again it is being hosted by Bill and Irmgard Best at the Sustainable Mountain Agriculture Center in Berea, Kentucky.

Here are the details. Contact Bill Best for the pre-registration form: (859) 986-3204.

## Program:

### Friday, October 6

6-9 PM Early bird reception for members and invited guests only.

### Saturday, October 7

8-9 AM Registration

8-10 AM Seed Swap

10-11 AM Growing Heirloom Corn  
Paul Holloway

11 AM-Noon All About Heirloom Melons  
Merlyn Neidens

12-1:30 PM Lunch break

1:30-3:30 PM Market Growers & Buyers  
Roundtable Discussion

3:30-4:30: PM (concurrent)  
Tours of SMAC  
Bill Best

3:30-4:30 PM (concurrent)  
Butterbeans & Limas  
John Coykendall

4:30-6 PM Evening break

6-7 PM Current State of AHSC  
Brook Elliott

7 PM Annual Cook-out and Pot Luck  
Supper

### Sunday, October 8

8-10 AM Seed Swap

10-11 AM Preserving the Heirloom Harvest  
Mark & Velvet Heckle

11 AM-Noon TBA

12-1 PM Lunch Break

1 PM Heirloom Fruit of Appalachia  
John Strang

### *Notes & comments*

Seed swap tables on Saturday and Sunday are a prerogative of AHSC members only. Non-members may not offer seed during the formal swap sessions. The Market Growers Round Table is open to all attendees, whether market growers or not.



*Heirloom Apple - Ben Davis*

## Wine Making Tips

by Tom Cottrell, UK Extension Enologist

### Winemaking - Free Sulfur Dioxide Measurement

After a great deal of effort I now have a recommendation:  
For accuracy, precision and reproducibility (But NOT speed):

**I recommend: The Aeration/Oxidation method.** The technique description is attached.

#### What I DO NOT recommend and WHY:

- 1) **Titrettes.** While some of my clients have had some success with Free SO<sub>2</sub> determinations in white wines, in too many instances, in my opinion, we have traced spoiled red wine problems to false high readings obtained with the Titrette system.
- 2) **The Ripper Method.** Titration with Iodine-Iodide with a starch indicator is relatively fast. Again, fairly good results have been obtained with white wines. Red wines can suck up varying amounts of the Iodine-Iodide, and, in my opinion, ALWAYS give a reading that is too high by 15 to as much as 25 ppm (mg/L).  
While I have used and espoused this method for 30 years, I wrote an article for Vineyard and Winery Management magazine ((2004) Laboratory Shortcuts that Aren't. V&WM Magazine 30 No.2, 31-35) in which I analyzed various lab techniques for error probabilities. While the Ripper method may be fast, in my opinion it is not accurate enough to be a safe way to go.

I was pleased with the able assistance of Patsy Wilson, our Grad Student and Lab Technician and Brandon O'Daniel, our second Grad Student and Lab Tech, in assessing the operation of the next two types of instruments:

- 3) **The Reflectoquant Meter.** In my opinion, about 50% of my clients have had some success with this unit, but about 50% have had inaccurate readings: some consistently low (out-dated or badly stored test strips?), and a few had high readings, but mostly low ones. One meter became corroded, to absolute failure, by being stored in a normal humid winery environment. Another required battery removal and reverse installation (for an instant only) to get up and running. Consistent results have been, in my opinion, rare. Patsy was a big help in verifying the behavior of this unit.
- 4) **The Hanna Auto Titrator.** Patsy worked diligently to get repeatable, consistent results from the unit we purchased from GW Kent. The Hanna reps in Woonsocket, R.I. have been very helpful. In my opinion, every time we go through a set of wines to show how consistent it is, we get some wild outliers as much as 30% off.

{NOTE: The Hanna pH Meter Model 222 is, in my opinion, still the best winery pH meter for the \$'s.}

**The Aeration/Oxidation method works**, even for some of our 5-thumbed winery lab people. (Patsy has only two thumbs and works in the Enology Lab at UK). The only drawback is the 10-minute wait for the aeration to complete. Some recipes require 15 minutes! If speed is necessary, I recommend using two units simultaneously.

## Free SO<sub>2</sub> Measurement By Aeration-Oxidation

### Reagents:

1. **0.3 % hydrogen peroxide.** Dilute 1 mL of 30% hydrogen peroxide to 100 mL with distilled water.  
Keep refrigerated. Make fresh if more than 3 days old.
2. **Color Indicator.** Add 100 mg of methyl red and 50 mg of methylene blue to volumetric flask. Dilute to 100 mL with 50% (by volume) ethanol.
3. **25% solution of phosphoric acid.** Dilute 280 mL of 90% phosphoric acid in distilled water to 1000 mL.
4. **0.01 NaOH** in titration burette. Standardize as on next page.

### Procedure:

1. **Make up solution:** To run **n** tests put **(n+1)** x 10 mL of 0.3% hydrogen peroxide into a flask or graduated cylinder. Add 3 x **(n+1)** drops of indicator solution. Adjust to pH 5 (light purple) with dilute acid. Add a few drops of 0.01 NaOH to change color to green. (Olive green>1 drop>Kelly green)
2. **Reserve 10 mL** of this green solution as a temporary color standard.
3. **For each test: Pipet 10 mL** (Approx) of Green Solution into the impinger.
4. **Pipet 20 mL** of wine (Exactly) and 10 mL of 25% phosphoric acid (Approx.) into the round bottom flask. Be precise with the wine, approximate with phosphoric acid.
5. **Connect** vacuum to the exhaust side, OR connect air source to the pipet entering the wine sample.
6. **Turn on air flow** for 10 minutes with gentle bubbling. Target about 1 L per minute. Use the same flow rate for all tests.

**Then:**

**Titrate:** Purple solution in impinger with 0.01 NaOH, back to original green color.

**Result:** 
$$\text{Free SO}_2 = \frac{N_{\text{NaOH}} \times (\text{mL of Titrant}) \times (32,000)}{(\text{Volume of wine sample in mL})}$$
 in mg/L

If  $N_{\text{NaOH}} = 0.01$ , and the wine sample volume is 20 mL, then:

$$\text{Free SO}_2 = 16 \times (\text{mL of Titrant}) \text{ in mg/L}$$



## STANDARDIZING NaOH NORMALITY

**Use:** 250 mL Erlenmeyer Flask

**Add:** 100 mL distilled water to 250 mL Erlenmeyer Flask  
1 mL 1% Phenolphthalein or half an eyedropper full.

**Titrate:** with NaOH solution in question till light pink,  
or with a pH meter, to pH 8.2, to establish the starting point.

Use a manual pipet device on the standard solutions.  
First rinse pipet with standard, discard rinse material, then take 1 mL.

**Titrate:** with NaOH solution to end point above.

### **Result:**

**NaOH Normality:**  $N_{\text{NaOH}} = \frac{0.1}{(\text{mL of Titrant})}$

**NOTE:** If less than 5 mL of Titrant are required by end-point, accuracy will be improved if you titrate again using 2 or more mL of the Standard.

The formula for normality will be:

**NaOH Normality:**  $N_{\text{NaOH}} = \frac{(\text{ml of Std}) \times (\text{Normality of Std})}{(\text{mL of Titrant})}$

(Either 0.1N HCl or 0.1N K-acid Phthalate may be used as the Standard.)

**Hensley Settlement in  
Bell County**



## Receiving Fruit Facts Electronically on the Internet

Fruit Facts is available on the web in the pdf format. To get notification of the monthly Fruit Facts posting automatically and approximately two weeks earlier than it would normally be received via mail, you can subscribe to the UK College of Agriculture's Majordomo list processor.

New subscription requests and requests to unsubscribe should be addressed as follows.

To subscribe type "majordomo194@ca.uky.edu" in the To: line of your e-mail message.

Please enter a subject in the Subject: line -- the system needs for the Subject line not to be empty (blank).

In the message body, enter the following two lines (nothing more!):

subscribe fruitfacts  
end

Or, to unsubscribe, the lines:  
unsubscribe fruitfacts  
end

You should receive confirmation by return e-mail. If you have a problem, or if you wish to communicate with a person about "fruitfacts", the owner's address (the To: line of the message) is: owner-fruitfacts@ca.uky.edu



---

*John G. Strang,  
Extension Fruit & Vegetable Specialist*