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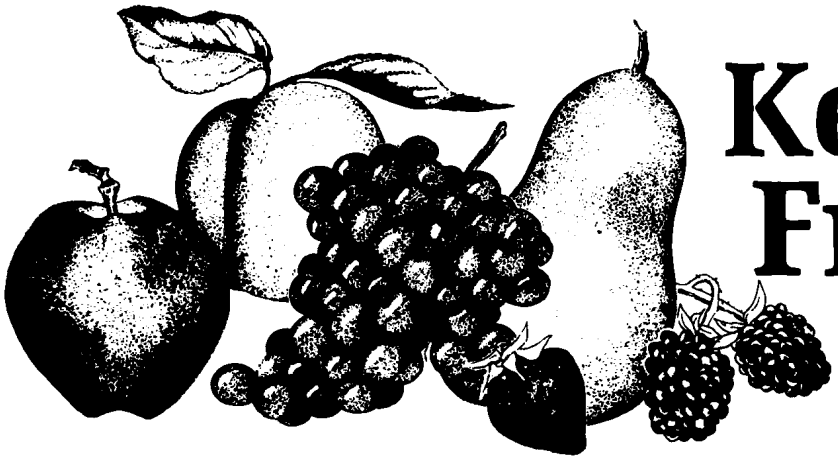

Kentucky Fruit Facts

Research & Education Center
P.O. Box 469, Princeton, KY 42445

February 1999 (2-99)
Prepared by John Strang, and Jerry Brown, Extension Horticulturists; Ric Bessin, Extension Entomologist; John Hartman, Extension Plant Pathologist; John Strang, Editor, Marilyn Hooks and Elizabeth Griffin, Secretaries

http://www.uky.edu/Agriculture/HLA/ follow the link to Extension programs & Publications and click on Fruit Facts

Meetings

Feb. - Farm Labor Issues Seminars, Sponsored by the Kentucky Farm Labor Task Force, 10:00 AM - Noon, with lunch to follow. These seminars will be geared for producers/employers and agency people. The programs will include a discussion of the H2A program, the Fair Labor Standards Act Requirements and other pertinent information. Please call 502/495-5000, ext. 218 and let them know which meeting you plan to attend in order to assist in planning for lunch.

Feb. 16 - Hart County Library, Munfordville
Feb. 17 - Basement of Shelby Co. Farm Bureau Bldg., Shelbyville
Feb. 18 - E. S. Good Barn, Lexington
Feb. 23 - New Extension Bldg. (Across from Fleming Mason RECC Bldg.) Extension Bldg., Flemingsburg

Feb. - Commercial Pesticide Applicator Training, Agricultural Plant and Animal Control Category 1, re-certification and initial certification.

Feb. 16 - Boyle County Ext. Office, Danville, KY 606/236-4484
Feb. 19 - Boone County Ext. Center, Burlington, KY 606/586-6101
Feb. 23 - Fayette County Ext. Office, Lexington, KY 606/257-5582
Feb. 25 - Pulaski County Ext. Office Somerset, KY 606/679-6361

Contact Monte Johnson 606/257-6693 if you have questions.

Feb. 18 - Sustainable Agriculture Workshop, Kentucky State University Farm, 125 Mills Lane, Frankfort. Topics for this meeting will include, business plans, taxes, record keeping, and enterprise budgets. Contact Mac Stone 502/564-5871.

Feb. 19 - Kentucky Herb Association, Franklin County Extension Office, Frankfort. Contact Mary Peddie at 606/759-7815, e-mail mparrot@may-uky.campus.MCI.net

Feb. 25 - Pruning and Grafting Fruit Trees, Laurel County Extension office, 1:00 and 6:30 PM respectively. Contact Glen Williams 606/864-4167.

Feb. 26 - Northern Piedmont Specialty Crops School, Ramada Inn, Jct. off Interstate 85 and NC 96, Oxford, N.C. Conference will concentrate on growing and marketing specialty crops. Contact Carl Cantaluppi 919/603-1350.

Mar. 1 - Apple Tree Grafting, Bell County, 6:30 PM, Pineville, KY. Contact D. J. Skully 606/337- 2376.

Mar. 2 - Fruit Tree and Grape Pruning, Bell County 10:00 AM. Contact same as above.

Mar. 2-3 - Illinois Small Fruit and Strawberry Schools, Holiday Inn, Mt. Vernon, IL. March 2 will cover small fruit and March 3 will be devoted to strawberries. Contact Jeff Kindhart 618/695-2444.

Mar.- Bell Pepper Integrated Crop Management Meetings. These are the first in a series of meetings that will be held this season to discuss bell pepper integrated crop management. Subsequent meetings will be held in grower fields where scouting procedures and pheromone traps are used to determine crop spray requirements.

Mar. 4 - Scott County Extension Office, Georgetown, 10:00 AM. Contact Mark Reese 502/863 - 0984.
Mar. 4 - Morgan County Extension Office, West Liberty, 6:30 PM. Contact Joe Gragg 606/464-2243 or the Morgan County Office 606/743-3292.
Mar.12 - Russell County Extension Office, Russell Springs, 1:00 PMCST. Contact Raymond Thompson 502/866-4477.

Mar.8 - Fruit Tree Pruning and Pest Control, Community Center Quicksand Experiment Station, Breathitt County, 1:00 PM. Contact Lowell Hamilton 606/666-8812.

Mar. 8 - Apple Tree Grafting, Breathitt County High School Agriculture room, 6:00 PM. Contact Lowell Hamilton 606/666-8812.

Mar. 9 - Apple Grafting, Leslie County. Contact Angela Begosh 606/672-2154.

Mar. 9 - Grafting Workshop, Warren County, 6:30 PM Contact Luther Smith 502/842-1681.

Mar.10 - New Apple Growers - Integrated Crop Management and Organic techniques for the first fruiting season, Fayette County Extension Office, 1140 Red Mile Place, Lexington, KY, 1:00 PM EST, Room C, 606/257-5582. Contact John Strang 606/257-5685.

Mar. 11 - Apple Pruning, Grafting, Insect and Disease Control, Wolfe County, Campton, KY, 1:00 PM. Contact Ted Johnson 606/668-3712.

Mar. 14 -16 - 1999 Southeastern Pecan Growers Annual Convention, Grove Park Inn, Asheville, NC. Contact Mike Parker 919/515-1198.

Mar. 16 - Commercial Apple IPM Meeting, Spencer's Orchard, Jim Spencer, Harned, KY. See information below.

Mar. 16 - Morgan County Farm and Home Night, Fruit and Vegetable Production. Contact Sarah Fannin 606/743-3292.

Mar. 20 - KVS Grape Pruning Demonstration, Chrisman Vineyard, Chris Nelson, Jessamine County, 1:00 PM, Nicholasville, KY Contact Chris Nelson 606/426-5972.

Mar. 20 - Alternative Agriculture Workshop, Large and Small Fruit Production, McCreary County, Whitley City, KY. Contact Greg Whitis 606/376-2525.

Mar. 23 -24 - Kentucky Farmers Direct Marketing Conference, Capital Plaza Holiday Inn, 405 Wilkinson Blvd., Frankfort. The conference will feature workshops on beginning and expanding farmers' markets, value added products, agritourism, business plans, regulations, direct marketing, livestock, and aquaculture Contact Alason Duncan 606/233-7845.

Mar. 26 - 27 - Opportunities for Woodlot Owners, Includes basic forestry information and covers ginseng, goldenseal, mushrooms, as well as information on marketing, starting a small business, property rights, and taxation. Drawbridge Estates, Fort Mitchell, KY. Registration $50-75. Contact Deborah Hill 606/257-7610.

Mar. 27 - KVS Grape Pruning Demonstration, Century Vineyards, Jay Pruce, 502/755 - 2807, Lewisburg, Logan County. Contact Rodney Haines 502/726-6323.

Jul. 22 - UK Robinson Experiment Station & Robinson Forest Field Day, Quicksand, KY. Contact Terry Jones 606-666-2438, e-mail tjones@ca.uky.edu
Jan. 3-4, 2000 - KSHS/KVGA Annual Meeting and Trade Show, Holiday Inn North, Lexington, KY.

Commercial Apple IPM Meeting, March 16

Spencer's Orchard, Jim Spencer, Harned, KY, 502/756-5385. Contact Carol Hinton, Breckinridge County Extension Agent for Agriculture, 502/756-2182

Directions: 9 miles east of Hardinsburg at junction of US 60 and KY 86

Agenda (all times CST)

10:00 - Welcome to Breckenridge County
Rickey Miller, County Small Farm Assistant
10:10 - Introduction to and tour of Kingswood Orchard
Jim Spencer, owner
10:45 - Apple grower round table discussion
President, KSHS
11:30 - Lunch (please reserve in advance, by calling Mary Ann Kelley at the U.K. Experiment Station, Princeton 502/365-7541, ext 216)
12:30 - Ensuring quality fruit set; frost control, pollination, and thinning John Strang, U.K. Extension Horticulturist
1:00 - Apple disease control strategies; efficacious fungicides John Hartman, U.K. Extension Plant Pathologist
1:30 - Early season insect control; use of pheremone traps Ric Bessin, U.K. Extension Entomologist
2:00 - Effect of speed on spray applications, with field demonstration of global positioning system Dwight Wolfe, Jerry Brown, U.K. Horticulturists
2:30 - Questions and answers U.K. Extension Specialists
3:00 - Adjourn

For those who make a reservation, lunch will be available at the orchard in the $6.00 range.

Roadside Market Program

Enrollments are now being accepted for the fourth year of Kentucky Farm Bureau's Certified Roadside Market program.

The program is open to markets across the state which sell their own farm-produced products and which meet the criteria established to signify quality and dependability under the Farm Bureau certification program.

Last year, 34 markets paid the $250 dues to join the effort. Large, colorful signs were erected to identify the markets, and promotional brochures and maps were distributed to interstate highway rest areas, state park gift shops and local tourism offices.

Market operators who designed the new program said they wanted the statewide promotion and certification to attract new customers and broaden their marketing base. Most of the members reported outstanding results during '98.

The roadside market program is one of a series of initiatives under consideration by Farm Bureau to provide assistance to farmers who want to market their own products, or diversify their income base through direct sales to consumers.

Program coordinator J. K. Henshaw says the enrollment period for the '99 program will stay open through the end of February. At that time, new brochures will be printed and other promotional efforts will get underway to support the program's enrollees. To enroll; contact J.K. Henshaw at 502/495-5106.

Apple Powdery Mildew Can Threaten Apple Orchards

Symptoms and damage. Powdery mildew, caused by the fungus Podosphaera leucotricha, distorts foliage, reduces twig growth and weakens trees so that they are more susceptible to winter injury. Whitish felt-like powdery patches of fungal growth may cover infected leaves, and the new leaves become narrow, stunted, crinkled, and brittle. Infected twigs may have a silvery gray appearance, grow more slowly, and in some cases may die back. Infected buds yield diseased leaves and flowers the next year. Infected flowers shrivel and die and produce no fruit. Symptoms on mature fruit are less common but appear as a fine network of corky tissue (russetting) on the fruit surface.

Disease cycle. The powdery mildew fungus survives overwinter in buds that were infected the previous season. Infected buds are sensitive to cold winter temperatures below -18 degrees F; at these temperatures, sensitive buds die along with the mildew fungus. With our successive relatively mild winters here in Kentucky, the powdery mildew fungus survives very well and has the potential to build to high levels in our orchards. In spring, as buds break dormancy, the powdery mildew fungus colonizes the developing shoots, creating the shoot surfaces, the white fungal growth which consists mainly of many thousands of spores which are responsible spreading the fungus and causing more infections.

Powdery mildew infections occur when the relative humidity is greater than 90% (leaf wetness is not needed) and the temperature is between 55 and 77 degrees F. Because spores do not germinate in water, the wet spring and early summer weather of recent years has not favored powdery mildew like it has favored other diseases. Once it begins, powdery mildew can develop rapidly - a new crop of spores may be seen only 5 days after an infection has taken place.

Disease management. Most apple cultivars are susceptible to powdery mildew.

Highly susceptible types include: Baldwin, Britemac, Cortland, Ginger Gold, Granny Smith, Gravenstein Holly, Idared, Johathan, Julyred, Monroe, Paulared, Prime Gold, Rome Beauty, and Stayman. These highly susceptible cultivars should receive first priority when the disease becomes prevalent.

Other more tolerant varieties that rarely need disease management attention include: Arkansas Black, Braeburn, Dayton, Delicious, Enterprise, Fuji, Gala, Grimes Golden, Jonafree, Lodi, Lord Lambourne, Niagara, Nittany, Prima, Priscilla, Sir Prize, Spartan, Winesap, and Yellow Transparent.

Apples with intermediate susceptibility to powdery mildew include: Ben Davis, Cox's Orange Pippin, Empire, Golden Delicious, Gold Rush, Jerseymac, Jonagold, Jonamac, Liberty, Macoun, McIntosh, Milton, Mutsu, Northern Spy, Pristine, Puritan, Quinte, Redfree, Rhode Island Greening, Spigold, Spijon, Summerred, Twenty Ounce, Wayne, Wealthy, Wellington, and York Imperial.

Plant trees in sunny locations with good air drainage to reduce humidity around trees.

Fungicides such as Bayleton, Benlate, Nova, Procure, Rubigan, and Topsin M are excellent for powdery mildew control. As these are used in many apple scab and summer fruit disease control programs, powdery mildew is thereby suppressed most years. However, because reduced spray programs may be used in drier seasons, powdery mildew can develop when other diseases are not a problem. (Hartman)

Sanitation for Fruit Disease Control

Both commercial and backyard fruit growers are confronted with diseases that can limit the health and yields of their crops. Although use of resistant cultivars and supplementary fungicide sprays are helpful for disease management, sanitation is also needed. To achieve optimum fruit disease control, sanitary practices are essential.

The main effect of sanitation in the orchard or garden is to eliminate or reduce the amount of the pathogen or causal agent of the disease. Many disease-causing fungi and bacteria survive on twig and branch cankers, mummified fruit, and leaves on the ground. Managing the pathogen is accomplished by cultural practices such as pruning out and destroying diseased and dying twigs and branches, by raking up and destroying fruit mummies and infected fallen leaves, or by removing diseased and dying plants.

In some cases sanitation involves removing and destroying an alternate host plant which harbors the disease. The classic example is the removal of red cedars and other susceptible junipers from areas near the orchard to stop the dissemination of cedar-apple and

cedar-quince rust to apples. Whether eliminating an alternate host or cleaning up a fruit planting, growers who make the effort to learn how pathogens are surviving will be more successful in their disease management efforts.

An added benefit of using pruning for sanitation is that pruning or thinning out diseased stems or branches also allows free air circulation and improved sunlight penetration to reduce the wetness and humidity in the fruit crop. This reduction in the moist conditions needed for infection by fungi and bacteria will reduce the amount of disease that develops.

The dormant season is a good time for sanitation efforts. The following are some selected fruit diseases with specific sanitation procedures useful in disease control.

Apple scab. The fungus overwinters on old leaves on the ground. Destroy all of last year's leaves by raking them up and destroying them.

Apple fruit diseases. Fruit rot pathogens can be found on dried, shriveled fruits, called mummies. Most of the pathogens are also capable of residing in dead twigs and branches in the tree. Remove fruit mummies from the tree and destroy them and prune out and destroy dead wood and cankers.

Apple and pear fire blight. The bacteria survive in branch and limb cankers in the tree. The dead wood associated with the cankers also harbors fruit rot fungi. Prune out and destroy fire blight cankers.

Peach and plum brown rot. The decay fungus survives in mummified fruit. They should be removed and destroyed.

Peach and plum cankers. The fungi survive in dead and cankered twigs and branches. Prune out and destroy cankers and dead wood.

Plum and cherry black knot. The fungus survives in the swellings. Remove and destroy all knots before bud break. Prune a few inches below the swelling.

Cherry leaf spot. Rake up and destroy last year's fallen leaves because they harbor the fungus.

Grape black rot. The fungus lives in tiny, dried, shriveled fruit and in cane cankers. Pick off and destroy mummies still hanging on the vine and prune out and destroy diseased canes.

Raspberry and blackberry anthracnose and cane cankers. Canker fungi reside in diseased stems of brambles. Remove and destroy diseased and winter-injured canes.

Strawberry gray mold. The gray mold fungus colonizes and produces spores on dead leaves and petioles. If feasible, hand pick and destroy dead strawberry plant tissue.

If fungicide sprays are needed to supplement these sanitary practices, spray guides are available from county extension offices. Information for commercial growers can be found in publications ID-92, Commercial Tree Fruit Spray Guide, 1999 and ID-94, Kentucky Commercial Small Fruit and Grape Spray Guide, 1999 and for backyard fruit growers, publication ID-21, Disease and Insect Control Programs for Home Grown Fruit in Kentucky Including Organic Alternatives. (Hartman)

Vineyard Culture for American and American-French Hybrids the Year of Planting

So you have done a soil test, adjusted the soil fertility, carefully planted those valuable select cultivars, watered them in and they are looking great. All you have to do now is stand back and watch them grow to achieve their full varietal potential.

Unfortunately, without care the first season you are liable to loose most or all of your investment in both time and money. You need to watch your fledgling vines very carefully and not from the truck or tractor seat either. Get out and walk down the rows and monitor your plant growth, insect, disease, and weed problems. Good growers do this at least once a week

Pruning and Training:

If you don't have your trellis up, stake each vine with a cane pole or its equivalent. Erect the trellis as soon as possible. Many growers wait until after the first growing season is over to establish their trellis. It's a lot easier to maneuver the tractor, operate a post hole digger or post driver, roll wire etc. when the vines are small. The height of the trellis should be around six feet. The higher the trellis, the more air movement through the vines and this reduces disease incidence. However, if your farm help is short in stature, high trellises make work difficult.

Vines should be pruned back to two buds on the best cane after planting in the spring. Train the most vigorous shoot up the stake and pinch off or pinch the tips out of any side shoots arising from the main shoot. Remove any flower clusters that develop in early to mid summer. Most growers train one shoot up the first season and develop a second trunk the second season. The shoot should be tied or clipped loosely to the stake to allow for cane expansion in girth. Work on developing very straight trunks. Its will take a number of trips through the vineyard to accomplish this.

Disease Control:

Since the vines will not have fruit on the first year, the spray program is very limited. Disease control for the first season is primarily directed toward black rot, downy mildew, and phomopsis cane and leaf spot. The intent is to obtain good vine growth and keep these diseases from building up in the vineyard and causing problems the following year. Use two to three early

sprays of mancozeb + Captan. These fungicides are protectant type fungicides and are relatively inexpensive compared with those materials that have kickback activity. If you are growing powdery mildew susceptible varieties or notice this disease developing later in the season, it looks like powdered sugar on the upper leaf surface, it's a good idea to apply a fungicide to prevent early defoliation of the vines. Powdery mildew can be controlled by sulfur on varieties that are not sensitive to sulfur, Captan, or by more expensive fungicides such as Nova, Rubigan, Procure, or Abound.

Insect Control:

Insect control the first season is easy. Apply an insecticide such as Sevin or Imidan if Japanese beetles become a problem, or if you note serious insect defoliation from another insect.

Weed Control:

Weed control is extremely important the first season and often causes substantial reductions in vine growth. Weeds are very competitive and easily out compete young grape vines for water and nutrients. Good growers will grow a cultivated crop or a cover crop the season before planting grapes to build up organic matter and reduce weed populations. Green manure crops such as sudan grass or sudex work well when plowed down several weeks before establishing a vineyard sod in late August. Two-foot wide sod strips are then killed with Roundup and the vines are planted in the killed strips in the spring. On steep slopes that can't be extensively cultivated, fertilizer is tilled in down the row and grapes are planted in the tilled area. A preemergence herbicide such as Snapshot or Gallery is applied after the soil has settled around the newly planted vines to prevent weed seed germination. Directed sprays of Touchdown for grass and broadleaf weeds or Fusilade, or Prism on actively growing grasses can be used during the growing season.

At the very least, late summer sprays of Roundup should be used the season before planting to control serious perennial weeds such as blackberries and johnsongrass to get these under control.

An alternative method of weed control is to lay a heavy black plastic mulch with trickle tube beneath it down the row over the newly planted vines. The plastic is then cut over each vine to allow growth. If trickle irrigation is not an option, small holes can be drilled in the plastic prior to laying to allow rain water in. A heavy plastic can last two seasons.

Weeds can also be controlled by mechanical cultivation, with hand hoeing close to the vine. Cultivation should begin as soon as weed growth starts and is continued throughout the season.

Water:

Lack of water is the second most common reason for poor vine growth the first season and a prime reason for inspecting vines frequently. Grapes have a very restricted root system the first few years and water is extremely important for good growth. Once the plants are drought stressed, it requires some time for the vines to begin growth again following watering. Check the soil moisture by feeling the soil or better yet by installing a tensiometer to monitor soil moisture.

A permanent trickle irrigation system attached to the bottom trellis wire is the ideal irrigation system for a fresh market grape vineyard. Alternatively trickle tube can be installed down each row and will last a couple of years to get the young vines established. At the very least water should be tanked on when the soil gets dry.

Miscellaneous:

Some growers have found that growth tubes placed around young vines the first season help protect the foliage from Japanese beetles and deer and improve vine growth. Deer should be controlled or fenced out where the population is high. (Strang)

Concern About G.30 Apple Rootstock

At the recent NC-140 meetings there was some concern regarding the combination of Gala/Geneva 30. Reports from several states indicated that this combination may form a weak bud union. It was recommended to support the trees with two wires rather than a single wire or post. Damage occurred when high winds caused the trees to snap at the union due to twisting. (Robert Crassweller, Pennsylvania Fruit Times Newsletter)

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