

Kentucky Fruit Facts

April/May 2006 (4-5/2006)

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

John Strang, Extension Fruit Specialist, Editor
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Fruit Crop News

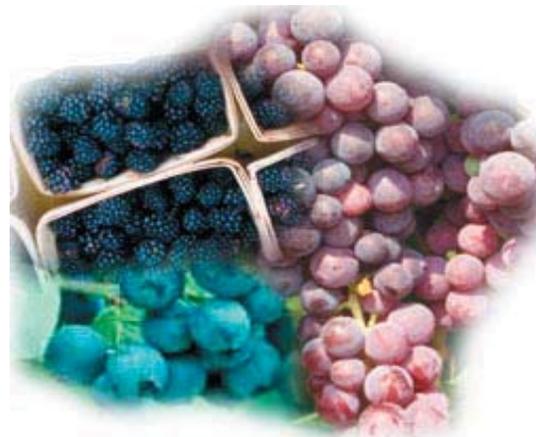
*by John Strang, Tom Priddy, John Hartman, and Ric Bessin
U.K. Extension Fruit and Vegetable Specialist, Agricultural
Meteorologist, Plant Pathologist and Entomologist*

Temperatures dropped below 20°F on the 23rd of March, a late spring freeze on the morning of April 9th reduced peach bud numbers in a few orchards, and we have had a few hail storms. Despite these just about all growers still have full fruit crops and strawberries are ripening about two weeks earlier than normal.

The 80°F degree temperatures during bloom considerably shortened the apple and pear bloom period and accelerated fire blight bacteria production. We have had a number of fire blight infection periods in many orchards and are seeing numerous strikes in some central Kentucky apple orchards. Powdery mildew is readily visible on new shoots in unsprayed apple orchards. Grapes have been exposed to a number of black rot infections already. Orange rust is now visible on infected blackberry and black raspberry plants. The frequent rain showers have made it difficult to keep protectant fungicides and insecticides on fruit crops this spring.

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Grape shoots are expanding rapidly and as bloom occurs growers that had serious phylloxera problems last year might want to consider controlling this insect this year. The presence of grape phylloxera is best recognized by characteristic galls that are produced on leaves or roots. Leaf galls are wart-like, about 1/4 inch in diameter, and are familiar to anyone growing grapes. Root galls cause stunting and/or death of European grapevine varieties. American varieties of grapes, European hybrids, or European grapes grafted onto American Rootstocks are tolerant to the root gall form of the insect. Some varieties are resistant to root galls, leaf galls or both. At bloom, Endosulfan, Danitol, or Assail can be used to control the first generation of the leaf form. Control of the early generation aids in suppressing summer generations on susceptible varieties. Be careful if Endosulfan or Thiodan is used as it can injure Concord, Baco Noir, Chancellor, Colobel, Cascade, Cynthiana/Norton, Chambourcin and some other cultivars.

Please note that the Kentucky Nut Grower's Association now has a web site that

has been developed and is being managed by Dr. Kirk Pomper at KSU. The site is: www.pawpaw.kysu.edu/KNGA.htm

Howard Rottgering of McCracken County, passed away on Saturday, April 8, 2006 at the age of 92. Howard was a farmer, orchardist and a member of Immanuel Baptist Church in Paducah. He was a long time Extension supporter and was instrumental in securing the Rottgering-Kugel Agricultural Research and Extension Building at the U.K. Research and Education Center in Princeton, Kentucky. Mr. Rottgering was honored by the U.K. College of Agriculture on numerous occasions for over three quarters of a century for his contribution to agriculture in Kentucky. He is survived by his wife, Mary Carroll Rottgering; a daughter, Judy Vannerson of Pace, FL; a grandson; a stepgranddaughter; a stepgreatgranddaughter and several nieces and nephews.

Guthion Use Update

by Bayer CropScience

Group 2 crops, nectarines, peaches, potatoes, caneberries, cotton, cranberries, and southern pine seed orchards are being removed from the Guthion label in 2006. Guthion distributors could only sell Guthion for these crops up through 3/31/2006. **Growers will not be able to use Guthion on these crops after September 30, 2006.** However, Guthion use is still cleared for use on apples, pears, and cherries, after this date.

Upcoming Meetings

May 12 Best Management Practices for Western Kentucky Vineyards, Browns Valley Vineyard, (Daviss County) 524 Ben Ford Rd., Utica, KY 42376. Contact Annette Heisdorffer 270-685-8480. See program below

May 13 Best Management Practices for Central Kentucky Vineyards, U.K. Horticultural Research Farm, Lexington, KY. Contact Chris Smigell 859-257-5685; e-mail csmigell@uky.edu. See Program below.

May 16 Commercial Fruit Grower Meeting, Haney's Appledale Orchard, Nancy, KY. Contact Beth Wilson 606/679-6361 or John Strang 859/257-5685. See Program Below.

May 20 Best Management Practices for Northern Kentucky Vineyards, Eden Shale Farm CANCELLED.

May 26 Mid Mississippi Valley Orchard Tour, Campbell, Missouri. The first stop on the tour will be Bader Farms, owned by Bill Bader. This is the premier peach orchard in the state and includes a few apples in the 800+ acre farm. During the afternoon Stewart's Orchard, owned by John Stewart will be featured. John grows around 30 cultivars. Many of you might remember that this tour was held at Bill Jackson's orchard in Bowling Green Last year. This is a cooperative tour between the Extension Services of Missouri, Illinois, Kentucky and Tennessee. More information will be supplied as it becomes available. Contact Timothy Baker 573-888-4722. If you are interested in this tour, call Joe Masabni 270-365-7541 x 247 or John Strang 859-223-2995 and if we have enough interest we will take a van load of growers over.

Jun. 15 Gooseberry Field Day.
KSU Research Farm, Mills Lane, Frankfort.
Contact Kirk Pomper at 502-597-5942;
e-mail: kirk.pomper@kysu.edu

Jul. 9-11 American Society for Enology and Viticulture Eastern Section (ASEV-ES) 2006 Annual Meeting, Rochester, NY

Jul. Date to be announced. Kentucky Nut Growers Association Grafting and Budding Workshop. Wilmoth Nursery, 5960 Bacon Creek Road, Elizabethtown, KY. Phone 270-369-7493.

Aug. 1 UK Horticultural Research Farm Twilight Tour, Horticultural Research Farm, Lexington, KY. Contact John Strang 859-257-5685; e-mail: jstrang@uky.edu

Aug. 30-Sept.1 North American Fruit Explorers (NAFEX) and SFF Annual Meeting, Holiday Inn North, Lexington, KY. Contact John Strang 859-257-5685; e-mail: jstrang@uky.edu

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, Quicksand. Contact Terry Jones 606-666-2438 x 234.

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

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

Best Management Practices for Western Kentucky Vineyards

12 May 2006 at 1:00 PM
Brown's Valley Vineyard
524 Ben Ford Rd.
Utica, KY 42376
Owner Bruce Kunze

Agenda (All times are CDT)

- 1:00 PM Registration
- 1:15 PM Training young vines
- Dr. Kaan Kurtural UK
- 1:45 PM Calibration of herbicide sprayers
and rate calculations
- Dr. Joe Masabni UK
- 2:15 PM The 5-steps in canopy management
- Dr. Kaan Kurtural UK
- 3:00 PM Break
- 3:15 PM Calibrating airblast sprayers for
vineyards
- Dr. Kaan Kurtural UK
- 4:00 PM Adjourn

For Registration information please contact:
Dr. Annette Heisdorffer, County Extension Agent
for Horticulture
Phone: (270) 685-8480
e-mail: annette.heisdorffer@uky.edu
Directions: The vineyard address is: 524 Ben
Ford Rd. Utica, KY 42376

Directions:

In Owensboro take the 60 Bypass.
Take the 431 exit to the south.
After 7 miles turn right on Ben Ford Rd.
Browns Vinyard is 1/2 mile on the left.

Best Management Practices for Central Kentucky Vineyards

13 May 2006 at 1:00 PM
University of Kentucky
Horticulture Research Farm
4321 Emmert Farm Road
Lexington, KY 40514

Agenda (All times are EDT)

- 1:00 PM Registration
- 1:15 PM Training young vines
- Dr. Kaan Kurtural UK
- 1:45 PM Calibration of herbicide sprayers
and rate calculations
- Chris Smigell UK
- 2:15 PM The 5-steps in canopy management
- Dr. Kaan Kurtural UK
- 3:00 PM Break
- 3:15 PM Calibrating airblast sprayers
for vineyards
- Dr. Kaan Kurtural UK
- 4:00 PM Adjourn

For Registration information please contact:
Chris Smigell, Extension Associate for Small
Fruits and Vegetables; Phone: 859-257-5685
e-mail: csmigell@uky.edu

Directions:

The U.K. Horticultural Research Farm is located on
the South side of Lexington approximately one block
west of the intersection of Man O'War Boulevard and
Nicholasville Road (U.S. 27). The entrance to the
farm (Emmert Farm Lane) is off of Man O'War Boule-
vard at the Traffic light opposite the entrance
to the Lowe's and Walmart.

Commercial Fruit Grower Meeting

Tuesday, May 16

Haney's Appledale Orchard

8350 W Hwy. 80

Nancy, KY 42544

Don and Mark Haney, Owners

606/636-6148 (mkt)

Directions:

From the west - Take the Loui B. Nunn Parkway (Cumberland Parkway) to exit 78 and proceed south on old 80. Appledale Orchard will be on the left on the far side of Nancy, KY.

From the east - Take the Loui B. Nunn Parkway going west from Somerset. Turn right at the second intersection after US 27. Take the first left onto old 80 towards Nancy, KY. Appledale Orchard will be on the right on the outskirts of Nancy.

Program:

All times EDT

- | | |
|----------|--|
| 10:00 am | Registration |
| 10:15 | Orchard Tour
- Don and Mark Haney |
| 11:00 | Summer Fruit Diseases
- John Hartman |
| 11:30 | Minimizing Insecticide Costs
in the Orchard
- Ric Bessin |
| 12:00 | Lunch |

Lunch will be available at cost (in the \$6.00 range) for those that preregister.

Preregister for lunch by calling Mary Ann Kelley at 270/365-7541 Ext. 216 between 8:00 a.m. and 4:30 p.m. CST weekdays by Monday May 15 and give her a count for the Commercial Fruit Grower Meeting at the Haney's Orchard.

- | | |
|---------|--|
| 1:00 pm | Weed Identification
- Joe Masabni |
| 1:30 | Fruit Nutrition
- John Strang |
| 2:00 | Apple Grower Round Table
Discussion
- Maurice Fegenbush, moderator |
| 2:30 pm | KSHS Board of Directors
meeting |

Asian Ambrosia Beetle

by Ric Bessin, U.K. Extension Entomologist

The Asian Ambrosia beetle is a new pest to Kentucky that attacks many types of ornamentals, fruit and nut trees, and as we observed last year, grapes. This is a minute (2-3mm) brown beetle that emerges in March and April and shortly after emergence bores into the stems and branches of its hosts. It prefers smaller caliper hosts, from 0.5 up to four or five inches. It destroys the conducting tissue of its hosts and infests the plant with an Ambrosia fungus that does additional damage by plugging the xylem.



Fig. 1. *Asian Ambrosia beetle female.*

The female bark beetle (Fig. 1) bores into trunks and produces a 'toothpick-like' sawdust extrusion from the gallery (Fig. 2). These can



Fig. 2. *Asian Ambrosia beetle sawdust extrusion.*

be two to three inches in length, but are very fragile and are easily broken off by wind or rain.

This insect pest is new to Kentucky, invading from the south.

But this year samples have been trapped in

far west and northern Kentucky. The risk to fruit crops at this point is minimal, but you should still be watching for it.

The recommendation is to monitor your fruit crops for the characteristic extrusion now and for the next several weeks. Look on both the new growth and older wood. When and if you see the first signs of attack, use a pyrethroid insecticide to protect the plants. If you see no signs of attack by Asian Ambrosia beetle, you should not treat for it. Danitol and Capture are pyrethroids that work well and are registered on some fruit crops. If you treat, be sure that the pyrethroid is labeled for the particular fruit crop. Nursery operations have found pyrethroids the best for protecting nursery stock.

Insecticide Update

by Ric Bessin, U.K. Extension Entomologist

Several insecticides have changed their formulations for 2006, so growers need to be especially careful when using these products as there are a few changes in how they are used. All of these new formulations use different concentrations, so the rates are VERY different than those for the older products listed in our recommendations. As always read the labels carefully and follow the directions.

Venom Insecticide - This is a formulation and concentration change from Venom 20 SG. The new formulation has the same crops and pests on the label. The very significant change is the concentration alteration, it is now a 70 percent formulation, so the rates are only a fraction of what they were with the older formulation. Do not confuse Venom 70 SG with Venom 20SG.

Venom 70 SG has a Federal label in all states for use on grapes, fruiting vegetables, head and stem brassicas (cabbage, broccoli, and cauliflower), leafy vegetables, cucurbits (squash, pumpkins, and cucumbers), and potatoes. Venom 70SG has just had grape berry moth and multi-colored Asian lady beetle added to the grape label. A 2(ee) is in the process of being sent out to all states that will add stink bug (green, brown and southern), cucumber beetle, squash bug, grasshoppers, and harlequin bug to the previously mentioned vegetable crops on the federal label. This will be posted in Fruit Facts as soon as it occurs.

This pesticide is toxic to shrimp and honey bees. Venom 70 SG is toxic to honey bees for 38 hours after treatment. The persistence of residues and potential residual toxicity of this material in nectar and pollen suggests the possibility of a chronic risk to honey bee larvae and the eventual instability of the hive. Do not apply this product to blooming, pollen-shedding or nectar producing parts of plants during this time period.

Admire Pro Systemic Protection - Admire 2 F has become a popular insecticide for tobacco and some vegetable producers in the state. Admire Pro is replacing Admire 2 F as it has improved mixing properties. Growers need to be aware that as with Venom, there is a major

change in concentration between the formulations. Admire 2F had 2 pounds active ingredient per gallon, while the new Admire Pro formulation has 4.6 pounds active per gallon. While the two products have similar use patterns, the rates are very different, with the Admire Pro used at only a fraction of the rate of Admire 2 F.

Assail 30 SG - This new formulation is replacing the older Assail 70 WP. This change will reduce the potential for applicator exposure as the new formulation is low dust. Similar to the previous two examples, this is also a rate change. The concentration in this instance has been reduced from a 70 percent wettable powder to a 30 percent soluble granule. Since the concentration has been reduced the use rate for the new formulation for the field is increased over the older formulation.

Zeal - The pre-harvest interval (PHI) for Zeal on apples and pears has been reduced from 28 to 14 days in a supplemental label. Zeal is also now labeled for grape mite control, however we rarely see mite problems in grapes in Kentucky.

New Insecticide for Raspberry Crown Borer

by Ric Bessin, U.K. Extension Entomologist

Raspberry crown borer is the most devastating pest of blackberry and raspberry in Kentucky. While not as obvious as Japanese beetle or green June beetle attacking the fruit, raspberry crown borer attacks the roots and crown of the plants and can result in killed or weakened canes. Raspberry crown borer symptoms include canes prematurely dying, spindly cane growth, and reduced leaf size. If you suspect raspberry crown borer, look for sawdust-like frass pushed out of the base of infested canes near the soil, swelling at the base of the canes, or tunnels in the canes that are noticed while pruning. This is a common pest of blackberries and raspberries throughout the state that can severely reduce the productivity of a planting. This insect has a two year life cycle.

Capture 2EC has been approved for use as a soil drench to control raspberry crown borer on cane berries. Guthion Solupak is also registered for crown borer control on raspberries and blackberries. Capture 2EC has shorter PHI and REI restrictions than Guthion. These are applied in September or October, or at bud swell in the spring, as a drench to the lower cane and soil around the base of the plants. Applications in the fall may be more effective than in the spring. This application prevents new infestations and will not control second-year larvae. For this reason, applications for several seasons may be needed to achieve control.

Grape Disease Control Begins in Early Spring

by John Hartman, Extension Plant Pathologist

Grape diseases are often the limiting factor in successful production of grapes for fresh market use and for wine making. Growers should recognize this general rule: If diseases are controlled well early in the season, there is less need to manage them later in the season. The corollary is that if grape diseases are not well controlled early, then the rest of the season becomes a constant battle against disease. Grape buds have broken and new disease-susceptible growth is emerging from the vines.

Disease management in spring between bud break and bloom is critical to growers aspiring to produce a good crop. There are several diseases that are active now even though the symptoms developing from current infections may not be seen for several weeks or months.

*Black rot - *Guignardia bidwellii*. This is the most common foliar and fruit disease of grape in Kentucky.

*Powdery mildew - *Uncinula necator*. Most grapes are susceptible to powdery mildew.

*Downy mildew - *Plasmopara viticola*. Downy mildew is favored by cool, moist weather.

*Cane and leaf spot - *Phomopsis viticola*.

*Most years, wet periods in late April and early May are very favorable for black rot and *Phomopsis* cane and leaf spot and these diseases can become devastating in some vineyards. Downy mildew and powdery mildew can also begin to develop at this time. Growers should concentrate on managing these diseases. Now that grape buds have broken, infections will occur just about any time there is more rain. The period from immediate pre-bloom to three or four weeks after bloom is the most critical period to control fruit infections by black rot, powdery mildew, and downy mildew. Fruits, but not leaves and fruit rachis tissues generally become resistant to these diseases four weeks after bloom. Management requires an integrated approach involving cultural practices and chemical controls.

*Cultural practices to reduce diseases. Keep the foliage dry and less prone to disease by use of intelligent field site selection, training systems that ventilate the leaves and clusters, judicious nitrogen use, and appropriate irrigation practices. Plant disease-free plants and choose cultivars that resist diseases. Although most grape varieties are susceptible to black rot, a few such as Cascade, Cayuga White, Chancellor, Chelois, Cynthia/Norton, DeChaunac, Elvira, Ives, Vidal 256, and

Vignoles are less susceptible. Use good sanitation by removing and destroying diseased and dead wood, and mummies from the vine and on the ground.

*Fungicides for disease control. More complete information about varietal susceptibility and timing and materials for grape disease control can be found in ID-94 Kentucky Commercial Small Fruit & Grape Spray Guide 2006, available at County Extension Offices.

*Chemical controls need to be integrated because although black rot is usually most important, there are other fungal diseases that need managing. For all four of the early-season diseases, growers can choose protectant fungicides such as mancozeb (Dithane M-45, Manzate 200, Penncozeb), Captan, or Ziram and mix one of these choices with Bayleton, Elite, Endura, JMS Stylet Oil, Nova, Quintec, Potassium Salts, Procure, or Rubigan. Strobilurin fungicides such as Abound, Flint or Sovran can also be used in combination with Endura, Quintec, Potassium Salts, or sulfur. Or, growers may choose Pristine, a combination product, which can be used alone.

***Some notes and precautions relating to fungicide use:**

*Mancozeb is more effective against black rot than captan or ziram.

*Do not apply Pristine or Flint to Concord or other American type grape as injury may occur.

*Use Sulfur with caution. Do not use Captan or sulfur within 2 weeks of applying JMS Stylet oil and vice versa.

*Additional help with downy mildew, if needed, can be obtained by use of Ridomil Gold MZ, Ridomil Gold Copper, or one of the phosphorous acid-related fungicides such as ProPhyt, Phostrol, Agri-Fos, or Aliette.

*Abound fungicide is phytotoxic to certain apple varieties and should neither be mixed in the same sprayer used to spray apples nor allowed to drift into a nearby orchard.

*Potassium salts for powdery mildew control include Nutrol, Kaligreen, and Armicarb.

*Organic growers may consider using sulfur, stylet oil, or potassium salts for powdery mildew, and fixed copper or copper and lime (i.e., Bordeaux mixture) compounds for the other diseases. Copper fungicides, good against downy mildew, but weak against black rot and cane and leaf spot, also have the potential to damage vines, especially in cool weather. Thus, caution is needed to be sure that copper is not used excessively and that copper and lime are not applied to fruit destined for fresh market.

*Fungicide resistance is a concern for some grape fungicides. Follow label instructions for resistance management.

Herbicide Misconceptions

by Joseph Masabni, Extension Fruit and Vegetable Specialist

As the weed control specialist for fruits and vegetables, I frequently talk with commercial and home fruit growers who have misconceptions or long-held opinions on herbicides that are not always accurate. I would like to clarify some points in this article. The following questions apply to both tree and small fruits.

I often hear, “I can’t spray this herbicide because it is labeled for non-bearing grapes and my grapes are at least 5 years old”. In this case growers are confusing the age of the grapevine with its bearing ability. Bearing or non-bearing is not related to the age of the grapevines. Obviously, newly-planted trees or grapevines are not bearing, but a freeze that kills the flowers makes trees without fruit by definition ‘non-bearing’. A freeze that occurred last year and some peach orchards in Western Kentucky lost most if not all of their flowers. Although this is a great economic loss to the grower, it should also be viewed as an opportunity to rotate herbicides and use the ‘non-bearing’ herbicides that haven’t been used in a long time.

“What does established really mean? Is a tree established once it starts bearing or once the soil settles after planting and the tree sends out new shoots?” An herbicide may have a specific age restriction, for example, Karmex is labeled for apple, pears, and

grapes that have been established for at least 1 year before application. On peaches, the time is 3 years. The Establishment time period begins the moment the tree or vine goes into the orchard. So, in the Karmex example, an apple tree becomes established exactly 1 year after planting. Once this minimum time is met, from the planting date, then the herbicide can be applied whether the trees have a crop or not.

“Roundup is not labeled on peaches. I can’t use it on peaches”. Roundup is labeled on stone fruits in gen-

eral and peaches in specific. Other stone fruits labeled for use with Roundup include apricot, sweet and tart cherry, nectarine, plum/prune (all types) and plumcot. Roundup is a systemic herbicide, effective in killing most weeds and any green tissue it lands on. Green tissue refers to leaves and new unhardened branches, stems, or twigs. It is a powerful tool for the control of perennial weeds in an orchard setting, especially in the fall when most perennial weeds are sending food reserves to the underground storage structures. A quick scan of most generic and original Roundup labels shows the following cautions in Roundup use in peaches: “Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees that have been planted in the orchard for 2 or more years. Extreme care must be taken to ensure no part of the peach tree is contacted.” **Many peach trees have been lost in the mid-west due to Roundup applications and this material should be used only with great caution and care.** Roundup wick and wiper applications help to keep the material off of the trees.

Roundup is labeled on peaches as long as you don’t use it on newly planted trees or trees less than 2 years old and as long as you don’t allow Roundup to reach green tissue. It is a serious loss to the grower not to use Roundup on his 10+ year old peach trees as long as he observes the above listed cautions.

The following table summarizes the age and bearing restrictions for tree fruits and grapevines.

	Apple, Pear	Peach, Plum, Nectarine, Cherry	Grape
Non-Bearing			
Preemergence	Gallery, Prowl, Snapshot	Gallery, Prowl, Snapshot, MSMA	Gallery, Prowl, Snapshot
Postemergence	Basagran, Fusilade, Reglone, Select	Basagran, Reglone, Select	Basagran, Fusilade, Reglone, Select
Age Restriction			
Preemergence	Chateau, Karmex, Princep, Solicam, Sinbar (apple)	Chateau, Karmex, Princep, Solicam, Sinbar (peach)	Chateau, Goal, Karmex, Princep, Solicam
Postemergence	2,4-D	2,4-D	Rely
No Restrictions			
Preemergence	Casoron, Devrinol, Kerb, Solicam, Surflan, Goal	Casoron (peach), Devrinol, Kerb, Surflan, Treflan	Casoron, Devrinol, Kerb, Surflan, Treflan
Postemergence	Aim, Gramoxone, Poast, Roundup	Aim, Gramoxone, Poast, Roundup, Fusilade, Stinger	Aim, Gramoxone, Poast, Roundup

Please note that ‘No Restrictions’ herbicides still have a ‘pre-harvest interval or PHI’ and or a maximum amount of product allowed per year.

Red Delicious Apples More than Merely Tasty

From Facts for Fancy Fruit Newsletter, Purdue University, by Peter Hirst, Extension Fruit Specialist

The Red Delicious not only is America's most common apple, it's also among the richest apple varieties in health-promoting antioxidants. A Canadian study, published in the Journal of Agricultural and Food Chemistry, tested antioxidant levels in eight different types of apples.

Red Delicious led the pack, followed by:

Northern Spy
Ida Red
McIntosh

Cortland
Golden Delicious
Mutsu

At the bottom of the barrel were Empire apples. To get the most out of a Red Delicious apple, however, you have to eat the peel. The researchers found that the skin of the Red Delicious contains six times the antioxidants of the flesh. In every variety tested, the skin packed significantly more antioxidants than the flesh. If you must peel your apples, consider Northern Spy or Cortland, both of which topped Red Delicious on antioxidant content in the innards alone. (From Tufts University Health and Nutrition Letter)



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