Kentucky Fruit Facts

July-August 2022
http://www.uky.edu/hort/documents-list-fruit-facts

Daniel Becker, Editor
Christy Cassady, Newsletter Designer

University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Cooperative Extension Service
University of Kentucky
Horticulture Department
N-318 Ag. Science Ctr. No.
Lexington KY 40546-0091

Inside this Issue:

Note: We have ceased publishing Fruit Facts as a hard copy or mailed newsletter. If you would like to continue receiving Fruit Facts, please sign up for email delivery as described at the end of this newsletter or contact your County Extension Office to have them print a copy for you.

Fruit Crop News

By Daniel Becker, UK Extension Associate

The hot and hazy days of summer have arrived. More than one grower has said that it feels more like August or September with the heat and lack of rainfall. The grass certainly looks like it could use a drink. Un-watered lawns are starting to have brown patches develop and most grasses except for bermudagrass and johnsongrass have slowed growth. Once rainfall increases and temperatures moderate, fescue will bounce right back and start growing again, but for now the break in growth is a welcome opportunity to slow down on mowing.

The earliest of the early apples are beginning to ripen, and we are now entering the main season of peach harvest. Erect thornless blackberries are mostly done with blueberries heading towards the mid- to late-season varieties. Here at the UKREC, Redhaven went through pit hardening in the middle of June signaling the start of the ripening process. During ripening, increases in fruit size are primarily through cell expansion which is driven by water. Drought stress in conjunction with high heat during ripening will negatively affect fruit sizing and may delay fruit development and sugar accumulation. Mild water deficits during ripening can slightly reduce fruit size but not affect sugar accumulation, resulting in perceptibly sweeter fruits.

If possible, be sure to give your plants a drink whenever the soil gets very dry. I have noticed some unirrigated peaches starting to have a slight yellow cast to their leaves, a good sign that they are under drought stress. I have also had more requests to diagnose drought stress in blueberries than in years past (see masthead).

Dr. John Strang has kept in touch and relayed some news that may be informative to readers in the central and eastern areas of the state. “It looks like southern Kentucky growers (Haney’s and Jackson’s) will have short peach crops this year because of rainy cold pollination weather. Billy Reid and Dana Reed have good apple and peach crops. Hinton’s Orchard was hit by the tornado that touched down in the Louisville area about April 13th. It took a good portion of the roof off their market and severely damaged their greenhouses.” Also relayed is that Martins Produce Supplies has moved. Their new location is 2518 South Fork Creek Rd., Liberty, KY 42539, and phone number is 606-787-9389.

With the hot weather looking to continue, I hope everyone takes breaks when they can and try to cool off. Remember to drink plenty of water and avoid heat stress. Best of luck!

Upcoming Meetings

All times EDT unless noted

July 12. Reducing Risk, Specialty Crop Insurance Webinar Series. Topic: Grower Panel. 12:30 pm. To register, https://us06web.zoom.us/meeting/register/tZcvf-iuqDgtG9PpErwxskqi8kZ3fVIRaULI.

July 21. Purdue Fruit, Veg., and Hemp Field Day. In person from 9:00 am – 1:00 pm at the Purdue Meigs Ag Center. Register at https://purdue.ca1.qualtrics.com/jfe/form/SV_8p2T2XFeU5VOqdU. For more information contact Lori Jolly-Brown, Ijollybr@purdue.edu, (765) 494-1296.

July 26. Wooster Apple Field Day. From May 2022 Ohio Fruit News.

Aug. 7-10. Northern Nut Growers Association (NNGA) and Chestnut Growers of America Annual Conference. The 2022 conference will be held on the Penn State Berks campus in Reading, Pennsylvania. For more information and to register, visit https://nutgrowing.org/annual-conference-2022/.

Oct. 1. RCARS Mountain Fest Field Day. 10:00 am – 2:00 pm, registration begins at 9:00 am. UK Robinson Center, 130 Robinson Rd., Jackson, KY 41339. For more information, call (606) 666-2438.

Jan. 3-4, 2023. Kentucky Fruit and Vegetable Conference. Schedule TBD. Sloan Convention Center, 1021 Wilkinson Trace, Bowling Green, KY 42103. Contact Kentucky Horticulture Council, (859) 490-0889, info@kyhortcouncil.org.

Preparing for herbicide drift

By Doug Doohan – Professor of Horticulture & Crop Science/State Specialist, The Ohio State University

Incidences involving herbicide drift have escalated drastically since the introduction of dicamba-tolerant soybeans and cotton about 5 years ago. We recently surveyed specialty crop growers in 12 states and found that 66% had confirmed or suspected that their crops were affected by drift in the last 5 years. Keeping in mind that farmers most likely to complete the survey were those affected by drift, this number is still an astounding and alarming statistic. A broad base of publicly available data implicates dicamba as the primary problem in this recent period; however historically, glyphosate and 2,4-D have been the primary causal agents. Keeping in mind that Xtend soybeans are sprayed not just with dicamba but also with glyphosate, as will the newer 2,4-D-tolerant Enlist soybeans (ie sprayed with 2,4-D and glyphosate), 2,4-D and glyphosate too are certain to be problems for the fruit grower going forward.

For the typical Midwestern fruit grower herbicide drift is not a matter of if but of when, at least for the foreseeable future. Not all fruit crops are equally sensitive, but all types can be severely damaged depending on the circumstances. Take the following deliberate steps to minimize the occurrence and severity of drift, and its consequences when it does occur.

Evaluate your risk factors and communicate with owners and operators of surrounding properties. Make sure that your neighbors in approximately a ½ mile radius around your farm are aware that you are growing high value fruit crops that are very sensitive to herbicides. Make sure that your neighbors and any custom applicators spraying their property use application methods that produce large droplets and minimize drift. Your neighbors may be unaware that for fruit crops *there are no established residue tolerance for dicamba, and a drift event may thus result in a complete loss of your crop* even if yields are not negatively impacted. Remind them that there are effective alternatives to using dicamba or 2,4-D that are not volatile and thus less likely to drift. Communicate the presence of your farm to township highway departments, utilities, and other agencies that might be spraying right-of-ways or roadsides. If these areas run through your property, keep them free of weeds so they are less likely to be sprayed.

Register with Fieldwatch/Driftwatch (https://driftwatch.org/). Pesticide applicators are required to check the registry before spraying. You can also mark your property with signage available from Fieldwatch/Driftwatch.

Do not rely on crop insurance. Insurance companies typically do not consider herbicide drift an "act of God" and therefore do not provide coverage for drift damage. Check with your insurance provider before drift happens and know where you stand.

Know the rules and regulations that govern herbicide application. Labels for some herbicides prohibit spraying if wind is blowing in the direction of an adjacent field of specialty crops. You can look up specific product labels at CDMS (https://www.cdms.net/) or Greenbook (https://www.greenbook.net/). Label instructions are part of pesticide regulations, and applicators who do not follow them can face fines or lose their appli-

cator's license. In addition to the national label, your state pesticide regulatory agency may have additional restrictions, such as cut-off dates for spraying dicamba or other herbicides.

Maintain financial and production records. If a drift event occurs, good recordkeeping will prepare you to document financial losses for reduced or lost yield, reduced quality, and the inability to recoup production costs. Historical yield data can be used to approximate yield losses associated with drift injury. Production budgets documenting costs of inputs, labor, and equipment depreciation will document production-related financial losses.

Prepare a detailed set of maps, including landscape features (wooded areas, wind breaks, buildings, farm ponds, adjacent property). These maps can be a handy way to track where damage occurred and where samples were collected. Since these may be used as evidence for a loss claim, make sure the maps are accurate. To-scale, hand-drawn maps may be acceptable, but a better alternative is outlining the farm and fields on a series of aerial photographs or satellite images (such as Google maps).

Avoid Establishing New Plantings in Areas with High Drift Hazards: Considering the current weed control practices for corn, soybean and cotton described above, growers should reconsider the prospect of establishing new orchards or vineyards in areas that are dominated by row crop agriculture. Such areas pose the highest risk to the vineyard owner. Sometimes, high-risk areas cannot be avoided; in such situations maintain buffers of at least 250 feet and plant evergreens and shrub windrows between your site and row crop fields. The buffer and the windrows will slow the wind and may reduce the distance that droplet drift will travel.

Learn the typical symptoms of injury caused by herbicide drift and how to distinguish them from other similar symptoms. Learn the signs indicating that drift has occurred using the resources listed below under Additional Resources.

Talk to other growers. Conferences and grower support organizations can help growers share regional information and resources, including available experts or lawyers. Consider establishing a relationship with a lawyer before a problem arises or discussing the issue preemptively with a current legal advisor.

Reporting drift/Seeking compensation. If you are convinced that herbicide drift injured your crop it's advisable to seek a second professional opinion. To conclusively demonstrate that a particular herbicide is present, you will need to have a sample of the injured plants analyzed for the herbicide. You can collect samples and have them analyzed by a commercial laboratory, adhering to their sampling and shipping protocols. Establishing sample chain of custody will be important if compensation is sought through the justice system, thus legal advice is almost always required. You should also consider contacting the Ohio Department of Agriculture. The Department will send out an investigator to collect evidence including samples for residue analysis. Based on the findings of the investigation the ODA might assess penalties against the applicator. Before pursuing legal action, *first contact the applicator and try to work out a settlement*. The only way for you to recover your losses from herbicide drift is to reach a settlement with the applicator or initiate a civil lawsuit.

This article was adapted from a fact sheet series published by OSU Extension, https://ipm-drift.cfaes.ohio-state.edu/dicamba-and-24-d-fact-sheet-series.

Additional Resources

University of Missouri Herbicide Injury ID App

The Herbicide Injury ID app helps you diagnose plant damage that may have been caused by herbicides and links to herbicide information and other resources. Works for Android and iPhone/iPad. https://herbicideinjuryid.missouri.edu/Support/

IPM Herbicide Symptoms database

University of California Division of Agriculture and Natural Resources

A searchable gallery of herbicide damage photos for a wide variety of crops and products, plus information on herbicide trade names, active ingredients, and modes of action.

https://herbicidesymptoms.ipm.ucanr.edu/

Herbicide Injury Website

North Carolina State Extension

An excellent series of fact sheets and photos on the symptoms of common herbicides on several fruit and vegetable crops. Also includes a handy Injury Site Visit check list.

https://weeds.ces.ncsu.edu/weeds-herbicide-injury/

Herbicide Site of Action Key

University of Wisconsin

Compact but useful 2-page key to identifying herbicide plant injury noticed at emergence or later in the growing season. https://ipcm.wisc.edu/download/pubsPM/2018_HerbicideInjury_web.pdf

Plant Injury from Herbicide Residue

Virginia Cooperative Extension Service Publication PPWS-77P

Discusses effects and persistence of several growth regulator herbicides, including dicamba and 2,4-D. https://vtechworks.lib.vt.edu/bitstream/handle/10919/75592/PPWS-77P.pdf

University of Missouri Herbicide Damage Trials
Excellent photos of drift damage at various levels of severity

- Investigations of Sensitivity of Ornamental, Fruit, and Nut Plant Species to 2,4-D and Dicamba. https://weedscience.missouri.edu/2017-2018TreeResults.pdf
- Evaluations of Dicamba and 2,4-D Injury on Common Vegetable and Flower Species. https://weedscience.missouri.edu/Vegetable%20Injury%20with%20Dicamba%20and%202,4-D%202018.pdf

Diagnosing Herbicide Injury on Garden and Landscape Plants
Purdue Extension
Smart diagnostic tips written for homeowners. https://www.extension.purdue.edu/extmedia/id/id_184_w.pdf

Dicamba and 2,4-D Visual Sensitivity Scale for 2017
The University of Georgia
Comparative sensitivities among common horticultural crops. http://gaweed.com/HomepageFiles/Visual%20Sensitivity%20Scale%20for%20Dicamba%20and%202_4-D%20in%20GA.pdf

USDA to Provide Approximately $6 Billion to Commodity and Specialty Crop Producers Impacted by 2020 and 2021 Natural Disasters

By Sanaz Arjomand, USDA Legislative Affairs Specialist, Farm Production and Conservation Business Center, External Affairs Division

WASHINGTON, May 16, 2022 – The U.S. Department of Agriculture (USDA) today announced that commodity and specialty crop producers impacted by natural disaster events in 2020 and 2021 will soon begin receiving emergency relief payments totaling approximately $6 billion through the Farm Service Agency's (FSA) new Emergency Relief Program (ERP) to offset crop yield and value losses (https://www.fsa.usda.gov/programs-and-services/emergency-relief/index).

"For over two years, farmers and ranchers across the country have been hard hit by an ongoing pandemic coupled with more frequent and catastrophic natural disasters," said Agriculture Secretary Tom Vilsack. "As the agriculture industry deals with new challenges and stressors, we at USDA look for opportunities to inject financial support back into the rural economy through direct payments to producers who bear the brunt of circumstances beyond their control. These emergency relief payments will help offset the significant crop losses due to major weather events in 2020 and 2021 and help ensure farming operations are viable this crop year, into the next growing season and beyond."

Background

On September 30, 2021, President Biden signed into law the *Extending Government Funding and Delivering Emergency Assistance Act* (P.L. 117-43), which includes $10 billion in assistance to agricultural producers impacted by wildfires, droughts, hurricanes, winter storms, and other eligible disasters experienced during calendar years 2020 and 2021. FSA recently made payments to ranchers impacted by drought and wildfire through the first phase of the Emergency Livestock Relief Program (ELRP). ERP is another relief component of the Act.

For impacted producers, existing Federal Crop Insurance (https://rma.usda.gov/) or Noninsured Crop Disaster Assistance Program (NAP) data is the basis for calculating initial payments (https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/noninsured-crop-disaster-assistance/index). USDA estimates that phase one ERP benefits will reach more than 220,000 producers who received indemnities for losses covered by federal crop insurance and more than 4,000 producers who obtained NAP coverage for 2020 and 2021 crop losses.

For more detailed information, please see the full press release at: https://www.usda.gov/media/press-releases/2022/05/16/usda-provide-approximately-6-billion-commodity-and-specialty-crop.

Hope for the Best, But… Have an Applicator's Pesticide First Aid Kit Handy

By Ric Bessin, Entomology Extension Specialist

For many, applying pesticides can be a routine task. You go through the steps of donning PPE, checking equipment, measuring out pesticides and water, making the actual application, cleaning equipment and yourself, as well as notifying workers and recordkeeping. But sometimes, unexpected events happen: a broken hose under pressure, a leaky tank, a hose popping off the backpack sprayer, or just blowback from the noz-

zles. When you are contaminated with pesticides, you need to quickly get cleaned up.

Emergency First Aid

If someone has swallowed or inhaled a pesticide or gotten it in their eyes or on their skin, and the person is unconscious, having trouble breathing, or having convulsions, then call 911. Always check the pesticide label for directions on first aid for that product; these are generally on the first or second page of the label. For help with first aid information, call the Poison Control Center (800) 222-1222 or National Pesticide Information Center (800) 858-7378.

If pesticides are inhaled, remove the individual to fresh air immediately. Loosen the victim's tight clothing. If not breathing, provide artificial respiration, preferably mouth-to-mouth. Open doors and windows so no one else will be poisoned by fumes. Seek medical attention.

It is a good idea to have a pesticide first aid kit handy and to bring it with you when making applications. Keep in mind that first aid is not intended as a replacement for care administered by professional medical personnel; rather, first aid is the initial effort to help a victim until professional medical help can be provided. A pesticide's risk is a function of the toxicity of the material and a person's exposure to the material. Exposure can occur through the eyes, skin, nose, mouth, stomach, or lungs. But another aspect is the time of exposure; the quicker the exposure can be interrupted, the better the exposure can be limited. Always check the label for pesticide-specific first aid procedures.

Pesticide First Aid Kit

The elements of a pesticide first aid kit are: PPE to protect the victim and first aid provider, change of clothes, supplies to wash contaminated areas, disposable towels and supplies in case of pesticide ingestion. The first aid kit should be readily available when handling pesticides and well-marked.

Components of a pesticide first aid kit:

Gloves – good all-purpose gloves, such as barrier laminate, to protect against a wide range of pesticides. Remember to protect yourself from pesticide exposure prior to and while giving assistance. Make sure you wear the appropriate personal protective equipment (PPE), including a respirator, before assisting someone in an enclosed area.

Coveralls – when a change of clothes are needed after contaminated clothes have been removed.

Liquid soap and clean water – a couple of gallons of clean water to decontaminate the victim. Avoid harsh scrubbing since this can increase pesticide absorption.

Figure 1. The supplies in a pesticide first aid kit can help to limit amount of exposure when accidents occur. (Photo: Ric Bessin, UK)

Saline eye-wash – hold the eyelid open and immediately begin gently washing the eye with clean running water or eye-wash solution. Continue washing for 15 minutes. Cover the eye with a clean piece of cloth and seek medical attention immediately. If contact lenses are worn, remove and discard the contacts before washing the eyes.

Disposable towels – used to wipe up splashes and small spills.

Syrup of ipecac – used only with ingestion of certain pesticides. Read the first aid statement on the pesticide label carefully. Induce vomiting ONLY if emergency personnel on the phone or the product label tells you to do so. Never try to administer anything by mouth to an unconscious person.

Activated charcoal – used only with ingestion of certain pesticides when vomiting is not permitted. Read the first aid statement on the pesticide label carefully.

Emergency Help

After giving first aid, call the emergency number listed on the label and/or the Poison Control Center at (800) 222-1222. Have the pesticide label on hand when you call.

Brown Rot of Peach Fruit Trees

By Kimberly Leonberger, Plant Pathology Extension Associate and Nicole Gauthier, Plant Pathology Extension Specialist

Abundant rainfall and warm temperatures can lead to an increase in the presence of brown rot on stone fruits (peach, cherry, plum, nectarine), which results in rotten, inedible fruit. Early season management can reduce initial sources of the fungus as it emerges from dormancy. Management of early infections results in less disease incidence later in the season.

Brown Rot Facts

- Symptoms include soft, brown fruit decay (Figure 1). Twig blight and blossom blight may occur in spring.
- All stone fruits are susceptible.
- Infection can occur throughout the growing season, during harvest, and in storage.
- Fruit is more susceptible as it matures.
- Periods of warm, wet or humid weather may result in higher disease incidence.
- Caused by the fungus *Monilinia fructicola*.
- The pathogen overwinters on rotted fruit (mummies) (Figure 2) and blighted twigs from the previous season.

Figure 1: Peach fruit infected with brown rot. (Photo: Nicole Ward Gauthier, UK)

Figure 2: Rotted peach fruit mummy. (Photo: Molly Giesbrecht, Texas A&M AgriLife Extension Service, Bugwood.org)

Management Options

- Apply fungicides such as captan or chlorothalonil beginning at petal fall. Always follow label directions when utilizing fungicides.
- Remove and discard decayed fruit and mummies as soon as possible.
- Prune and discard blighted twigs after harvest.
- Avoid fruit injury (e.g., from insects or damage during harvest).
- Increase air movement in tree canopy by selective pruning to speed drying after rain events.

Additional Information

- Brown Rot of Peach (https://plantpathology.ca.uky.edu/files/ppfs-fr-t-27.pdf)
- Peach Fruit Diseases (https://plantpathology.ca.uky.edu/files/ppfs-fr-t-09.pdf)
- Fruit, Orchard, and Vineyard Sanitation (https://plantpathology.ca.uky.edu/files/ppfs-gen-05.pdf)
- Backyard Peach & Stone Fruit Disease, Pest, and Cultural Practices Calendar (https://plantpathology.ca.uky.edu/files/ppfs-fr-t-22.pdf)
- Simplified Backyard Peach & Stone Fruit Spray Guide (https://plantpathology.ca.uky.edu/files/ppfs-fr-t-20.pdf)
- Effectiveness of Fungicides for Management of Stone Fruit Diseases (https://plantpathology.ca.uky.edu/files/ppfs-fr-t-14.pdf)
- Commercial Fruit Pest Management Guide (https://plantpathology.ca.uky.edu/files/id-232.pdf)

Receiving Fruit Facts on the Internet

By subscribing to the email notification service you will receive an email announcement when each new issue is posted on the web with a link.

To subscribe, send an email message:

TO:	listserv@lsv.uky.edu
SUBJECT:	Fruit Facts
MESSAGE:	subscribe KY-FRUITFACTS Followed by a blank line
	OR to unsubscribe, the lines: signoff KY-FRUITFACTS Followed by a blank line

You should receive confirmation by return email. 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-ky-fruit-facts@lsv.uky.edu