From the Agent

Hi Folks,

We have several events scheduled during the next couple of months. The Ag Across the County series continues (we’ve had two events already) with events on Aug. 1 and Sept. 19. The Central Piedmont Strawberry meeting is scheduled for Aug. 4, and a class about how to install rain gardens, for landscapers and home gardeners, is planned for Aug. 30. See the events section for more information. Of course, other events are taking place in other counties.

Please be aware of the issue addressed in the pictures on this page and the article on the next.

Let me know if you have questions!

Regards,

Mary Helen Ferguson
Extension Agent

Potato (top) and tomato (middle) plants believed to be injured by residual herbicides. For comparison, the tomato plant at bottom has tomato spotted wilt virus (TSWV), a disease that can cause curling of leaves, among other symptoms. See the article on p. 2 for more information on damage due to the use of manure, compost, hay, or grass clippings containing residues of picloram, aminopyralid, or clopyralid.
Manure, Compost, Hay, and Grass Clippings Possible Routes Damage from Pyridine Carboxylic Acid Herbicides\(^1\)

Herbicides are a valuable tool for farmers and gardeners and can provide substantial benefits. However, several herbicides—ones containing picloram, aminopyralid, and clopyralid—have caused problems for unsuspecting vegetable growers in recent years, resulting in distorted plants. (The damage looks like that which would be caused by 2,4-D injury.) This year, I’ve seen three cases of what I believe to have been damage from one of these herbicides: a potato field with damage from an herbicide that had been applied in 2006, when the area was a hayfield; a tomato plant damaged after hay (the production history of which was not known) was tilled into a vegetable garden; and a tomato plant damaged after horse manure was used in a garden. I can’t say with absolute certainty that the causes were what I believe them to have been, but the evidence points to damage by one of these herbicides.

The herbicides implicated in such cases are relatively new. It seems that they’re most often used in pastures or hayfields (products include Curtail\(^\circledR\), Curtail\(^\circledR\) M, ForeFront\(^\circledR\) R&P, Grazon\(^\circledR\) P + D, GrazonNext\(^\text{TM}\), Milestone\(^\circledR\), Redeem\(^\circledR\) R&P, or Surmount\(^\text{TM}\)), although some are used in other crops (Stinger\(^\circledR\), Clopyr AG, and some previously mentioned) and in turf (Confront\(^\circledR\); Lontrel\(^\circledR\); and Millennium Ultra\(^\text{TM}\), Ultra\(^\text{TM}\) 2, and Ultra\(^\text{TM}\) Plus). They’re effective at killing some weeds that were, in the past, more difficult to manage with herbicides. The problem for some is that they are unusually persistent—passing from the grass or hay to which they’re applied, through animals that consume it, and into manure—and they damage certain vegetables and other plants, like tobacco and soybeans.

What can you do? If you’re a vegetable grower using hay or straw as mulch, ask the supplier what herbicides were used on the crop and compare what they say to the list of herbicides in this document: [http://www.ces.ncsu.edu/fletcher/programs/ncorganic/special-pubs/herbicide_carryover.pdf](http://www.ces.ncsu.edu/fletcher/programs/ncorganic/special-pubs/herbicide_carryover.pdf). Likewise, if you’re using manure or manure-containing compost as a soil amendment, ask the people from whom you get it what was applied to the hay or pasture grass that the animals have eaten.

In addition to the field-to-animal-to-manure/compost-to-vegetables and the field-to-straw/hay-as-mulch-to-vegetables routes, there are other ways in which contamination might happen. Runoff from a field treated with one of these products could damage susceptible plants. Grass clippings treated with one of them and applied to a vegetable garden as mulch or in compost could cause problems. If a person were to decide to convert part of their pasture or lawn into a vegetable garden, and the area had been treated with one of these, damage could occur. I don’t think problems are likely to occur often in home lawns, as I am aware of only one product (Millennium Ultra\(^\text{TM}\)) that both contains one of these active ingredients and is allowed on residential lawns, and only professionals are allowed to apply that product.

If you have manure or compost and want to check to make sure it’s okay before using it, or if you’re concerned that you’ve somehow contaminated an area where you want to grow vegetables or another susceptible crop, what can you do? First, if you know what herbicide was used, you can check its the label (or call us) and see if it tells how long you’ll need to wait before it’s safe to plant certain things. If you don’t know what (if anything) was used, or if the needed information isn’t provided, you can do a “bioassay.” This involves planting some pea or bean seeds, or tomato transplants, and watching to see what happens. Information about how to do this is described in the NC Cooperative Extension publication “Herbicide Carryover in Hay, Manure, Compost, and Grass Clippings: Caution to Hay Producers, Livestock Owners, Farmers, and Home Gardeners” ([http://www.ces.ncsu.edu/fletcher/programs/ncorganic/special-pubs/herbicide_carryover.pdf](http://www.ces.ncsu.edu/fletcher/programs/ncorganic/special-pubs/herbicide_carryover.pdf)).

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\(^1\) Part of this article was originally written for a *Randolph Guide* column in 2010.
“Piedmont Grown” Certification and Online Listing

Learn how to get “Piedmont Grown” certified, use the logo, and be listed in the online directory: https://piedmontgrown.org/

Nursery and Greenhouse Integrated Pest Management Webinar Series

Faculty members from several universities, including NCSU, provide pest management education through the IPM webinar series. You can go to the website (http://ipmwebinars.org) to view past presentations and see what topics will be addressed in future webinars, in which you may then be able to participate. Examples of past topics include insect, disease, and weed control; growth regulators; and nursery crop insurance.

eXtension

Cooperative Extension faculty and staff from across the country contribute to eXtension, “an interactive learning environment delivering the best, most researched knowledge from the smartest land-grant university minds across America.” To explore what it offers, go to www.extension.org. eXtension has “Communities of Practice” for a number of subject areas. A few examples, to demonstrate the range of topics addressed, include Imported Fire Ants, Grapes, Farm Energy, Organic Agriculture, Personal Finance, and Small Meat Processors. Keep in mind that information from other parts of the country, about crops especially, may not be completely relevant to us (due to differences in climate, markets, etc.), but you may nevertheless find valuable information.

One Community of Practice to which I want to draw your attention is Entrepreneurs and their Communities. Farms, nurseries, and landscape services are businesses, and should be run as such, with attention given to assessing demand (Who wants what you are thinking of offering?), record keeping, cash flow, marketing, and other business concepts. Entrepreneurs and their Communities offer educational resources such as webinars and learning modules. Webinars can be watched live or as recordings. Some recent webinars include “You are Here!” (getting your business on online maps), “Getting Down to Business with Social Media,” “Culinary Tourism,” and a number of others. Online modules or mini-courses include A Beginner’s Guide to e-Commerce, A Primer for Hispanic Small Businesses, Developing Diversified & Value-Added Agribusinesses, and more. Other resources, such as case studies are also available. Check out this resource!

NC Farmer Voices

Rural Advancement Foundation International (RAFI) has created a website (http://www.rafiusa.org/NCfarmervoices/) that, according to a RAFI staff member, “…is a collection of stories—in photographs, sound, and multimedia—about farmer entrepreneurs on the frontier of agricultural innovation.” Randolph County’s Steve Tate is among the profiled farmers.
Get Updates via Social Media from Extension Specialists!

Several Cooperative Extension Specialists are using social media to provide information to growers, etc. Check out the options for getting information about these topics:

**Blackberries and raspberries** (Dr. Gina Fernandez): blog ([http://teamrubus.blogspot.com/](http://teamrubus.blogspot.com/)), Facebook (Team Rubus), and Twitter (@NCTeamRubus)

**Ornamental Plant Entomology** (Insects/mites in landscapes, nurseries, etc.; Dr. Steve Frank): Twitter (@OrnaPests)

**Vegetable Entomology** (Insects/mites; Dr. Mark Abney): Facebook (NC State University Vegetable Entomology) and Twitter (@ncsuveg)

**Small Fruit and Specialty Crop Entomology** (Insects/mites; Dr. Hannah Burrack): blog ([http://ncsmallfruitsipm.blogspot.com/](http://ncsmallfruitsipm.blogspot.com/)), Facebook (NC State University Small Fruit Entomology), Twitter (@NCSmallFruitIPM)

Exploring Barriers to GAP Certification on Small Farms

NCSU-based Cooperative Extension Specialist Dr. Ben Chapmen and researcher Dr. Audrey Kreske have begun a project to identify barriers to Good Agricultural Practices (GAP) certification on small farms and help farmers become eligible for GAP certification. Read about resources, and their work, on their blog, Opening Markets: [http://gapsmallfarmsnc.wordpress.com/](http://gapsmallfarmsnc.wordpress.com/).

Loan Opportunity: Slow Money

From the website ([http://slowmoneync.org/applying-for-a-loan/](http://slowmoneync.org/applying-for-a-loan/)): “Do you have a local farm or other local food enterprise and need some extra capital to get started or expand, or reduce your interest so you can be more successful?”

Safety in the Heat

(This is condensed and modified from a release from the NCSU Industrial Extension Service.) The heat and humidity of North Carolina summer is here. Three ingredients—water, rest and shade—can be the best prevention steps to avoid a heat related illness. OSHA reports that each year thousands of workers suffer from heat related illnesses, including fatalities, which can be prevented.

Take the time now to educate your workforce about the hazards of working outdoors in hot weather and the simple tips to avoid heat related illnesses, including the simple steps below: (1) drink water often, (2) rest in the shade, (3) report heat symptoms early, and (4) know what to do in an emergency

The following OSHA resource page provides numerous educational resources that you can download for your workforce. Thanks and have a safe summer!

“The Produce Lady” Provides Marketing Resources for Farmers

The Produce Lady (http://www.theproducelady.org/) is a program from NCSU’s Plants for Human Health Institute, based in Kannapolis. Growers can download and print (or possibly order, in limited quantities) recipe cards, to give customers and potential customers ideas about how to prepare vegetables, fruits, and a few dairy or meat products. There are other resources, like signs promoting the website, available on the website, as well. You can also sign up for a monthly e-newsletter from The Produce Lady, view her blog, become her fan on Facebook, and watch videos about preparing seasonal produce. The Produce Lady herself is Brenda Sutton, the County Extension Director from the NCCE Rockingham County Center.

New Vineyard Spraying and Vermiculture Books Available

Cornell University’s Dr. Andrew Landers written a book titled Effective Vineyards Spraying: A Practical Guide for Growers. See http://www.effectivespraying.com/ for more information. Resources related to pesticide application in vineyards, orchards, vegetables, and turfgrass are available on Dr. Landers’ Pesticide Application Technology program website (http://web.entomology.cornell.edu/landers/pestapp/).


Asparagus Yield Trial

Those who are interested in growing asparagus can check out this page, on the bottom of which can be found a link to the results of a variety trial in Roxboro, NC: http://plantsforhumanhealth.ncsu.edu/extension/marketready/90-nc-extension-agent-an-advocate-for-asparagus.

NCSU Distance Education Courses

NCSU offers classes online, through the Distance Education program. Examples of classes offered during the 2011 Summer II and Fall semesters include Home Landscape Design (HS 250), Small Business Accounting (ARE 215), Soil Fertility and Fertilizers (SSC 341). See the following link for more information: http://distance.ncsu.edu/courses/.

Carolina Farm Stewardship Assoc. Intern Referral Service

CFSA now has a program to match farmers who are interested in serving as mentors and individuals interested in interning. Anyone can search for internships (http://www.carolinafarmstewards.org/internshipboard.shtml), but farmers must be members of CFSA to post internship opportunities (http://www.carolinafarmstewards.org/membership.shtml).
Deer Removal Assistance

I’ve mentioned the NC Bowhunters’ Bowhunter Certification and Referral Service (http://www.ncbowhunter.com/bcrs.html or 252-205-7681) before, and I recently found out about another avenue through which farmers can go to find bowhunters to help reduce the deer population on their land. To learn about Team Backyard Bow Pro’s services, go to http://www.gamedinner.com/landowners/connecting-people.html.

Cost-share Available for Water Testing and GAP/GHP Certification

(NCDA&CS provided this article.) Fruit and vegetable farmers can apply for two cost-share grants offered through the N.C. Department of Agriculture and Consumer Services to assist with the costs for water analysis and independent certification of an operation’s good agricultural practices.

“Both of these grants help farmers with their on-farm food safety efforts, which are critical to marketing their farm products,” said Agriculture Commissioner Steve Troxler. “I am glad we were able to secure these USDA funds to assist our growers. Farmers can apply for both grants, which will be available on a first-come, first-served basis.”

This is the third year for the Water Analysis Cost Share grant program, which will reimburse growers up to $200 for certified laboratory analysis of irrigation and/or packing house wash water for the presence of generic E.coli bacteria. Growers can be reimbursed for one water test or multiple tests throughout the year.

For more information or to obtain an application for the Water Analysis Cost Share program, go to www.ncgradingservice.org, or contact Kevin Hardison at (919) 707-3123, or kevin.hardison@ncagr.gov.

The department has previously offered the Good Agricultural Practices Certification Assistance Program, which covers up to $600 for independent audits of a farm’s GAP or good handling practices.

To be eligible, growers must have a third-party audit from an approved government agency or company that verifies GAP or GHP efforts, the audit must be conducted in 2011 and the grower must submit an application to participate in the program prior to the audit. The audit can be for farm review, field harvest and field packing activities, packing house facility, storage and transportation, and traceback.

For more information or to obtain an application for the GAP Certification Assistance Program, go to www.ncgradingservice.org, or contact Shirley Nicholson at (919) 707-3126, or shirley.nicholson@ncagr.gov.

“Food safety is important at every level of the food chain,” Troxler said. “Produce buyers are demanding assurances from growers that their produce is safe. It’s going to become more difficult for farmers to market their fruits and vegetables if they don’t have a program in place to make sure their produce is free of contamination.”

Funding for both NCDA&CS-managed grants comes from the U.S. Department of Agriculture.
Upcoming Events

Randolph Co.

Ag Across the County Series

- Aug. 1 (6:00 p.m.), 506 Parks Crossroads Church Rd., Ramseur: **Millstone Creek Orchards** – Learn about their experiences with operating a roadside stand, producing value-added products, hosting tours for school groups and others, and growing a variety of fruits and some vegetables. Pre-register by Wednesday, July 27.

- Sept. 19 (6:00 p.m.), on High Pine Church Rd., Asheboro (between 8222 H.P. Ch. Rd. and the Uwharrie River): Mark Wilburn cattle operation – Learn about Mark’s experiences as a young farmer who did not grow up on a farm or inherit land. We’ll also talk about selecting cattle for desired traits. Pre-register by Friday, Sept. 16.

Central Piedmont Strawberry Meeting

Aug. 4 (5:00 – 9:00 p.m.), Messiah Too Banquet Hall (10418-D North Main St., Archdale [Main St. Plaza shopping center]). Registration will start at 5:00 p.m. and a meal will follow at 5:15 p.m. Presentations will begin at 6:00 p.m. and continue until approximately 8:45 p.m. One hour of pesticide credit in categories N, O, D, and X will be available to those present during the 6:00 – 7:00 p.m. period. Gwen Minton, from the NC Dept. of Agriculture and Consumer Services, will speak about fumigant management plans. Dr. Penny Perkins-Veazie, a Professor at NC State University, will address post-harvest handling of strawberries. Dr. Barclay Poling, NCSU Professor Emeritus, is expected to review the 2010 season and discuss strawberry production in high tunnels and breeding efforts at NCSU. A dinner, sponsored by Cottle Strawberry Nursery, Gra-Mac Irrigation, Mid-Carolina Packaging, and Syngenta Crop Protection will be served to those who register by Friday, July 29. Pre-register by calling North Carolina Cooperative Extension at 336-242-2085 (registration is being handled by the Davidson Co. office) by Friday, July 29. For accommodations for persons with disabilities or limited English proficiency, contact Leslie Vinesett at 336-242-2085 (phone), 336-249-7300 (FAX), leslie_vinesett@ncsu.edu, or in person, no later than five business days before the event.

Rain Gardens: How and Why

Aug. 30 (4:00 – 6:00 p.m.), NCCE office (112 W. Walker Ave., Asheboro). Landscapers, as well as home gardeners, etc., are welcome to attend this class, which will address the following topics: what rain gardens do, how to choose a site, what type of plants to use, how to prepare the site, how to maintain a rain garden, and the cost-share funding opportunity for rain gardens from Randolph County Soil and Water. Call 336-318-6000 to pre-register.

Other events to look for later this year

Garden Center Employee Training
Putting Small Acreage to Work
Turf weed management class for landscapers

For Cooperative Extension events, for accommodations for persons with disabilities or limited English proficiency, contact Wanda Howe by phone, fax, e-mail (wanda_howe@ncsu.edu), or in person, no later than five business days before the event.

Please contact M.H. (maryhelen_ferguson@ncsu.edu) if you would like to be on the Randolph Growers e-mail list, by which you can get the newsletter and more frequent updates.
Upcoming Events (cont.)

Statewide and Regional

**Tomato Field Day**

**Turfgrass Field Day**

**Summer Green Road Show (NC Nursery & Landscape Assoc.)**

**Non-native and Invasive Forest Plants Workshops for Landowners**
Aug. 19, Carthage.
May 1, 2012, Greensboro.

**Pollinator Conservation Workshop and Garden Tour**
Aug. 25 and 29 (repeated), Pittsboro. Get registration with $15 no later than Aug. 22 (for Aug. 25 event) or Aug. 24 (for Aug. 29 event)—sessions may fill up before these dates, though. More info: [http://www.ces.ncsu.edu/chatham/ag/SustAg/workshops.html](http://www.ces.ncsu.edu/chatham/ag/SustAg/workshops.html) or 919-542-8202.

**Asparagus Twilight Meeting**
Aug. 25, Roxboro. More info: 919-603-1350 or carl_cantaluppi@ncsu.edu.

*Recommendations for the use of agricultural chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by North Carolina Cooperative Extension nor discrimination against similar products or services not mentioned. Individuals who use agricultural chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact your county Cooperative Extension agent.*