Ohio Fruit ICM News
Editor: Ted W. Gastier, Extension Educator, Agriculture
Ohio State University Extension, Huron County
180 Milan Avenue, Norwalk, OH 44857  419-668-8219
FAX: (419) 663-4233   E-mail: gastier.1@osu.edu
Volume 9, No. 44                          December 2  2005

In This Issue
Calendar
North American Berry Conference
Human Resource Managers' Forum
Cornell Raspberry High Tunnel Open House
Grand Opening of Redesigned NY IPM Website
New MSU Blueberry Website
Some Berry Good Health News
Terminal Market Fruit Prices
Preliminary Climatological December Report

Calendar
December 6-8: Great Lakes Fruit, Vegetable, and Farm Market EXPO, DeVos Place
Convention Center, Grand Rapids, Michigan. For additional information, visit

December 15: OFGS Research Committee Meeting, 10 a.m. - 2 p.m., Dutch Heritage,
Bellville.

December 19: Open House to honor Ted Gastier upon his retirement, Huron County
Extension Office, 180 Milan Avenue, Norwalk, OH, 3:00 to 6:00 p.m. Contact Persons:
Kathy or Amy at 419-668-8219

December 19: In-Depth Fruit School on Intensive Fruit Production - A Systems
Approach, 8:00 AM - 4:30 PM. Featuring presentations by Dr. Dave Ferree, Ohio State
Professor Emeritus and expert on light management in intensive systems, and Steve
Hoying, Cornell Pomologist with 20 years experience researching tree fruit planting
systems. Adams County Agricultural and Natural Resources Center, Gettysburg, PA.
Contact Person: Tara Baugher, tab36@psu.edu or 717-334-6271, ext. 314.

January 4-6, 2006: North American Berry Conference, Savannah International Trade and
Convention Center in Savannah, GA, and is immediately followed by the SE Regional
Fruit and Vegetable Conference, January 6-8. More information is available at
<www.nasaga.org>. Also see the following article.
January 11, 2006: In-Depth Fruit School on Orchard Planning to Avoid Replant Problems Featuring Presentations on soil management by Dr. Dariusz Swietlik, Tree Fruit Physiologist and Director of the USDA-ARS Appalachian Fruit Research Station, Kearneysville, WV, at Adams County Agricultural and Natural Resources Center, Gettysburg, PA. Contact Person: Tara Baugher, tab36@psu.edu or 717-334-6271, ext. 314 Please pre-register by January 6.

January 16-18, 2006: Ohio Fruit and Vegetable Congress and Ohio Direct Marketing Conference, Columbus Convention Center.

January 31 to Thursday, February 2, 2006: Mid-Atlantic Fruit and Vegetable Convention, Hershey Lodge and Convention Center, Hershey, PA, Contact Person: Maureen Irvin, shap@supernet.com or 717-677-4184


North American Berry Conference January 4-6, 2006
Source: Kathy Demchak, Dept. of Horticulture, PSU, Fruit Times Volume 24, No. 11, November 29, 2005

Please note that North American Berry Conference is being held more than a month earlier than usual. Because of this, those planning to attend need to register and make other arrangements earlier than in other years. This meeting is being held at the Savannah International Trade and Convention Center in Savannah, GA, and is immediately followed by the SE Regional Fruit and Vegetable Conference January 6-8.

Speakers and topics tentatively scheduled for the berry conference are:

Dr. David Handley, Univ. of Maine (two topics): 1) The Strawberry Plant: What You Need to Know, and 2) Insect ID, Scouting, and Management

Shannon Mangnuson, Chesterfield Berry Farm, VA: Building Services around Your Crop

Dr. Carl Sams, Univ. of TN: Biofumigation with Composting for Soil Borne Pests

William Beckham, AgFirst Farm Credit Bank, SC: Return per Hour Profit (tentative title)

Bob Gray, Four Corners Farm, VT: Using Alternative Techniques to Meet Market Demands

Dr. Craig Chandler, Univ. of FL: Choosing Your Cultivar and Growing Method for Profitability
Dr. Eric Siderman, Maine Organic Farmers and Gardeners Assoc.: Growing Organic

Jen Arter, Walnut Springs Farm, MD: The ABCs of Getting and Keeping School Tour Business

Dr. John Duval, Consultant, FL: Drip Irrigation

Norine Larson, Consultant, MN (two topics):
1) Selecting and Hiring for Good Retention, and
2) Training Employees to Work Together

Dr. Shahrokh Khanizadeh, Hort. Res. and Devel. Center, Quebec: Strawberry Cultivars and Breeding

Farmer-to-Farmer Discussion Sessions:
1) Marketing: Ideas and Opportunities, hosted by Anne Geyer and
2) Production: Challenges to Profitability, hosted by Rudy Heeman

Showcases: Cottle Strawberry Nursery, NC, and Lane Packing Company, GA

NASGA is emphasizing the importance of registering early for the 2006 conference because of the date change. Registration materials are available on the NASGA website, http://www.nasga.org

Wednesday’s sessions will offer two concurrent tracks, one on production and one on making your business profitable (topics above). Thursday will feature a tour for attendees of both the Berry Conference and the Regional Fruit and Vegetable Growers Conference. Fridays mornings general sessions will highlight pest management, a local grower and marketing information.

Registration is separate for both conferences. For information on the Southeast Regional Fruit and Vegetable conference, visit their website, http://www.gfvga.org/

NASGA is a multi-country organization of approximately 300 members, primarily small production growers that specialize in pick your own or farm market sales, along with the research community and suppliers that support them. For more information visit their website: www.nasga.org.

Human Resource Managers’ Forum Will Feature New Supervisor Training Programs and Background Checking Essentials

Source: John Wargowsky, Executive Director of Mid American Ag and Hort Services
Do you have ag or hort human resource (HR) responsibilities? Would you like to interact with ag and hort HR people from across the state? Would you benefit from knowing how other HR people tackle some of the same problems you face? Do you face some tough HR problems that occur over and over?

Mid American Ag and Hort Services (MAAHS) is pleased to announce the fourth Ohio Ag and Hort Human Resource Managers' Forum for people who answered yes to one or more of these questions. This forum is presented in partnership with the United State's Department of Agriculture's Risk Management Agency.

The Forum will be held Tuesday, February 7 at the Franklin County Farm Bureau office in Hilliard, Ohio from 10:00 a.m. to 3:00 p.m. This opportunity will provide a forum for fostering professional development and advancing effective human resource practices for human resource managers in agricultural and horticultural businesses.

The featured topic at the Forum will be "Implementing New Supervisor Training," presented by Bernie Erven of Erven HR Services LLC. Erven has 35 years of experience in teaching, extension and research focusing on employee management and family business relations.

In the afternoon, Cheryl Basinger with Competitive Edge HR will address "Background Checking and Reference Checking Essentials." Basinger has a 25-year track record of success in diverse assignments in human resources, sales and marketing.

John Wargowsky will address building future human resource management capacity in ag and hort businesses through future MAAHS program. Wargowsky serves as executive director of MAAHS, a membership organization dedicated to creating widespread human resource management strengths in Mid American agricultural and horticultural businesses.

The program will include opportunities for open discussion and networking opportunities for those with human resource responsibilities in ag and hort businesses.

The registration fee of $50 for MAAHS members and $70 for non-MAAHS members includes lunch and materials. Participation in the Forum is limited to the first 40 registrants and reservations are requested by January 31. Contact MAAHS at 614-246-8286, maahs@ofbf.org or http://www.midamservices.org (click on "Events")

Highlights from the Cornell Raspberry High Tunnel Open House
Source: Cathy Heidenreich, Small Fruit Extension Support Specialist, Department of Horticulture, Cornell University's College of Agriculture and Life Sciences, Ithaca, NY 14853, New York Berry News, Volume 04, Number 10, November 15, 2005
Fifty people turned out for Cornell University’s Raspberry High Tunnel Tour on October 20, 2005. Growers, extension personnel, and homeowners traveled from around the state to see the new season-extension production system and ask questions about high tunnel raspberries. Questions ranged from high tunnel construction and materials, to soil management, plant nutrition, disease and pest problems, weed control, variety selection and economics of high tunnel production.

The weather was picture perfect for the event, with warm temperatures (for October) and bright sun. Many were surprised to find harvest in full swing, with some varieties being harvested for the first time that afternoon. Fall bearing raspberry plantings under normal production had already experienced their first hard frost and were all but finished for the season, as was demonstrated by the bucket of canes on display from Dr. Pritts's home Heritageplanting.

Participants were amazed at the size and quality of berries being harvested from the tunnel. Others marveled to see a myriad of native bumble bees traveling to and fro in the tunnel, pollinating flowers of some late varieties included in the variety trial.

Five varieties were on display for sampling at the tasting table: Josephine, Heritage, Caroline, Autumn Britten, and a numbered variety from the Geneva breeding program. Josephine appeared to be the favorite, followed closely by Caroline. These varieties are not usually grown in our area, as they were bred for more southern growing regions. All agreed the berries were delicious, regardless of variety sampled.

The purpose of this project is 3-fold:

1) to identify varieties suitable for high tunnel production under NY conditions,

2), to document how best to manipulate plants to achieve delayed fall flowering and fruiting, and

3) to determine if the use of season extension technology is economically viable on the farm.

Planting establishment and high tunnel construction
Fall-bearing raspberries were planted in April of 2004. The prepared planting bed was mulched with 4 compost, which was then incorporated into the soil. No commercial fertilizer was applied. All canes were mowed to the ground in the fall. In spring of 2005, the tunnel framework was installed over the planting. Plastic was put on September 13, 2005, just prior to harvest. No disease or pest management was needed. Beds were hand weeded as needed.

Evaluation of varieties under high tunnel production
The study is divided into two parts. The first experiment involves monitoring the growth and productivity of several promising late varieties that typically fruit too late for the New York climate. The varieties included in this experiment are Heritage, Caroline,
Josephine, Autumn Britten, NY01.63, NY01.64, and NY01.65. The numbered selections were made by fruit breeder Courtney Weber who suspects that they may have traits that allow them to perform well in high tunnels.

Delivering fall fruiting and flowering
The second set experiment focuses on treatments to manipulate Heritage into fruiting later than the normal September season. Typically, one would prefer that these fall-bearing types fruit early to avoid frost. The objective of this part of the project was to delay fruiting until late in the fall when the availability of fresh raspberries is low and the price is high. During the summer, plants were treated in various ways to delay flowering and fruiting. The five treatments included an unmanipulated control, applying straw over plots in late February at the rate of 6 tons/acre after a period of cold weather, mowing canes to the ground in early June shortly after they emerge, pinching primocanes (removing the top 4 to 6 inches) when they reach a height of about 2½ ft., and pinching when canes were 3 ½ ft. tall.

Preliminary results
At the time of the open house, the projects were in the 9th week of harvest. The mowing treatment and NY64 had yet to fruit significantly. Fruit appearance was excellent although sugar content was low. Yields were extremely high; averaging nearly 2 lbs. per ft. of row in control plots of Heritage. Berries were being sold at the Cornell orchard store for $5 per pint; there were never any left at the end of the day to be stored over night. Observational evidence indicates high tunnel harvested berries had a much better shelf life and are relatively disease and pest free.

Variety trial
Heritage and Autumn Britten peaked in production during weeks 5 and were beginning to decline by week 9. Caroline also peaked at during week 5 and had the greatest yield that week with more than 3500 g fruit/18 foot plot (170 g per ½ pint; 6 plants per plot). Josephine, and NY 63 were still increasing in production at week 9, and the first fruit from NY65 was harvested the day of the open house. NY 64 had not yet begun to fruit.

Plant manipulation trial
Each of the 4 treatments delayed flowering, and data is now being collected on how they affect the time of harvest and yield. As in the variety trial above, Heritage control plants peaked around week 5 and had started to gradually decline by week 9. Pinch-early, pinch-late, and mulch treatments were still increasing in production. The mowing treatment (very popular with the bumble bees) was in full bloom and had yet to fruit.

More results will be forthcoming as the final data is collected and analyzed. Many thanks to all those who attended the open house and especially to those involved in the project: Mary Jo Kelly, Steve McKay, Jennie Conrad, Hans Spalholtz, and Katie Miner.

Grand Opening of Redesigned NY IPM Website
We've redesigned the New York State Integrated Pest Management Program website to serve you better. Its at the same location (http://www.nysipm.cornell.edu/), but we have dressed it up with a new graphic look and behind-the-scenes technology to deliver pages even more quickly.

New Features:
· Specialized search function for each commodity to help you find any document: now you can search our database by pest, crop, setting or management technique

· Expanding left menu allows for easy viewing and navigation to all our sections

· Top navigational bar gives quick access to the most popular pages: fact sheets, Cornell guidelines, brochures, and more

· New breadcrumb trail shows the path back home

Look for New Content:
· Fruit: Trac software, CCE commercial fruit programs, and IPM Elements for apples

· Field Crops: weekly pest reports in a new, easier-to-read format

· Vegetables: pheromone trap network and IPM Elements for peppers

· About the Program: an updated IPM catalog and our latest annual report

· New sections: Buildings, Teaching IPM, and Landscapes, Parks & Golf Courses

Blueberry Production, Crop Management Topic of New MSU Website
Source: Sarah Long, Project Green Communications Manager via New York Berry News, Volume 04, Number 10, November 15, 2005

Blueberry growers can get the answers to many of their crop-related questions by visiting a new Web site developed by researchers at Michigan State University (MSU). A team of MSU blueberry researchers and Extension specialists developed the Web site as a one-stop resource on blueberry production and crop management. The site, http://www.blueberries.msu.edu, includes information on blueberry cultivation, blueberry varieties, insect pests, diseases, nutritional disorders, weeds, pest management, weather, and crop scouting. The site also includes links to other blueberry-related Web sites.

The Web site was created as a comprehensive resource for people interested in blueberry production, says Annemiek Schilder, MSU assistant professor of plant pathology.
Because Michigan is the largest highbush blueberry-producing state, it seemed logical that MSU would create this site. Schilder says the Web site is useful for anyone who works with blueberries, including growers, nursery owners, researchers, Extension staff members and specialists, teachers, crop consultants, government employees and home gardeners who want to get more information on all aspects of growing blueberries.

Development of the Web site was funded by Project GREEEN (Generating Research and Extension to meet Economic and Environmental Needs), Michigan's plant agriculture initiative at MSU, and the Michigan Blueberry Growers Association. Project GREEEN is a cooperative effort between plant-based commodities and businesses together with the Michigan Agricultural Experiment Station, MSU Extension, and the Michigan Department of Agriculture to advance Michigan's economy through its plant-based agriculture. Its mission is to develop research and educational programs in response to industry needs, ensure and improve food safety, and protect and preserve the quality of the environment.

To learn more about Michigan's plant agriculture initiative at MSU, visit <http://www.greeen.msu.edu>.

Some Berry Good Health News
Source: TERP MAGAZINE, published by the University of Maryland Division of University Relations via New York Berry News, Volume 04, Number 10, November 15, 2005

The next time you're shopping at a local supermarket or a roadside produce stand, you may want to pay closer attention to the raspberries, blackberries and other brightly colored fruits and vegetables on display. Research by cancer specialists and food scientists nationwide has shown that anthocyanins - the antioxidant compound that produces the dark red, purple and blue colorings in many varieties of berries and vegetables - can help in the prevention of certain types of cancer, particularly colon cancer. Colon cancer is the second leading cause of all cancer deaths in the United States.

The health benefit of eating berries has certainly drawn the attention of Bernadene Magnuson, an assistant professor in the Department of Nutrition and Food Science. Magnuson recently completed two years of research that was supported by the Cancer Research and Prevention Foundation, a nonprofit organization interested in funding new ideas for cancer research. We are trying to make people aware of the multiple health benefits of berries. This is a commodity that we can easily grow and that can have some proven cancer inhibiting qualities, Magnuson says.

Her research was done in three stages: First, anthocyanins were introduced to colon cancer cells in a culture dish to observe their effect. It was fairly striking how [anthocyanins] inhibited the growth of colon cancer cells, Magnuson says.
Next, the berry extracts were tested on normal colon cells, to make sure they didn't destroy healthy cells. The final stage involved inducing cancer in rats, and then observing whether the size or rate of growth of their cancer lesions diminished after anthocyanins were introduced to their diet. Magnuson believes that the highly colored berries are the best choices for consumers, and adds that blackberries, raspberries (both black and red) and grapes are not only excellent sources of anthocyanin, but contain lots of healthy fiber as well. Ultimately, if we can try and find an answer [for cancer prevention] that is naturally occurring in the foods we eat, it is always better than looking for synthetic cancer inhibitors that will just put another new pill on the shelves.

What You Can Do
Most cancer experts agree that colon cancer is the easiest cancer to prevent or arrest in the early stages. You can start by changing your diet, and that is always a good thing, Magnuson explains. But the most important thing is an annual exam that includes testing for colon cancer if you are over the age of 50.

Here are a few healthy eating tips from the American Institute for Cancer Research that can go a long way in helping to prevent colon cancer:

Eat mostly fiber-rich vegetables, fruits, whole grains and beans. Vegetable and fruits have plenty of cancer-fighting nutrients, protective compounds and dietary fiber. Dieticians recommend 20 to 30 grams of fiber daily. Whole grains and beans are particularly rich in fiber: one slice of whole wheat bread has 2 grams of fiber and 1/2 cup of beans contains 7 grams. Also, eat fruit for dessert to boost your dietary fiber intake. Frozen is just as good as fresh for anthocyanin levels in berries.

Eat less fat. Red meats, processed meats, whole milk, butter, oil, margarine, fried foods, most chips and processed foods are high in fat, and often, saturated fat. Eat smaller amounts, or choose to eat them less often. And, make cooked meat portions less than 3 ounces (the size of a deck of cards) per day.

Terminal Market Wholesale Fruit Prices December 1, 2005
Chicago: <http://www.ams.usda.gov/mnreports/HX_FV010.txt>
Apples: Market about steady.

Cartons tray pack MI U.S. Fcy Jonathan 100s 17.00
Cartons cell pack NY U.S. ExFcy Mcintosh 80s 27.00 96s 27.00
Cartons 12 3-lb film bags MI U.S. ExFcy Red Delicious 2 1/2" min 13.50
Golden Delicious 2 1/2" min 13.50
Gala 2 1/2" min 15.00
Mcintosh 2 1/2" min 13.50
Jonathan 2 1/2" min 13.00-13.50 some 14.00 2 1/4" min 12.00
Bushel cartons loose IL Red Delicious 2 1/4" min 12.00
MI U.S. One Golden Delicious 2 1/4" min 12.00-13.00
Jonagold 2 1/4" min 12.00-13.00
Paula Red 2 1/4" min 12.00-13.00

Detroit: <http://www.ams.usda.gov/mnreports/DU_FV010.txt>
Apples: Michigan 12 3-lb Gala much higher, others steady

Cartons tray pack MI U.S. ExFcy Red Delicious 113s 15.75 138s 15.75
Mcintosh 100s 23.00-24.50
Empire 100s 23.00-24.50

Cartons cell pack NY U.S. ExFcy Mcintosh 100s 23.50-24.00

Cartons 12 3-lb film bags MI U.S. ExFcy Red Delicious 2 1/2" min 12.00-13.50 mostly
12.00 few 14.00-14.50 2 1/4" min 11.50-12.00
Golden Delicious 2 1/2" min 12.00-13.50 mostly 12.00 few 14.00-14.50 2 1/4" min
11.50-12.00
Granny Smith 2 1/2" min 12.00
Fuji 2 1/2" min 13.00-13.50
Gala 2 1/2" min 16.50-17.50
Red Rome 2 1/2" min 12.00 few best 14.00-14.50
Mcintosh 2 1/2" min 12.00-13.50 some best 15.50-16.50
Jonathan 2 1/2" min 13.00-13.50 few 14.00-15.50
Empire 2 1/2" min 12.00 few best 14.50-15.50
Idared 2 1/2" min 13.50-14.50

MI U.S. Fcy Red Delicious 2 1/4" min 10.00-10.50
Golden Delicious 2 1/4" min 10.00-10.50
Gala 2 1/4" min 10.00-10.50
Mcintosh 2 1/4" min 10.00-10.50
Jonathan 2 1/4" min 10.00-10.50

Bushel cartons loose MI No Grade Marks Red Delicious 2 3/4" up 12.00-15.00 mostly
13.50-15.00 3" min 12.00-15.00 mostly 13.00-15.00 2 1/2" up 8.00
Golden Delicious 2 3/4" up 12.00-15.00 mostly 13.50-14.00 3" min 12.00-14.50 mostly
12.00-13.00 2 1/2" up 8.00 Granny Smith 3" min 12.00-13.00
Jonathan 3" min 12.00
Empire 2 3/4" up 12.00-13.00
Cortland 3" min 13.00
Honeyscrisp 2 1/2" up 45.00, fair appearance 20.00

Pittsburgh: <http://www.ams.usda.gov/mnreports/PS_FV010.txt>
Apples: Market about steady.

Cartons tray pack  PA U.S. ExFcy Red Stayman 88s 24.00  
U.S. Fcy Mcintosh 125s 12.50

Cartons cell pack  NY Comb U.S. ExFcy-U.S. Fcy Mcintosh 100s 24.00  
U.S. Fcy Mcintosh 80s 17.50 100s 17.50

PA U.S. ExFcy Macoun 100s 17.50

Cartons 12 3-lb film bags  NY Comb U.S. ExFcy-U.S. Fcy Cortland 2 1/2" min 14.50  
PA U.S. ExFcy Rome 2 1/2" up 14.75  
Stayman 2 1/2" min 15.75  
U.S. Fcy Red Delicious No Size Marks 11.50  
Golden Delicious No Size Marks 11.50  
Stayman No Size Marks 11.50

Bushel cartons loose  PA No Grade Marks Red Delicious No Size Marks 11.50  
Golden Delicious No Size Marks 11.50  
Gala No Size Marks 10.00  
Mcintosh No Size Marks 10.00  
Jonagold No Size Marks 11.50  
Stayman No Size Marks 11.50

---

Preliminary Monthly Climatological Data for Selected Ohio Locations - November 2005

<table>
<thead>
<tr>
<th>Location</th>
<th>Prec</th>
<th>Prec</th>
<th>Prec</th>
<th>Prec</th>
<th>Temp</th>
<th>Temp</th>
<th>Temp</th>
<th>Temp</th>
<th>Temp</th>
<th>Temp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akron-Canton</td>
<td>2.40</td>
<td>3.04</td>
<td>39.69</td>
<td>35.49</td>
<td>52.2</td>
<td>48.7</td>
<td>33.5</td>
<td>33.4</td>
<td>42.9</td>
<td>41.0</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>4.13</td>
<td>3.46</td>
<td>37.65</td>
<td>39.32</td>
<td>56.6</td>
<td>53.6</td>
<td>35.7</td>
<td>44.5</td>
<td>44.7</td>
<td></td>
</tr>
<tr>
<td>Cleveland</td>
<td>2.65</td>
<td>3.38</td>
<td>37.83</td>
<td>35.56</td>
<td>53.1</td>
<td>48.7</td>
<td>36.2</td>
<td>34.9</td>
<td>44.7</td>
<td>41.8</td>
</tr>
<tr>
<td>Columbus</td>
<td>3.31</td>
<td>3.19</td>
<td>38.59</td>
<td>35.57</td>
<td>54.6</td>
<td>52.4</td>
<td>36.2</td>
<td>34.9</td>
<td>45.4</td>
<td>43.7</td>
</tr>
<tr>
<td>Dayton</td>
<td>3.64</td>
<td>3.30</td>
<td>43.40</td>
<td>36.50</td>
<td>53.3</td>
<td>50.1</td>
<td>34.3</td>
<td>34.3</td>
<td>43.8</td>
<td>42.2</td>
</tr>
<tr>
<td>Fremont</td>
<td>2.58</td>
<td>2.78</td>
<td>34.69</td>
<td>31.97</td>
<td>54.5</td>
<td>49.3</td>
<td>31.2</td>
<td>32.1</td>
<td>42.8</td>
<td>40.7</td>
</tr>
<tr>
<td>Kingsville</td>
<td>3.83</td>
<td>3.60</td>
<td>35.39</td>
<td>36.80</td>
<td>53.5</td>
<td>49.6</td>
<td>36.4</td>
<td>35.0</td>
<td>45.0</td>
<td>42.3</td>
</tr>
<tr>
<td>Mansfield</td>
<td>2.43</td>
<td>3.76</td>
<td>36.82</td>
<td>39.97</td>
<td>51.6</td>
<td>48.7</td>
<td>33.9</td>
<td>32.2</td>
<td>42.8</td>
<td>40.4</td>
</tr>
<tr>
<td>Norwalk</td>
<td>2.40</td>
<td>2.91</td>
<td>39.96</td>
<td>32.87</td>
<td>53.0</td>
<td>49.3</td>
<td>34.8</td>
<td>33.0</td>
<td>43.9</td>
<td>40.2</td>
</tr>
<tr>
<td>Piketon</td>
<td>1.91</td>
<td>3.00</td>
<td>21.80</td>
<td>38.80</td>
<td>58.2</td>
<td>51.4</td>
<td>33.4</td>
<td>34.1</td>
<td>45.8</td>
<td>42.7</td>
</tr>
<tr>
<td>Toledo</td>
<td>4.02</td>
<td>2.78</td>
<td>28.43</td>
<td>30.57</td>
<td>52.3</td>
<td>48.3</td>
<td>33.4</td>
<td>32.6</td>
<td>42.8</td>
<td>40.4</td>
</tr>
<tr>
<td>Wooster</td>
<td>2.03</td>
<td>2.93</td>
<td>33.11</td>
<td>33.57</td>
<td>53.8</td>
<td>49.3</td>
<td>34.1</td>
<td>31.8</td>
<td>44.0</td>
<td>40.5</td>
</tr>
<tr>
<td>Youngstown</td>
<td>3.63</td>
<td>3.07</td>
<td>39.00</td>
<td>35.06</td>
<td>52.6</td>
<td>48.4</td>
<td>34.8</td>
<td>33.0</td>
<td>43.7</td>
<td>40.7</td>
</tr>
</tbody>
</table>

Temperatures in degrees F, Precipitation in inches.
Record high temperatures set: 28th; Cleveland 69, Columbus 71, Piketon 76
29th; Akron-Canton 67, Fremont 69, Kingsville 68, Wooster 68, Youngstown 66

Record high temperatures tied: 28th; Cincinnati 70, Mansfield 66, Toledo 68

Record low temperature tied: 25th; Akron-Canton 8

Table Created by Ted W. Gastier, OSU Extension from National Weather Service Data, OARDC, and local reports