What’s Wrong With My Garden Tomato?
Margaret Murphy, Horticulture Educator and Regional Food Coordinator

During tomato season, I often receive calls from gardeners who are concerned about the look of their tomatoes. Though tomato plants are subject to several diseases, here are a few non-disease related issues that gardeners may find.

**Blossom End Rot:** According to Richard Jauron, the most common disorders we find affecting tomatoes. Blossom end rot starts as a small, sunken, dark spot on the blossom end of the tomato. It is often found in early developing fruit and is caused by the plant’s inability to provide enough calcium to the rapidly-growing fruit. This often happens with uneven watering as the plant needs moisture in order to take up and move calcium to the fruit. Iowa soils are usually sufficient in calcium so the best way to prevent blossom end rot is to avoid irregular watering. Water your tomato plants so the soil becomes evenly moist throughout the root zone.

**Fruit Cracking:** Similar to blossom end rot, cracking can occur with rapid fruit development and wide fluctuations in water availability. Two types of cracks generally seen are radial and concentric (pictured: radial). Radial cracks spread out from the stem while concentric cracks appear on the shoulders of the tomato forming arcs or circles of brown scar tissue. As with blossom end rot, providing even moisture by regularly watering the soil around the plants can help reduce growth cracks.

**Catfacing:** Misshapen fruit can also cause concern for home gardeners. Irregular bulges or leather-like scarring that forms on the blossom end of the tomato is a condition called catfacing. This occurs when cold weather strikes at the time blossoms are developing. This results in the death of certain cells creating deformities in the fruit. Catfacing is most often found in the larger tomato varieties such as “beefsteak” cultivars. While both cracking and catfacing can cause odd-shaped fruits, the tomato is safe to eat. Just remember to trim the affected areas before eating—just trim away the affected area.

**Sunscald:** This appears as a bleached area on the skin that looks blistered. In time the discolored area becomes dry and papery. It results from fruit being suddenly exposed to direct sun either from pruning, loss of foliage from disease or the plant spreading out due to a heavy fruit load. Injury from sunscald is usually more severe during periods of very high temperatures. To prevent sunscald maintain healthy foliage by controlling for foliar diseases and avoiding excess pruning or shoot removal.

For more information on tomato problems, see ISU Extension and Outreach publication, *Tomato Diseases and Disorders*, https://store.extension.iastate.edu/Product/Tomato-Diseases-and-Disorders.

ISU Offers “Weeds Week”
Joel DeJong, Crop Specialist

About four years ago this September I was working with ISU Weed Specialist Mike Owen on a project where he wanted us to collect waterhemp seeds from soybean fields that had a lot of weed escapes. At that time we were just hearing about a few fields where the most commonly used herbicide program used was starting to miss some weeds. This was not a random survey—these seeds came from soybean fields that had escapes in September, and also on the referral from people who thought their fields (crops) had developed herbicide resistance. Therefore, if resistance was present these were the fields likely to have the problem.
Dr. Owen and his research team grew these seeds into small plants and treated these weeds with herbicides at about 4” to 6” heights. He looked at 1X and 4X rates of herbicides from five different families of products. Of the 50 samples I pulled from the western/northwestern Iowa counties, 98% of these were resistant to the 4X rate of the ALS family product used, 88% to the atrazine 4X rate, and 46% resistant to the 4X rate of glyphosate applied. Seems to me we had a problem in 2011 and from observing the number of soybean fields “toasted” by herbicides this year, the resistance issue has spread.

In response, ISU Extension and Outreach is offering workshops across Iowa during the first week of August to take a closer look at how we can combat this problem. We have titled it “Weeds Week.” The date in northwest Iowa is Thursday, Aug. 6 at the ISU Northwest Research Farm near Calumet in southern O’Brien County. Workshops will be educational programs for farmers and retailers with a focus on understanding weed resistance and a hands-on, practical approach to developing long-term weed management plans that work.

Our goals are to evaluate the herbicide sites of action that are effective on the weeds present, develop a long-term weed management plan that can be implemented the following year, understand the importance of cultural and mechanical options in a diverse program, and recognize the importance of developing field-specific management programs

Each session is a combination of presentations, small group discussions, problem solving, and hands-on planning through a series of worksheets and materials developed for Weeds Week. Sessions are led by Extension and Outreach field agronomists. Each location also features tours of demonstration plots established to support the goals and objectives of the Weeds Week program.

Two sessions are scheduled at each location – one for farmers (morning) and a second for agribusiness, industry and retail representatives (afternoon). Each group receives similar information, but presented with the different focus of designing the plans for your own fields or supporting customers and clients in developing and designing their plans. The session costs $25 and registration is due by Aug. 2 for the northwest Iowa session. Contact your local Extension and Outreach office for more details or check out the information page online at www.aep.iastate.edu/weeds/.

**Prepare Cows for Hot Summer Heat**

*Ryan Breuer, Dairy Field Specialist*

The summer season is upon us and for the average lactating dairy cow that means longer and warmer days, with the potential of heat stress, which is a serious concern for your dairy. In preparation for these hot temperatures, ask yourself these critical questions while monitoring your cows for heat stress:

- Are the cows comfortable?
- Do the cows need more ventilation?
- Is there enough available water being used appropriately to keep cows cool?
- What can I do to help?

**Comfort**

Comfort is a cow’s best friend. When a cow is content she will lay down, rest more comfortably, ruminate, consume more water and drymatter, be more reproductively sound, and as a result, produce higher quantities of milk. With higher feed inputs and higher milk outputs comes greater metabolic heat outputs. An extremely productive lactating dairy cow is then more sensitive and susceptible to negative impacts from increases in environmental temperatures.

Temperatures greater than 70°F or a temperature – humidity index value of 68 will cause cows heat stress. The longer the cow is affected by heat stress, the more time she spends trying to cool off instead of resting. Cows will attempt cooling maneuvers to avoid dehydration and heat stress by continually moving around or standing, thus impacting the needed resting time for health sustainability, well-being and overall productivity.

Being proactive and lessening temperature-induced stress with heat abatement strategies will reduce the implications associated with hot summer temperatures. Giving your cows the opportunities to stay cool and comfortable during all parts of their day will decrease the burden heat has on them. Make sure to provide heat abatement in areas of resting, eating, and high animal density locations (i.e., holding areas).

Reducing stocking density will allow for improved heat abatement.

**Ventilation**

Ventilation is crucial when it comes to keeping cows cool. Increase air velocity and air exchange to prevent stagnant air, as this is a cow’s worst enemy when it comes to ventilation and heat stress issues. Make sure to provide adequate air velocity in free-stalls, resting areas, over feed rails/bunks, in the holding area and the parlor to allow cows to stay cool in all areas of the dairy. It is important to provide ample air exchange. Opening up side walls and end walls on barns (depending on your facility) will allow for increased air exchange. Fresh air permits easy breathing. Increased ammonia levels often accompany the hot and humid temperatures, but adequate air exchange reduces associated consequences.

Providing air circulation alone is insufficient. Always provide fresh air inlets and outlets. Air exchange and air velocity must be implemented first when it comes to ventilation.

Remember to always provide shade in all resting areas.
Water

Providing water is two-fold when it comes to heat abatement strategies – consumption and evaporation! Offering clean, cool, fresh water will lower a cow’s internal temperature, causing increases in overall consumption of water and drymatter, and relief from heat stress. When a cow is heat stressed her water consumption will increase 50%. Make sure clean, cool water is readily available. Increase the amount of times per day you visit water feeders to ensure they are clean and cool. Remove all dirty water and anything in it that would make it a deterrent, thus decreasing water intake. Providing water access immediately after milking will also help keep them cool throughout the day. Cows consume most of their daily water intake right after being milked.

Evaporation can be direct or indirect. Indirect evaporation is the process of cooling air first then cooling the cow with this colder air. Direct evaporation (sprinklers/soakers) is more commonly seen in dairies. Although a great way to keep cows cool, there are circumstances in which one should avoid while using direct evaporation. Cows must be soaked to the skin then dry completely when using direct evaporation. If too fine of a mist is use to spray a cow down, air will actually lock between the hair and the skin. By doing this, you are insulating the cow and not allowing the evaporative cooling process to occur. Provide sprinkler access to areas of high cow density – feeding and holding areas. Avoid letting sprinkler water get into free stalls or on to feed. Saturating feed with too much water in hot temperatures will decrease drymatter intake and increase the spoiling rate of feed. Be mindful of your water usage during this time and your ability to store the extra waste water in your manure handling facilities.

Other Tactics to Consider

Decreased drymatter intake occurs during heat stress but may be counteracted by adjustments to feeding programs. Slowly and gradually adjust feeding times so that cows are consuming drymatter at cooler times of the day - early morning and evening hours. Providing higher quality, nutrient dense rations during predicted long periods of hot weather may reduce the effects of heat stress on production. When considering any ration modification it is absolutely necessary to speak with a qualified veterinarian or herd nutritionist.

Providing great cow comfort, ventilation, and access to cool, clean, fresh water are just a few things you can implement and manage on your dairy to reduce the repercussions associated with heat stress. Do not forget about your dry cows, young stock and calves as they too can be adversely affected because of heat related stress. Keeping them cool and healthy during the hot times of year will ensure healthy, productive animals for your operation in the future.

Swine Update

Dave Stender, Swine Program Specialist

Common Swine Industry Audit

Workshops are being held for local producers to help them get ready for the common swine industry audit.

The common audit requires more records and documentation than previous certification programs. ISU Extension and Outreach has developed a notebook and a system to help producers organize their document and records. The workshop also helps producers prepare for an audit. There are 89 questions on the audit; many are not intuitive. Producers that have attended the early workshops report that they now have the tools and information they need to successfully pass the audit. One of the new sections of the audit some producers have the most difficulty completing is the Standard Operating Procedure (SOP) sections. The requirement is producers must write ten SOPs for various parts of their operation. Additionally, the producer must write a welfare policy statement and develop a reporting system. Workshops are being held throughout the state. Check with your county extension office for registration information.

Local Producer Elected President National Pork Board

A news release from the National Pork Board announced that Derrick Sleezer, a pork producer from Cherokee was elected as president of the National Pork Board. Sleezer is serving his second three-year term on the National Pork Board and just concluded two years as the board’s treasurer.

Serving with Sleezer as vice president is Jan Archer, a pork producer from Goldsboro, North Carolina. Terry O’Neel, a producer from Friend, Nebraska, was elected treasurer. The three executive officers will serve one-year terms in their positions beginning June 3. Outgoing president Dale Norton, a producer from Bronson, Michigan, will serve in a non-voting role as immediate past president.

Sleezer is an owner and employee of Sleezer, Inc., a farrow-to-finish, farrow-to-wean and farrow-to-feeder operation. He also works for Kerber Companies in product design/implementation, safety and compliance. Sleezer chairs the Finance Committee, and serves on the Animal Welfare and Trade committees and represents the Pork Board on the U.S. Pork Center of Excellence board. He is a member of the 2010 Pork Leadership Academy and an avid Operation Main Street speaker who has given more than 40 presentations.

Don’t Miss YOUR County Fair!

Contact county offices for dates.
### Farmland Leasing and Land Value Meetings

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<tr>
<th>Date</th>
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<tr>
<td>Thursday, July 23</td>
<td>Le Mars: 6:30 p.m. Le Mars Convention Center Lower Level Plymouth County • 712-546-7835</td>
<td>Thursday, July 30</td>
<td>Pocahontas: 9 a.m. Extension and Outreach Office Pocahontas County • 712-335-3103</td>
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<td>Monday, July 27</td>
<td>Spirit Lake: 6:30 p.m. ISU Extension and Outreach Office Dickinson County • 712-336-3488</td>
<td>Storm Lake: 1:30 p.m. Extension and Outreach Office Buena Vista County • 712-732-5056</td>
<td>Cherokee: 6:30 p.m. Western Iowa Tech Auditorium Cherokee County • 712-225-6196</td>
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<td>Tuesday, July 28</td>
<td>Sergeant Bluff: 9 a.m. Sergeant Bluff Community Center Woodbury County • 712-276-2157</td>
<td>Friday, July 31</td>
<td>Sheldon: 9 a.m. Iowa State Bank meeting room O’Brien County • 712-957-5045</td>
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<td>Orange City: 1:30 p.m. Extension Office Main Floor Classroom Sioux County • 712-737-4230</td>
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<td>Rock Rapids: 6:30 p.m. Forster Community Center Lyon County • 712-472-2576</td>
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<td>Wednesday, July 29</td>
<td>Emmetsburg: 9 a.m. Extension and Outreach Office (Old Library) Palo Alto County • 712-852-2865</td>
<td>July 6 Pesticide Training • Primghar</td>
<td>July 6 Master Gardener Webinar: Water in the Garden • Hull</td>
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<td>Estherville: 1:30 p.m. Iowa Lakes Electric Cooperative Emmet County • 712-362-3434</td>
<td>July 8 NW Iowa Research Farm Field Day • Sutherland</td>
<td>July 21 ISU Research &amp; Demonstration Garden Tour, Local Food Tasting • Rock Rapids</td>
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<td>Spencer: 6:30 p.m. Spencer School Administration Building Clay County • 712-262-2264</td>
<td>July</td>
<td>July 21 ISU Research &amp; Demonstration Garden Tour, Local Food Tasting • Rock Rapids</td>
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