DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

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SPDN
Southern Plant Diagnostic Network
Issue 22, July 20, 2020

Arkansas Plant Health Clinic Newsletter

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Tomato Fruit Abnormalities

Growers are sometimes bewildered when a tomato fruit grows a nose or horn, or even a pair of horns. **Tomato horns or noses** occur because of an error in cell division. A normal fruit has 4-6 locules when cut in half. When a few cells divide wrong they produce an extra locule. Since there is not enough room inside the fruit for the extra, a horn or nose protrudes from the fruit. Extended high temperatures (above 90°F during the day and 82-85°F during the night) predisposes the plant toward producing deformed fruit. Some of the older heirloom varieties are more susceptible. This does not affect the taste of the fruit.

Tomato Horn-Abiotic

Photo by Jennifer Sansom, University of Arkansas Cooperative Extension

Tomato Horn-Abiotic

Photo by Jennifer Sansom, University of Arkansas Cooperative Extension

Tomato Horn-Abiotic

Photo by Colin Massey, University of Arkansas Cooperative Extension

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Catfacing

Catfacing is caused by anything that damages the bloom. This can be cold injury, insect, herbicide, or storm injury. We typically see this most on fruit injured by frost when planted too early in the spring.

Catfacing-Abiotic

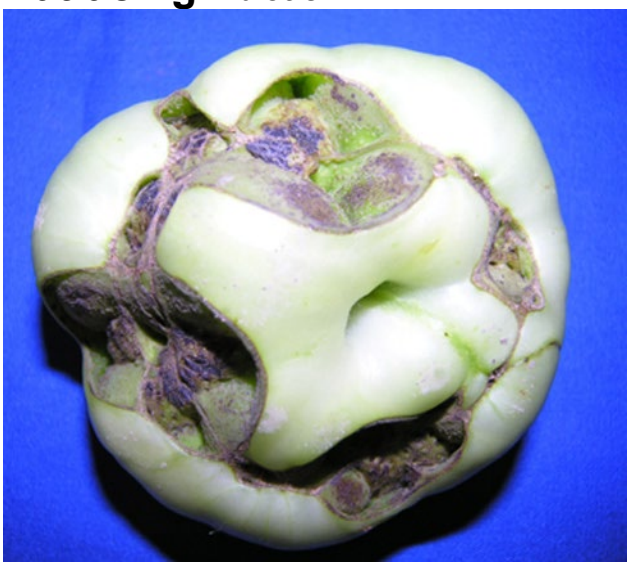

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Cracking

Cracking is usually associated with excess amounts of water. The plant tissue swells with the water faster than the skin can grow and cracking occurs. Some varieties are more prone to cracking than others.

Cracking-Abiotic

Photo by Rachel Bearden, University of Arkansas Cooperative Extension

Yellow Shoulder

Yellow Shoulder is caused by fruit exposed to high temperatures during maturation and ripening. Some cultivars are more prone to it than others. Potassium deficiency can also cause yellow shoulder.

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Yellow Shoulder-Abiotic

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Graywall

Graywall has been linked to potassium deficiency among other things. Black to dark brown necrotic tissue forms in the walls of tomato fruit infected with Graywall disease. In most cases only the outer walls are affected. Wall tissue may partially collapse, causing the outer skin of the tomato fruit to appear wrinkled. The area appears woody when cut, and the fruit is of poor quality. Graywall has been associated with Tobacco Mosaic Virus, low light conditions and cool weather as well as potassium deficiencies.

Graywall-Abiotic

Photo by APS Image Library

Graywall-Abiotic

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Sunscald

Sunscald or sunburn occurs during hot temperatures when protective foliage has been lost due to disease or insect feeding.

Sunburn-Abiotic

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Sprouting inside Fruit

Sprouting inside fruit occurs in overripe fruit when seeds have reached maturity and the natural hormone, abscisic acid (ABA), is reduced. The tomato fruit allows sprouting inside (vivipary) because the seeds do not desiccate (dry out) in the moist environment inside the fruit. Some causes of seeds sprouting in tomatoes are long storage in cool temperatures (below 55 degrees), being overripe, potassium deficiency, and over fertilization with nitrogen.

Tomato Sprouting in fruit-Abiotic

Photo by Darrell Nesmith

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Corn

Sprouting in the kernels occurs when moisture is trapped in the husk, allowing kernels to absorb water and germinate. This is most likely to occur at the black layer phase when kernel moisture ha dried to less than 20% and then exposed to moisture.

Corn Sprouting in Kernels-Abiotic

Photo by Darrell Nesmith

Corn Poor Pollination

Corn poor pollination occurs most often when silk emergence is not synched with pollen shed. However, It can also be caused by environmental factors such as heat, drought, excessive water, nitrogen deficiency, lack of sunshine, seedling disease, herbicide damage or compaction.

Corn Poor Pollination-Abiotic

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Corn Poor Pollination-Abiotic

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Corn Kernel Abortion

It is not unusual to see Corn kernels abort at the tip of the ear since they are the youngest and the farthest from the incoming food source. This occurs in the blister or early milk stages. Occasionally, kernels may abort in 2 or 3 columns that run the entire length of the ear. Basically, any kind of stress that reduces the photosynthate supply may cause kernel abortion. Drought stress is a major culprit.

Corn Kernel Abortion-Abiotic

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Okra

Okra pods may be distorted by stinkbug feeding. Females overwinter as adults and lay egg masses in the spring on host plants. There can be several generations a season. For stinkbug control, homeowners may use Ortho Max Flower, Fruit, Citrus, and Vegetable Insect Control, or Bio Advanced Fruit, Citrus and Vegetable Insect Control, or Sevin or Spinosad.

Okra Stinkbug Damage-Family Pentatomidae

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."