

SPROUTS

Tennessee Vegetable News

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What's new?

That's One Hot Habañero! Spicy TigerPaw Pepper Also Resists Root-knot Nematodes, Story by Luis Pons.

It's bright orange, nematode resistant, and hot- very hot! It's TigerPaw-NR, a new, groundbreaking habañoero pepper developed and released recently by scientists at the USDA Agricultural Research Service's Vegetable Laboratory in Charleston, SC. It's bound to make an impression on consumers whose desire for pungent peppers is on the rise. Geneticist Richard Fery, who developed TigerPaw-NR with plant pathologist Judy Thies, says the pepper—named when a fellow scientist saw a picture of its fruit and claimed they looked like tiger paws—will interest casual gardeners and serious growers alike. "Not only is it among the spiciest ever developed at ARS," he says, "it's also highly resistant to many important root-knot nematode species." How spicy is TigerPaw-NR? It scored a scorching 348,634 on the Scoville Heat Scale, placing it among world's hottest peppers. The Scoville scale shows peppers' relative heat in terms of their content of capsaicin, the compound that produces a burning sensation on the tongue. Jalapeños fall in the 3,500-5,000 range of the scale, while habañoeros rate 100,000 and higher. But TigerPaw-NR's true uniqueness lies in its nematode-resisting abilities. "All



habañoero-type cultivars currently available to commercial growers and home gardeners are susceptible to nematodes," says Fery. These microscopic, soilborne worms are major pests of many other crops worldwide.

Fery says that TigerPaw-NR can fend off the southern root-knot nematode, *Meloidogyne incognita*; the peanut root-knot nematode, *M. arenaria*; and the tropical root-knot nematode, *M. javanica*. In greenhouse tests, the pepper had 97% fewer nematode eggs/g fresh root than did its susceptible parent.

Fery and Thies developed TigerPaw-NR through conventional recurrent backcross breeding, which transferred the gene responsible for root-knot nematode resistance in PA-426, a Scotch Bonnet type of pepper, into PA-350, a classical habañoero type. Thies says that in tests, nematode resistance of the new pepper was equal to that of PA-426.

Fery has also been involved in the recent release of two new southernpea varieties: WhipperSnapper, a dual-purpose cultivar that can be used to produce both snaps and fresh-

shell peas; and GreenPack-DG, the first pinkeye-type southernpea to be released whose green seed color is conditioned by both the green-cotyledon and green-testa genes.

He says that WhipperSnapper, developed in collaboration with scientists at Louisiana State and Lincoln Universities, can be used to produce abundant quantities of snaps during seasons too hot for successful culture of snap bean cultivars. GreenPack-DG, developed under a cooperative research and development agreement with Western Seed Multiplication, Inc., of Wadmalaw Island, SC, has potential to replace Charleston Greenpack in the frozen food industry.

This story was originally published in the 'Agricultural Research' magazine, July 2007 Issue, available on-line at: <http://www.ars.usda.gov/lis/AR/archive/jul07/>.

Watermelon Festivals

It's that time of year and watermelon festivals are going on in neighboring states all around us, sponsored by the National Watermelon Association. To find the festival closest to you, visit the festival closest to you, visit the NWA webpage at: www.nationalwatermelonassociation.com. If you'd like to stay in TN for your watermelon festivities, head to Blount Co. for the Maryville Farmers' Market Watermelon Day on August 4, 2007. For more information, visit: www.maryvillefarmersmarket.org/.



Of special interest:

▣ **New Variety of Habañoero Pepper Too Hot for Root-knot Nematodes to Handle**

▣ **Watermelon Festivals- Don't Miss Out!**

▣ **Catfacing in Tomatoes**

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Question of the Week



Mild catfacing on tomato.

In honor of the Grainger Co. Tomato Festival, we have a tomato question this week.

Q: I have a tomato producer with dark spots on the bottom of the fruit. Please take a look at the pictures and tell me what you think. –J.L.

A: This looks like a mild case of catfacing to me. This is a physiological disorder and does not harm the fruit, except for its appearance. Catfacing can cause misshapen fruit and/or enlarged scars or holes at the blossom end. There are many potential causes of this disorder includ-

ing: environmental conditions, pruning, over fertilization, herbicide damage, insect damage and variety selection.

Cold weather (temperatures below 58 °F) during bloom time has been documented as a cause of catfacing.

Pruning can also increase catfacing under some situations.

High nitrogen during fruit formation is another cause. Herbicide damage can also play a role in this disorder. For example, 2,4-D damage has been shown to produce catfacing. Foliage symptoms should also be evident if 2,4-

D is the culprit.

Thrips feeding damage on one side of the flower has also been reported to result in deformed or catfaced fruit. Lastly, large fruited tomato varieties are more susceptible to this disorder than other varieties.

To minimize catfacing, review your planting time, pruning techniques, fertilization and pesticide schedules, as well as variety selection.

Do you have a vegetable question?
Send it to:
awszelak@utk.edu.



Example of differences in ear characteristics from the UT bicolor sweet corn variety trials.

Crop Report

Bountiful harvests continue for sweet corn, okra, turnip and collard greens, tomatoes, potatoes, onions, zucchini, peppers and melons. For the last few weeks, we have been harvesting sweet corn from our bicolor, synergistic variety trials at both the Highland Rim Research and Education Center in Springfield and the Plateau Research and Education Center in Crossville. We are noticing many differences in ear characteristics between

the 21 varieties in our trial. Stay tuned for more information on yield and quality differences in future editions of SPROUTS. This coming week we will begin harvesting from our slicing tomato trials also in Crossville. If you'd like to see the corn and slicing tomato varieties that we are trialing this year in person, head on out to the PREC Steak and Potatoes Field Day on August 7th in Crossville. For more information, visit:

www.taes.utk.edu/dynamic/events.asp.

This week, don't miss the TN Small Farm Expo at the TSU Demonstration Farm in Ashland City on Thursday, August 2, from 7:30 a.m. - 3:30 p.m. Vegetable field tours at the event include: sweetpotatoes; tomato and pepper production; organic production systems; watermelon and cantaloupe production systems; & plasticulture demonstrations.

Weather Report

This past week we finally received some of the much needed rain we've been missing for most of the summer. And what a difference a rain makes! Many crops have perked right up and many irrigation ponds and creeks have filled back up!

While we are grateful for the rain, keep in mind that overhead moisture can bring new pest pressures and can wash off the pesticides that you have worked hard to apply to prevent diseases and insects.

It looks like we could get a bit more rain in the next two days and then partly cloudy to mostly sunny skies the remainder of the week, with high's in the mid-80's in East TN to mid-90's in West TN and low's in the mid-60's to low 70's.

In this week's edition of the *Fruit Pest News*, Dr. Steve Bost warns us to be on the lookout for another atmospheric phenomenon— elevated ozone, which can be harmful to some plants. The

exposure of sensitive plants for 4 hrs at levels of 0.04 to under 1.0 ppm of ozone will produce injury. Sensitive vegetable crops include snap beans, carrots, sweet corn, gourds, cantaloupes, green peas, potatoes, pumpkins, squash, tomatoes, turnips, and watermelons. Cucumbers and peppers are considered resistant.

For more on ozone injury and its symptoms, visit: <http://eppserver.ag.utk.edu/Extension/fpn/fpn.htm>.



Upcoming Events

TN Agricultural Enhancement Program– Producer Diversification Cost Share Program **Applications accepted: July 2 - August 31 (postmarked)**

Increase your farm income by expanding and improving your operation through production of diversified agricultural products. The TDA is providing cost share funds for farmers to install farm infrastructure, purchase specialty equipment and market their diversified farm products. **The maximum cost share available per producer is \$10,000 per fiscal year.** New this year! Producers meeting special requirements in the priority areas of Agritourism, Goats & Sheep, Organics, and Viticulture are eligible for reimbursement of 50% cost share, up to the maximum of \$15,000 per fiscal year. **Don't miss out!**

Additional details at www.state.tn.us/agriculture/enhancement/growth.html.

2007 Annual Small Farm Expo/Small farmer Recognition Program, August 2, 2007, TSU

Research and Demonstration Farm, Ashland City, TN

For more information and registration, contact Hilda Gooch at 615.963.5530 or agooch@tnstate.edu.

Steak and Potatoes Field Day, August 7, 2007, Plateau Research and Education Center, Crossville, TN For more information, visit www.agriculture.utk.edu/news/FieldDays/.

Annual Tomato Field Day, August 9, 2007, Mountain Horticultural Crops Research Station, Fletcher, NC

Come and hear about the latest research on variety development and disease, insect, and weed control for tomatoes and other vegetables grown in western NC. Researchers, extension personnel, marketing specialists and agronomists from NCSU and the NCDA and Consumer Services will all be available to answer your questions about all aspects of commercial tomato production and marketing. Registration is from 12:30 – 1:00 p.m. Welcome Comments begin at 1:00 p.m. Tour of Research begins at 1:30 p.m. and runs to 5:30 p.m. A map is available on-line at <http://www.ces.ncsu.edu/fletcher>.

Potato Association of America 91st Annual Meeting, August 12-16, 2007, Idaho Falls, ID

For details visit www.conferences.uidaho.edu/PAA.

NC State University Asparagus Twilight Meeting, August 16, 2007, Roxboro, NC

Learn about growing and marketing asparagus, including site and soil considerations, fertility requirements, insect, disease, weed control, harvesting, marketing, and cost of growing. For more information, contact Carl Cantaluppi at carl_cantaluppi@ncsu.edu or call 919.603.1350.

Produce Inspection Training Program, September 24-28, 2007, Fredericksburg, VA

SOLD OUT! The United Fresh Produce Association will be announcing the 2008 dates soon. For more information, or to put your name on the waiting list, contact United Fresh Education Manager Beth Berman at bberman@unitedfresh.org.

Sunbelt Ag Expo- 30th Anniversary Show, October 16-18, 2007, Moultrie, GA

For more information visit www.sunbeltexpo.com or call 229.985.1968.

International Irrigation Show, December 9-11, 2007, San Diego, CA

For details, call 703.536.7080 or visit <http://www.irrigation.org>.

Tennessee Fruit and Vegetable Association Convention, December 9-11, 2007,

Nashville Airport Marriott, Nashville, TN

Southern SAWG Annual Conference- Practical Tools and Solutions for Sustaining Family Farms, January 16-19, 2008, Galt House, Louisville, KY

SPROUTS: Supporting Producers through Research and Outreach at UT

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences and resource development. University of Tennessee Institute of Agriculture, United States Department of Agriculture and county governments cooperating. UT Extension provides equal opportunities in programs and employment.

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