Will be slightly cooler with highs in the low 70's and lows in the low 40's, but rising. From Nashville to Jackson, the daytime highs will be near 80, with lows in the 50's.

Temperatures are on the rise! In the eastern part of the state conditions will be partly cloudy to mostly sunny in the coming week. High temperatures will range in the mid-70's, with lows in the mid-40's and climbing. On the Plateau, temperatures

**Weather Report**

What's new?

Meet Greg Armel: UT Weed Extension Specialist

Dr. Greg Armel joined the Department of Plant Sciences in October 2007. He is a native of Virginia, and earned his BS in Forestry Wildlife Management, MS in Ag Education and PhD in weed science from Virginia Tech University. Greg worked under the direction of Dr. Henry Wilson, one of the most respected weed scientists in the nation.

After graduation in 2002, Greg joined DuPont in the agricultural chemical division, working in their herbicide discovery group and most recently as a herbicide development specialist.

His area of responsibility at UT is weed control in horticultural crops, including vegetables, lawn turf, and also invasive plants in natural areas. His appointment is 75% extension and 25% research. We are happy to have him here in Tennessee.

Revised Use Rate for Valor SX Herbicide in Sweetpotato

The EPA has approved a supplemental label increasing the allowable application rate for Valor in sweetpotatoes. The rate has been increased from 2.5 to 3 oz product/A. Valor must be applied prior to transplanting sweetpotatoes. As with all pesticides, read and follow label in its entirety.

Warm Season Crops BEWARE!

After the weather we had last week, it’s hard to believe we are not yet past the average last spring frost date across much of the state. However, temperatures tonight will give us a chilly reminder. We will see temperatures between 30-40 degrees across much of the state.

I have seen many tomatoes already planted in the ground this week. Tomato and other warm season vegetables are native to warmer climates such as South America. The origin of the plant often affects the temperatures that the plant will tolerate. For instance, warm season plants in the Solenaceae family, like tomatoes, peppers, eggplant and potatoes or the Cucurbitaceae family, like pumpkins, squash, cucumbers, and melons grow best in the warmer temperatures, after the soil has heated up in late spring or summer.

On a night like tonight, it would be wise to protect any of these temperature sensitive plants from potential frost. Row covers can provide some protection. Make sure to keep the cover directly off of the plant with a hoop or stake. Other growers use individual buckets, cups or other containers to cover each plant and provide insulation. If you use this latter method, make sure you remove the cups the next day so that you don’t have an oven effect once the sun comes out.

Soon we’ll be enjoying fresh, local produce and wanting some relief from the heat, but for now, watch for frosty temperatures at night.
Plastic Mulch: What color is best for what?

Plastic mulch has been used for commercial vegetable production for nearly 50 years. These mulches have many advantages in a production system, including:

1) Earlier crop production (7-21 days earlier)
2) Higher yields per acre (2 to 3x higher)
3) Cleaner produce
4) More efficient use of water resources (drip irrigation)
5) More efficient use of fertilizers
6) Reduced soil and wind erosion
7) Better management of certain insect & disease pests
8) Fewer weeds
9) Reduced soil compaction
10) Opportunity for efficient double or triple cropping

Plastic mulches now come in a rainbow of colors. How do you know which color is right for your intended use or crop?

First, it is important to know what the mulches do.

Plastic mulch can:
- Change the microclimate of the soil
- Change the ability to absorb or reflect the sun’s heat
- Warm the soil earlier in the Spring and/or maintain warmth in the Fall
- Cool down the soil in the Summer

The color of the mulch will determine how it will change the environment around the crop.

Black is still the most common color of mulch used. Though costs are rising, it is still the least expensive.

What does it do?
- Increases soil temperature (5 °F higher at 2” depth than bare soil during daytime)
- Suppresses weeds
- Improves soil moisture retention
- Improves yields of many warm season crops (tomatoes, peppers, melons, squash, cucs)

Clear plastic allows for greater soil warming than colors. But, weeds can grow under this mulch & it is usually used with herbicides.

What does it do?
- Increases soil temperature (8-14 °F higher at 2” depth than bare soil during daytime)
- Sometimes used for early sweet corn or transplanted sweet corn
- Often used for soil solarization to reduce soilborne diseases in the hottest part of the summer

White, white-on-black or silver is often used for summer crops.

What does it do?
- Performs like black mulch (warms soil, controls weeds, conserves moisture)
- In a study in Pennsylvania, they found a 12% increase in marketable yield over 3 years in tomato, due to a reduction in Early Blight
- Suppresses nematodes

Red plastic has been said to benefit tomatoes, eggplant, peppers, melons and strawberries.

What does it do?
- Special pigments added to the film during production block out blue and red wavelengths (which cause weeds to grow). Therefore, it has the weed control of black mulch.
- Infrared light is transmitted through the film and warms the soil, similarly to clear mulch.

Blue, yellow, orange and green plastic mulches each reflect a different radiation pattern into the crop canopy. Some of these are harder to find than others.

What does it do?
- Increased yield has been reported for muskmelon on green or dark blue, cucs and squash on dark blue
- Insect activity affected: Yellow, red & blue have been said to increase peach aphid populations

Bio- or photodegradable mulches are gaining in popularity and practicality, as disposal is still the largest issue associated with plastic mulch use. We will discuss biodegradable mulches and results from a UT trial in a coming edition of SPROUTS.

This information was adapted from the publication ‘Season Extension Techniques for Market Gardeners’ on the ATTRA website: [http://attra.ncat.org/attra-pub/seasonext.html](http://attra.ncat.org/attra-pub/seasonext.html).

For more on plasticulture and its components and uses for vegetable production, visit the Pennsylvania State University Center for Plasticulture website at: [http://plasticulture.cas.psu.edu/introduction.html](http://plasticulture.cas.psu.edu/introduction.html).
**Question of the Week**

Q: I have a grower that wants to know, what is the best color plastic for growing pumpkins? He also had a problem with cucumber beetles last year. Is there a color that will help with that?

A: Generally, many growers use plastic in a pumpkin system to produce a cleaner pumpkin and to reduce diseases on the fruit. Black has traditionally been the most common, due to its weed suppressive properties and lower cost than some other colored mulches.

But when we start talking about cucumber beetles and the feeding damage that they cause, as well as the bacterial wilt and virus they can spread, the way we measure cost can change.

In the late ‘90’s, John Caldwell and Paul Clarke at Virginia Tech conducted a trial looking at the effect of aluminum coated plastic mulch for repelling cucumber beetles in cucumbers and squash. Aluminum-coated plastic has been known for many years to repel aphids, reduce and delay the incidence of aphid-transmitted virus diseases, and increase total and marketable yield.

They compared black plastic (1 mil thickness, Tredigard, Richmond, Virginia); aluminum-coated plastic with a solid silver reflective appearance (1.5 mil thickness, Clarke Ag Plastics, silver over clear); and black plastic onto which two aluminum-coated strips each 8” (20 cm) wide were attached with 1” x 6” x 1/8” size staples, with 1-2 ft (0.30-0.61 m) between the strips. They placed yellow sticky-card traps in each treatment and counted the cucumber beetles, both spotted and striped cucumber beetles, that were captured on each trap on a weekly basis.

They found that, in both crops, both striped and spotted cucumber beetle counts were significantly higher on black plastic than on solid aluminum and aluminum strips for several weeks of trap counts. In fact, there were 6 times as many beetles in the black plastic compared to the solid, and nearly 3 times as many as in the strips for the middle of June sampling date in cucumbers.

Their results showed that both strips and solid aluminum can reduce high populations of cucumber beetles below spray threshold levels.

They concluded that the use of reflective mulch could benefit both conventional and organic vegetable growers alike. For conventional growers, reflective mulch could provide an alternative to insecticide applications and save them the cost of insecticides. For both organic and conventional growers, repelling cucumber beetles with reflective mulch could help prevent bacterial wilt transmission. In addition, the reflective mulch may also reduce virus transmission by repelling both cucumber beetles and aphids.

**Weather Report**

While it will be chilly tonight, things will heat back up tomorrow. Across the state temperatures will hit the mid- to upper 70’s tomorrow. A great day to get out into the field. Thursday will be cloudy and windy, but warm. High’s will be in the low 80’s in East Tennessee and the upper 70’s in West Tennessee.

On Friday, thunderstorms are predicted to roll across the state, with temperatures holding in the 70’s. The weekend promises a mix of sun and clouds and mild weather. Low temperatures will hover in the 50’s and 60’s. Though we have seen a good bit of rain in April, some parts of the state are still deficient for the month.

The USDA National Agricultural Statistics Service Reported that Erwin is 2.2” down for the month and Dayton is down nearly 2”. For the year, Dayton is down nearly 6” and Oneida nearly 10” below normal. On the other hand, Jackson, Memphis and Milan are all over 8” above normal for rainfall since January.
### Upcoming Events

**8th Annual NCSU Worm Farming Conference**, May 19-20, 2008, Raleigh, NC
Learn about worm farming and vermicomposting from industry experts. This conference is great for beginners or seasoned worm farm operators. For more information: [www.bae.ncsu.edu/workshops/worms08/](http://www.bae.ncsu.edu/workshops/worms08/).

**Developing & Implementing HACCP for the Fresh-cut Industry**, May 20-22, 2008, Extension Food Science Teaching Facility, University of Georgia Campus, Athens, GA
This program has been specifically designed for the fresh-cut industry. The goal of this program is to provide you with the skills and knowledge to design, implement, document and maintain HACCP in your fresh-cut business. For more information and to pre-register, visit: [http://www2.unitedfresh.org/forms/MeetingCalendar/](http://www2.unitedfresh.org/forms/MeetingCalendar/).

**Domestic Kitchen Tennessee Food Safety Certification Course**, 8:30 AM-3:30 PM CST, May 29, 2008, Central Region Extension Office, 5201 Marchant Dr., Nashville, TN
This course meets the requirements for the Rules of the Tennessee Dept. of Agriculture Regulatory Services Division, Regulations for Establishments Utilizing Domestic Kitchen Facilities for Bakery and Other Non-Potentially Hazardous Foods Intended for Sale. The fee for the course is $100 and includes instruction materials, lunch and certificates earned. Pre-registration mandatory. For further information, please contact Nancy Austin at 865.974.7717 or naustin@utk.edu or register on-line at [www.wcmorris.com](http://www.wcmorris.com).

**United Fresh Produce Associations’ Produce Inspection Training Program**, June 2-6, 2008, Fredericksburg, VA.
This program will provide hands-on instruction from USDA experts to anyone involved in the produce supply chain - grower to retailer. Become more knowledgeable about quality control standards, inspection grading, USDA produce procedures and requirements, and more! For details, contact Beth Berman at 202.303.3405 or visit [www.unitedfresh.org](http://www.unitedfresh.org).

**TSU Small farm Expo/Small Farmer Recognition Program**, August 8, 2008, Ashland City, TN
More details to follow...

**2008 University of Tennessee Research and Education Center Field Days:**
(For more information on any of these events, visit [http://taes.tennessee.edu/dynamic/events.asp](http://taes.tennessee.edu/dynamic/events.asp).)

- **Beef and Forage Field Day**, June 12, 2008, East TN Research and Education Center, Knoxville, TN
- **Fruits of the Backyard Field Day**, June 17, 2008, Middle TN Research and Education Center, Spring Hill, TN
- **Blooms Days**, June 28-29, 2008, University of Tennessee Gardens, Knoxville, TN
- **Summer Celebration**, July 10, 2008, West TN Research and Education Center, Jackson, TN
- **Tobacco and Forage Production Field Day**, July 17, 2008, Research and Education Center at Greeneville, Greeneville, TN
- **25th Milan No-Till Field Day**, July 24, 2008, Research and Education Center at Milan, Milan, TN
- **Steak and Potatoes Field Day**, August 5, 2008, Plateau Research and Education Center, Crossville, TN

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**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.