What's new?

Annual Grass Control in Sweet Corn
Several growers are experiencing a grass control problem in their sweet corn, due to lack of rainfall. While this may have been remedied after this weekend's rain in some areas, others may still be in trouble, as many pre-emergence herbicides applied in the past 4-6 weeks have not been activated because of the lack of water.

Here, Dr. Doug Doohan, Ohio State Weed Extension Specialist, provides a few suggestions for postemergence control of these grasses.

- **Atrazine + Oil** (typically 80:20 blends of mineral oil + surfactant are used): Atrazine can be used at label rates up to 1.62 lb ai/A, but more than 1 lb ai may result in carryover injury to crops planted next year. Grass control may not be excellent at the 1 lb rate. Generally, if atrazine, or premix products containing atrazine were applied PRE do not use this treatment.

- **Callisto** (or labeled Mesotrione containing products): Only controls crabgrass. Crop oil (COC) or non-ionic-surfactant (NIS) is required.

- **Frontier**: Should control most annual grasses when applied POST, provided they are not beyond the 2 leaf stage. Sweet corn can be treated up to 7 inches tall.

- **Impact**: New herbicide that OSU tested (2006), with good safety, on half a dozen sweet corn varieties. Impact at ¾ fl oz/A + ¼ - 1 lb of atrazine + COC or NIS or methylated seed oil controls actively growing annual grasses and broadleaf weeds. NIS is preferred if crop is under stress.

- **Accent**: Apply broadcast or with drop-nozzles to corn up to 12 inches high (V5 stage), or with drop-nozzles to corn 12-18 inches high. Do not apply to sweet corn with more than 5 collars (V5). Accent must be applied with NIS or COC. It does not control crabgrass. Foxtails, fall panicum and barnyard grass are controlled up to 4 inches high, seedling Johnson grass up to 12 inches high and rhizome Johnson grass up to 18 inches high. CAUTION: Not all varieties are tolerant of Accent. Growers must assume all risk for crop injury.

- **Bicep Lite II Magnum**: Should control emerged seedling annual grasses up to the 2 leaf stage. Corn should not be beyond the 2 leaf stage.

This story was taken from the 05/29/07 edition of ‘Vegnet’:
www.ag.ohio-state.edu/~vegnet/.

Do you know the difference between a tomato and a ‘mater?
Pettus L. Read, Editor of the Tennessee Farm Bureau News, explains in “Got Your ‘Maters Planted Yet?” in last Fridays edition of the Farm Bureau News.
To read this story, visit:
www.tnfarmbureau.org/.

Safety of Fresh Produce
Request for Comments
The FDA is asking fresh fruit and vegetable producers to submit comments by June 13, 2007 about current agricultural and manufacturing practices used to produce, harvest, pack, cool, process, and transport fresh produce; risk factors for contamination of fresh produce associated with these practices; and possible measures by FDA to enhance the safety of fresh produce. There is pressure for FDA to develop federal regulations. Some State Farm Bureaus are concerned that these regulations could 1) be geared toward large western produce growers, 2) negatively affect small retail growers and 3) negatively impact international trade.
The complete Federal Register can be found at:
On the Farm: The clock is ticking
Researchers and growers test methyl bromide replacement


Stuart, Fla., tomato grower Jock Ivy says he’s confident he can cut his usage of methyl bromide (MeBr) fumigant in half by using metalized silver mulch that retains more of the gas in the soil. The 2005 season was the first time he tried the reflective bed covering in cooperative trials with USDA plant pathologist Dan Chellemi. The results were so good that Ivy converted his several hundred acres of tomatoes to metalized mulch for the fall 2006 season. Not only does the reflective bed covering hold in the fumigant longer—allowing it to do a better job of killing soilborne pests—but it also repels virus-carrying whiteflies. “The reflective does seem to help with insects, and it tends to hold the moisture better,” Ivy says. “It’s stronger, which means you can stretch it over the beds, and it’s easier to work with.”

The mulch also saves Ivy money by allowing him to use lower fumigant rates and lengthen his spray intervals. Chellemi, based in Fort Pierce, Fla., is experimenting with that same mulch technology and methyl iodide, a soil fumigant from Arysta LifeSciences Corp. of Cary, N.C. The fumigant, trade named Midas, is not yet registered. But the EPA issued an experimental-use permit in September 2006 that allows 1,000 acres in Florida, Georgia, Michigan, North Carolina, South Carolina, Tennessee and Virginia to be treated and the crops sold without restrictions. The company hopes for a similar program in the Southwest this summer, says Mike Allan, Arysta’s global fumigant product manager.

The Midas formulation being tested is a blend of 50% methyl iodide and 50% chloropicrin. A race to find replacements

Part of the impetus behind Chellemi’s work is the fact that MeBr will be available only for another 3-5 years. Under the Montreal Protocol of 1987, developed nations agreed to phase out the use of ozone-depleting chemicals, including MeBr. The countries were supposed to halt all production and use of the products by Jan. 1, 2005. But a handful of countries, including the U.S., said they had no MeBr alternatives and successfully sought critical-use exemptions. For the 2007 season, U.S. growers expect to receive an allocation of 18% of 1991 baseline levels, which were 56.3 million lbs. As the supply of MeBr shrinks, the price continues to rise. “MeBr is going to be around for the next 3-5 years, but it’s going to be around at much reduced levels,” says Mike Aerts, assistant director of the Florida Fruit and Vegetable Association’s environmental and pest management division in Maitland. “Transition will be the word here. Growers need to have strategies in place that they can fall back on if they can’t get bromide or all of the bromide they need.”

The EPA also recommends growers use an emission-minimization or barrier film, Aerts says. Putting the newcomer to the test

In field trials conducted at the U.S. Horticultural Research Laboratory in Fort Pierce, Chellemi is comparing Midas applied under metalized or virtually impermeable films (VIF) with the industry standard low-density polyethylene mulch. Plastic mulch permeability to chemical fumigants is characterized by the amount of fumigant that can pass through a section of film over time. It is reported as grams of fumigant/m² of film/hour.

In laboratory tests involving an initial concentration of 1,000 parts per million MeBr under the film, Chellemi says typical permeability measurements range from about 120 grams/m²/hr for low-density polyethylene to 13 grams for metalized film and 0.2 grams for VIF.

Although he says growers may not need to go to the extreme of using VIF, he says they need to consider improved barriers because of increasing environmental concerns.

Chellemi’s trial also involves 3 rates of Midas—180 lbs, 150 lbs and 120 lbs per treated acre. Each plot is 75 ft long, and each treatment is replicated four times. “We want to see how low a rate we can use and still get [pest] control,” he says. Pacific Ag Research of San Luis Obispo, Calif., used the patented Symmetry machine to apply the fumigant. Once the beds were fumigated and plastic applied, peppers and tomatoes were planted. Throughout the trial, Chellemi and his technician, Nick Rotindo, will rate weed control in the plots. “Unfortunately, there was some variability in nutseed control with the lowest rate under the VIF,” Chellemi says about early weed counts. They hope to be able to harvest a crop and evaluate fruit yield and quality. How do alternatives pencil out?

Aerts says Midas recommends 150 lbs of product per treated acre when used with metalized film or VIF, Allan says. In fields with 36-in. beds and 6-ft centers, Chellemi says growers actually will apply 75 lbs of Midas/acre because they only treat the beds, not the row middles. At $10 per pound, the chemical cost would be $750/acre. VIF and metalized plastic film run about $220 to $245/4,000-ft roll of 60-in.-wide plastic, according to an informal survey Chellemi conducted in 2006. If growers use a standard low-barrier film, they will need to increase the rate to 300 lbs of Midas per treated acre, Allan says. High-density polyethylene that is 0.75 mil thick runs about $190/6,000-ft roll, according to Chellemi. Having a Symmetry rig apply the fumigant is not required, but is recommended, Allan says. “It provides greater accuracy in terms of rates per acre and reduced rates per acre, and greater protection for workers and the environment,” he says, adding the rig can be used for any fumigant.

Adapting to a 50-50 MeBr blend

The Midas price compares with MeBr, which currently sells for about $3.70/lb for a 50-50 mixture of bromide and chloropicrin, Chellemi says. “The problem with 50-50 is that growers need to make sure they have applied enough MeBr to achieve nutseed control.” In the past, when the fumigant was 67% bromide and 33% chloropicrin, he says growers were able to cut fumigant rates in half from 350 lbs per treated acre to 175 lbs by using metalized mulch or VIF. MeBr constituted about 116 lbs of that mixture. With the new blend, which has less actual MeBr, Chellemi says the ½-rate will mean only 82 lbs of bromide per treated acre. So growers will need to bump up the amount of fumigant they use to ensure nutseed control.
Question of the Week

Q: Why are my tomatoes staying green-yellow right around the stem but ripening everywhere else? -C.C.

A: It sounds like your tomatoes may have yellow shoulder disorder (YSD). This is a physiological disorder whose symptoms are discolored regions under the skin that show through and reduce the quality of the fruit. The disorder can be mild (a few light spots) to severe (much of the top of the fruit discolored). This is not a delay in ripening, but a fruit tissue disorder.

Normal cells in a tomato are large and neatly arranged, while those in affected areas are smaller and randomly arranged. During ripening the green color (chlorophyll) is masked by the red color (lycopene), but this fails to occur in areas of fruit with YSD. YSD happens early in fruit development, so leaf analysis is important for prevention.

While the cause of the YSD is unknown, several factors are thought to contribute to the disorder including: environment (high temperature >90°F), nutrition, variety, and virus. It is hard to determine how these factors all interact.

YSD can be triggered by insufficient exchangeable K+, excess Mg in relation to Ca, and pH above 6.7. Management options to reduce YSD include increasing K+ above 3% by dry matter before fruit is < 1”, adjusting soil pH to 6.4-6.7 and increasing the Mg/ Ca ratio to 1/6 or better. Leaf analysis testing at first flower initiation is extremely important in preventing YSD, as once fruit is growing and damaged it will not improve. Certain varieties are less susceptible than others, so variety selection is vital in managing YSD. No research has been done to solidly identify fresh market varieties with less susceptibility, but some growers have done their own farm testing.

Best practices to prevent YSD are to leaf test from first flower cluster for Ca, K+ and Mg levels. From this information, you could apply KNO3, Ca(NO3)2, or calcium chelate to reduce YSD potential.

In greenhouse operations, use of shade cloth or white-wash can help prevent YSD and other disorders related to heat stress.

Crop Report

Across the state pea harvests continue, along with other cool season crops like cabbage and broccoli. The squashes are also still prolific. I have seen some damping-off problems in recent weeks. Damping-off is caused by several vegetable pathogens, including Pythium, Phytophthora, Rhizoctonia and Fusarium spp. It can kill seedlings before they break the soil line (pre-emergent damping-off in direct seeded crops) or kill seedlings soon after they emerge or are transplanted (post-emergent damping-off). The pathogen causing damping-off can vary according to the soil conditions. In cool, wet soils, the culprit is most likely Phytophthora or Pythium. Rhizoctonia and Fusarium are more likely to cause damping-off under warmer, drier conditions, like those we’ve experienced this spring. Also, generally, Pythium kills seedlings before they emerge, while Rhizoctonia and Fusarium tend to kill seedlings after they emerge. Whichever the pathogen, damping-off can cause substantial losses if not controlled. First, be aware of conditions that may lead to the problem (i.e. weather, greenhouse conditions). Second, identify the pathogen causing the problem. Fungicides applied to prevent or control damping-off are specific to the pathogens they control. Always refer to the fungicide label for crop use, pathogens controlled and application rates.

Weather Report

Things are heating up for the end of the week, but chances for scattered thunderstorms remain. Night time temperatures are also on the rise, with lows only dipping down into the 70’s. Some received more rain than others this past weekend, but around Knoxville the rain was more of a teaser than anything else, with little accumulation. In all areas of the state, mulching is a good idea to conserve moisture. In addition to added moisture, mulch can reduce disease due to soil splash and help with weed control. Just make sure you put on a nice thick layer (4-6 inches)!
Upcoming Events

Tennessee Agritourism Association Meeting, June 11, 2007, Amazin’ Acres, Sparta, TN
Contact Vera Ann Myers for more information at verann@xtn.net.

20th Missouri Agribusiness Academy Tour, June 11-15, 2007, Various locations across MO
For more information, call 573.751.4561.

For more information, visit: www.attra.org.

Produce Inspection Training Program, June 18-22, 2007, Fredericksburg, VA
For more information, visit: www.unitedfresh.org.

Southeast Greenhouse Conference, June 20-23, 2007, Greenville, SC
For more information, call 1.800.453.3070, or visit www.sgcts.org or email smolnar@aginfo.net.

and Education Center, Knoxville, TN
For more information, visit http://bloomsdays.tennessee.edu/.

12th Annual Mountain Farm and Garden Tour, June 23-24, 2007, surrounding Asheville, NC
For more information, visit: www.carolinafarmstewards.org.

Southern Conservation Agricultural Systems Conference, June 25-27, 2007, Quincy, FL
For more information, visit: www.attra.org.

Tobacco, Beef and More, June 28, 2007, Highland Rim Research and Education Center,
Springfield, TN
For details, visit http://agriculture.tennessee.edu/news/releases/0705-HRREC%20Field%20Day.htm.

Sunbelt Ag Expo Field Day, July 10, 2007, Moultrie, GA
For more information visit www.sunbeltexpo.com or call 229.985.1968.

Summer Celebration, July 12, 2007, West Tennessee Research and Education Center,
Jackson, TN
National Association of County Agriculture Agents Annual Meeting/Professional Improvement Conference, July 15-19, 2007, Grand Rapids, MI
For details, visit www.naccaa2007.msu.edu.

Building and Sustaining Effective Community Food Projects- A Training Facilitated by Southern SAWG, July 25-26, 2007, Nashville, TN
For more information, contact Keith Richards at keith@ssawg.org or 479-587-0888.

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

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

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.