Look What's Out There

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http://www.wvu.edu/~agexten/

Tomatoes Get Genetic "Boost" Under Sustainable Ag System

Tomatoes grown in a sustainable agricultural system using a legume cover crop as fertilizer had better disease resistance and lived longer than tomatoes grown on black polyethylene mulch with chemical fertilizer, Agricultural Research Service scientists report.

Based on a five-year sustainable agriculture study, the results are published in the current issue of the Proceedings of the National Academy of Sciences. ARS is the U.S. Department of Agriculture's chief scientific research agency.

The scientists showed that at least 10 genes in the leaves of tomatoes grown in the sustainable system were turned on longer, or "over-expressed," allowing those tomatoes to live longer than tomatoes grown on the plastic mulch. These "over-expressed" genes may respond to signals emanating from the specific ratio of nitrogen, carbon and other elements provided by the cover crop.

The researchers compared the two tomato cultivation systems at the ARS Henry A. Wallace Beltsville (Md.) Agricultural Research Center. In one system, tomatoes were grown under the traditional method of black polyethylene mulch with chemical fertilizer, a common planting regimen in the Middle Atlantic and Southeastern states.

In the other planting system, the scientists grew tomatoes in the sustainable system, in which the plants received half the chemical fertilizer and fungicide applied in the traditional system. The sustainable system relied on hairy vetch--a nitrogen-fixing legume cover crop--to provide soil nutrients and some natural leaf disease protection.

The scientists also believe the cover crop allows the tomato root system to produce increased levels of cytokinins, a class of plant hormones that delay senescence and let the plant live longer.

With the genes identified that impart disease tolerance and longevity, researchers may be able to use that knowledge to breed plants that are even more highly responsive to sustainable production systems.

The research was conducted by Autar K. Mattoo and Vinod Kumar of the ARS Vegetable Laboratory, Beltsville; James D. Anderson of the ARS Plant Sciences Institute, Beltsville; and Douglas J. Mills, now at Georgia State University, Atlanta.

(By David Elstein: USDA-ARS, July 6, 2004)

Chemical News

- The outcome of the EPA regulatory assessment of thiram will likely hinge on a determination of the benefits that thiram provides to agriculture. In the absence of a clear benefit statement, EPA may decide to restrict or eliminate some usage due to a lack of clear benefit. The risk of foliar uses of thiram (strawberries and apples) centers on some neurotoxity questions that have not been answered. Thiram seed treatments, that we

thought were safe, are now in question due the risk of bird consumption of treated seed. Seed treatments are of special concern because there is no publicly available usage data for these uses.

Therefore, if the benefits of continued use of thiram are found to exceed or offset the perceived risks, we may be able to retain most uses and possibly reinstate any lost uses when favorable study results are submitted.

Registered foliar uses: apples, peaches, and strawberries
Registered seed treatment uses: barley, canola, corn, cotton, flax, millet, oats, onions, peanuts, rice, rye, soybeans, sugarbeets, sunflower, vegetables, and wheat.

Please respond with your input as soon as possible to Kent L. Smith, Ph.D.
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- EPA Seeks Comments on Plans to Apply New Global System to Pesticide Labels. Through a Federal Register notice (3 pgs.,78 KB, PDF) published on August 25, 2004, EPA is providing the public 60 days to review and comment on a white paper that outlines EPA's current thinking on how to implement a new international system for classifying and labeling chemical hazards for pesticide labels. EPA is requesting comments on a white paper that describes the various options the Agency is considering for implementing the new system for pesticide labels. In issuing the white paper, the Agency is particularly interested in receiving feedback on the following: Regulations that may warrant review or possible revision; the use of a pilot project before the final rules are in place; the timing and sequencing of implementation; coordination of implementation planning efforts with other groups to make the process more efficient; and recommendations for conducting outreach and education activities.

The white paper (17 pgs.,88 KB, PDF) and a side-by-side comparison (22 pgs.,157 KB, PDF) of the GHS with EPA's current pesticide labeling policies are also available for review and comment on EPA's Web site at http://cfpub.epa.gov/pesticides/comments.cfm. The comment period closes October 25, 2004. People may also contact Mary Frances Lowe, Field and External Affairs Division, at 703-305-5689 for more information about EPA's GHS implementation planning efforts.

- Environmentalists push for ban on lindane: A coalition of eight environmental groups Aug. 20 sent a letter to EPA asking for the rapid elimination of lindane uses at next month's meeting of the Lindane Task Force in Montreal. The United States, Canada and Mexico are scheduled to meet Sept. 28–30 to develop a North American Regional Action Plan on the chemical (Pesticide and Toxic Chemical News: Thursday, August 26, 2004, Volume 6, Issue 165).

Events:

Sept. 21-23, 2004
2004 Pest Control Workshop - Registration - Ramada Inn, Morgantown, WV. Contact Dr. John Baniecki, 304/293-3911 ext. 2226
http://www.wvu.edu/~agexten/temp/04pestcontrolagda.pdf
http://www.wvu.edu/~agexten/temp/04pestcontrolregis.pdf

Sept. 20, 2004
2004 Pest Control Whitewater Rafting Tour - Albright, WV. Contact Al Kent at ENSYSTEX, 866-863-7151
http://www.wvu.edu/~agexten/temp/04pestcontroltour.pdf