Look What's Out There

Dr. John F. Baniecki, Extension Specialist in Plant Pathology/Entomology, Pest Management Program

Issue 10 – Oct. 2003
http://www.wvu.edu/~agexten/

The Vatican and Genetic Engineering

In early August, Archbishop Renato Martino, head of the Pontifical Council for Justice and Peace, was cited as saying that the Vatican would publish a report next month endorsing genetic modification of plants as the best way to feed the world's starving and that when it comes to dealing with world hunger, "there is no room for the ideological argument advanced by the environmentalists. The Pope ardently desires to do something for the billions of people who go to bed hungry every night." Some may question how the Vatican can support a technology such as GM food while opposing a technology such as cloning. The answer lies in the Church's understanding of humans as both spiritual and material creatures. Those who oppose technological innovations such as GM food forget that the purpose of scientific experimentation, as formulated by Renaissance thinkers, was to improve the conditions of human life, and this desire was rooted in the Christian concept of caritas, or charity. (The Ottawa Citizen, 8/6/03 via AgNet).

Salt Tolerant Crops Earn Award for California Researcher

A UC Davis professor has earned national recognition for developing tomatoes that can survive in salty water. The discovery could potentially restore hundreds of thousands of acres of lost farmland. Eduardo Blumwald was selected for the Alexander von Humboldt award, an honor given to the person deemed to have made the largest contribution to American agriculture in the past five years. It was Blumwald's work engineering a groundbreaking new tomato that promises to thrive in salty water and simultaneously restore salty soil that earned him the award. It includes a $15,000 prize and a $5,000 scholarship for an agriculture student.

Salt is a major agricultural problem in both soil and water. It is a major inhibitor to plant growth. The chair of Blumwald's department said he did not see another development that rivals Blumwald's. Though Blumwald said he has long been interested in how some plants adapt to grow in otherwise inhospitable conditions, it was only recently that he began to make breakthroughs in salt-tolerant crops. In 1999, Blumwald announced that he and a team of researchers could create a salt-tolerant plant by engineering the genes of the Arabidopsis plant. The team had encouraged the plant to produce more of the protein responsible for funneling salt out of water in the roots and placing it in compartments of the cells in the leaves, separate from the rest of the plant. This allows the fruit of the plant to develop more fully than would normally be possible in salt water.

By 2001, the technique had led to the development of a genetically engineered, salt-tolerant tomato. Much agricultural soil suffers from high salinity levels as a result of years of irrigation. Some estimates claim as much as 50,000 acres of world farmland are lost daily to salt buildup. If the salt could be easily removed, as the tomato promises to do, it would eventually reopen hundreds of thousands of acres to renewed production. Despite the potentially controversial nature of his work, Blumwald said he has had only occasional run-ins with activists opposed to genetically engineered food. "I think they leave [the research team] alone because the tomato has environmental benefits too," Blumwald said, referring to its ability to restore

farmland. “They stay away because it is easy to see the holes in their argument.” (California Aggie, 7/14/03 via AgNet).

Pesticide News

* Captan has been in use as a nonselective fungicide for over fifty years. EPA currently classifies captan as a "probable human carcinogen" (B2) using their 1986 guidelines for cancer risk assessment. Registrants as well as other investigators have developed additional data that can be used to describe a mode of action for captan. In 2001, the Captan Task Force requested that EPA re-evaluate captan under its current draft cancer risk assessment guidelines. The Agency was not able to allocate resources to this task, reflecting budgetary constraints and higher priorities. The Agency, however, saw value in addressing this issue, particularly with the pending tolerance reassessments for other B2 compounds, and agreed in principle with the proposal to reevaluate captan by using an independent third party review. This alternative approach is an option EPA is making available to the registrants; that is, while it is noted as a viable approach, the Agency is not directing that a third party review be undertaken. The document to be reviewed presents a cancer hazard assessment and weight of evidence narrative for captan following EPA's 2003 Draft Final Guidelines for Cancer Risk Assessment. The objective of this meeting is to review the document for the validity of the arguments and conclusions regarding the characterization of captan.

The meeting was held on September 3-4, 2003 at the University of Cincinnati. The document has been prepared by VJP Consulting, Inc. and C. Wilkinson, LLC on behalf of the Captan Task Force. More information regarding the meeting, such as logistics, agenda, assessment document, and panel charge can be found at: http://www.tera.org/peer/captan/captanwelcome.htm (Toxicology Excellence for Risk Assessment (TERA) Press Release, 7/21/03).

*** The EPA has ordered Bug Source Inc. of Wauwatosa, Wisconsin, to stop selling the unregistered pesticide "Bio-Stop" on their web site.** They claim that this product manufactured by BioChem Environmental Technologies eliminates toxic molds, bacteria, and viruses. BioStop is a mixture of bacterial enzymes used in the remediation of buildings. Under the Federal Insecticide, Fungicide and Rodenticide Act, products claiming to prevent, destroy, or repel pests, which includes molds and other microorganisms, are considered pesticides and must be registered. During EPA's comprehensive pre-market registration process, a company must first prove that the product is safe and effective for consumer use before a legal claim can be made that a product protects people from disease-causing microorganisms. The label of all EPA registered products must bear the EPA registration number along with directions for use and any safety precautions. (EPA-OPP Update, 7-31-03)

*** Massachusetts will lift its five-year ban on herbicides for roadside weeds because manual weed control is considered more dangerous and more expensive.** The ban, enacted by the Massachusetts Highway Department in 1998, was hailed by environmentalists and citizen activists for removing the chemicals from miles of roadway. But Jon Carlisle, a department spokesman, said the manual weed clearing is not only more expensive, it creates unacceptable safety risks. Last year, for instance, a driver distracted by the highway work was hospitalized after slamming into the back on a police car on Route 1 in Revere. Another car then took a door off the responding ambulance, Carlisle said. Replacing manual weed control with herbicidal control will save more than $50,000 per year.

Some other people, including some Massachusetts lawmakers, think that manual control remains the better option even when you consider the risks associated with manual control. They cite the potential environmental impacts and the possibility that pesticides will get into drinking water. (U.S. Water News Online, 6-03)