



Compound Activates Plants' Immune Systems

GREENSBORO, N.C. — Ciba Crop Protection researchers have announced the development of a chemical compound that controls several plant diseases by stimulating plants' natural defense mechanisms. The innovative new product, called a plant activator, was announced at the recent International Crop Protection Conference in The Hague, Holland.

The natural defense mechanism in a plant is stimulated when a plant is infected by a fungus, bacterium, or virus. However, in a field of crop plants infected by a disease, the disease-resistance mechanism is not uniform in its onset or intensity. The plant activator, if applied protectively or in the early stages of a controlled disease, uniformly triggers the defense mechanism.

Because the activator, known by the developmental designation CGA-245704, acts indirectly on plant diseases by mimicking the natural phenomenon which activates plants' self-defense mechanisms, it is not classified as a fungi-

cide. This indirect effect minimizes the possibility of diseases developing resistance to the compound.

In field tests, CGA-245704 has been shown to induce control of some wheat diseases and, in vegetables, downy mildew, leafspot, and bacterial diseases. Also, the chemical provides good protection against blue mold in tobacco.

Eileen Watson, Ph.D., director of research and development for disease control at Ciba Crop Protection's U.S. headquarters in Greensboro, N.C., said company researchers have conducted many laboratory and field tests to establish which diseases the plant activator is effective in controlling.

"Now we are conducting market research to determine which of the diseases are economically important to U.S. growers," Watson said. "We already have decided to apply for an Experimental Use Permit in tobacco next year, and we hope to have it approved for use in 1997."

Cost-Share Applications Accepted For Winter Cover Crops

ANNAPOLIS, Md.—Maryland Department of Agriculture Secretary Lewis R. Riley has announced the Maryland Agricultural Cost-Share (MACS) Program is accepting funding applications for winter cover crop to be planted this fall to tie-up residual nitrogen in the soil. Cover crops are an agricultural "best management practice" used by farmers to protect water quality in the Chesapeake Bay and its tributaries.

"This program is an excellent tool for the farmer to preserve nitrogen and phosphorus and reduce nutrients from entering the Bay water. We have continued it for this year due to such positive results," said Riley.

Rye, rye/legume, barley and wheat planted during the fall of 1995 are eligible to receive cost-share funding for \$10.00 per acre. The following are some cost-share guidelines for farmers to consider:

- MACS assistance is limited to acreage where corn or soybean is the immediate preceding crop.

- Cover crops must be planted before certain deadlines.

- Grant payments will be awarded in the spring of 1996, after the cover crop has been

destroyed.

- Cover crops being produced for commodity purposes are not eligible for funding.

- 10 acre enrollment is the minimum application per farm.

Farmers should submit a cost-share application to MDA through their local soil conservation district between July 3 and August 4 for the 1995 growing season. Both tenants and landowners may apply for assistance.

The Maryland Agricultural Cost-Share Program provides farmers with up to 87.5 percent of the cost to install selected best man-

Universal Brings New Services To Agway

KANSAS CITY, Mo.—Universal Dairy Equipment Inc., one of the largest dairy equipment and service companies in the world, is bringing a new and innovative dimension to the former Agway dairy services that will dramatically improve the service Agway customers have already come to expect.

height.

Pennmore will be available on early order with Baytan seed treatment. Baytan provides excellent disease control on powdery mildew, rust, glume blotch, and smut. Some advantages of using Baytan include thicker, lusher, greener stands, more vigorous crop, bigger heads, and increased tillering.

Row Mulcher Helps Farmers Save Time

BIRD IN HAND (Lancaster Co.)—Millcreek Manufacturing Company introduces a unique machine that helps small farmers eliminate hand labor for mulching row crops.

The new Millcreek Row Mulcher applies wood chips, compost, and other types of spreadable organic mulch to row crops, such as berries and grapes, in a 24 inch wide row pattern. The new machine comes in three sizes: 3.0 cubic yards, 4.5 cubic yards, and 6.8 cubic yards, and is PTO operated. It includes a 10-year guaranteed floor.

Said Millcreek President Joe



The new Millcreek Row Mulcher applies wood chips, compost, and other types of spreadable organic mulch to row crops, such as berries and grapes, in a 24 inch wide row pattern.

Glick, "We saw the need for a machine that was affordable to small farmers and would save them much of the hand labor that is so time consuming. The only other machine of its type we know of is about three times as expensive."

The Millcreek Row Mulcher allows operators to stay about one and a half feet from rows during application to avoid plant damage. The two smaller models are 62 inches wide to fit between most rows. The largest capacity model is 80 inches wide. Millcreek additionally builds custom row mulchers for special needs.

Equipment Design Enters Virtual Imaging World

ST. LOUIS, Mo. — Virtual imaging — the higher-than-high tech process that brought dinosaurs back to life in Jurassic Park and created memorable scenes in Forrest Gump — is entering the world of agriculture and equipment design.

At the forefront is Caterpillar, the Peoria, Ill.-based manufacturer of construction, industrial and agricultural equipment. At the core of the company's effort in virtual imaging is Richard Ingram.

Ingram, a staff engineer for 20 years with Caterpillar, will discuss this newest of technologies during the first annual North American Agricultural Equipment Conference (NAAEC), November 4-5, at the Hyatt Regency in Chicago. He has worked in vehicle modeling, hydraulic system design for wheel loaders, hydraulic system analysis, and vehicle performance analysis.

Ingram's topic, "Virtual Prototyping," will be a joint presentation with Mathew VandeWiele, a doctorate student at the University of Illinois-Urbana. Their presentation is expected to center on how virtual reality (imaging) systems provide engineers with dramatic opportunities in computer-aided interactive design of machinery and hydraulic systems and the study of machine testing and performance.

With this technology, manufac-

turers can improve product design and expedite development. The auto industry has been a leader in using virtual imaging to develop cars and introduce them to the market at lightning speed.

Caterpillar already accomplishes its basic test driving and equipment ergonomics with virtual imaging. For example, operators can sit behind a computer model of a tractor cab and test the equipment's control panels long before a prototype of the machine enters the manufacturing process. Operator comments are then used to make adjustments to the computer model.

This type of testing helps control the constant rebuilding of clay or even steel prototype tractor cabs and control panels. Modifications can be made from the computer screen within hours instead of the months it might take to rebuild a prototype.

Farmland Report Notes Banner Year

HARRISBURG (Dauphin Co.) — Agriculture Secretary Charles C. Brosius said that the state's Farmland Protection Program is succeeding in preserving Pennsylvania's valuable farmlands.

The program's 1994 annual report, which was released to the General Assembly, notes an increase in farm acreage protection. It also notes that five new counties joined the program in 1994, including Butler, Clinton, Lawrence, Mifflin, and Washington counties.

"Adding these new counties will further our efforts to protect quality farmland," Brosius said. "Preserved farms will remain available for future generations to use all across the state."

Initiated in 1989, the Farmland Protection Program allows the state and counties to purchase development rights — referred to as easements — to guarantee that farms will remain as agricultural land.

Individual landowners initially

apply to county agricultural land preservation boards. If approved for purchase, the county boards may request state funding participation. Counties may participate jointly with the state in easement purchases or may purchase easements outright themselves.

In the program's last fiscal year, which ran from April 30, 1994 to April 30, 1995, the state Farmland Protection Board approved easement purchases for 12,587 acres on 104 farms. The diversity of easements purchased included dairy and livestock operations, fruit and vegetable farms, hay and grain fields, and vineyards.

Fiscal year 1994-1995 was the first full year using transfer money from cigarette revenue of two cents per pack. Two transfers were made from the cigarette fund to the program, totalling more than \$22 million.

The Farmland Protection Program has purchased or approved easements for 66,582 acres on 533 farms to date.



Seedway To Distribute Penn State Variety

HALL, N.Y. — Seedway has announced it will be distributing a new soft red winter wheat, Pennmore, released by Penn State University.

Pennmore exhibits high grain yields, high test weights, excellent milling quality, and moderate resistance to leaf rust and powdery mildew. Pennmore is beardless, and medium in maturity and plant