

# Industry News

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## Ag Biotech Targets Big League---Part 2. Larry Waterfield, Washington, DC

Agricultural biotechnology is genuinely a new industry. Today, ag biotech is at last poised to create real products rather than just test-tube experiments and science-fiction speculations. Here is a rundown of some plant biotech companies.

ECOGEN, INC.---Founded in 1983, this company, based in Langhorne, PA, is working on biopesticides that are safe and do not harm the environment. Its aim for 1989 is to begin marketing Foil, a Bacillus thuringiensis-based pesticide for potatoes. A pesticide based on the Pseudomonas bacterium could be marketed this year. The company is also working on fungicides, nematocides, and other biopesticides for such crops as sweet corn, cabbage, tomatoes, and lettuce.

ESCAGEN CORP.---This San Carlos, CA, company was founded in 1987 and uses biotechnology to produce improved food products and planting materials, including true potato seeds as a replacement for seed potatoes.

EVANS BIOCONTROL INC.---This company, based in Broomfield, CO, was founded by John Evans in the mid-1980s and produces and formulates genetically engineered and naturally occurring biopesticides. The company is marketing Nolo Bait, a microscopic spore that kills grasshoppers.

IGENE BIOTECHNOLOGY---This Columbia, MD, firm makes several fermentative and natural products for the food and specialty chemical industries and also produces chitin, an extract from the shellfish industry that when added to soil kills nematodes. The product, a natural pesticide, will be marketed under the name of ClandoSan.

MONSANTO CO.---Based in St. Louis, Monsanto is one of the largest chemical companies in the world committed to ag biotech. Monsanto is working on a number of projects, including plant resistance to viruses, insects, and herbicides. In addition, the firm has funding and product marketing arrangements with smaller biotech companies, such as Ecogen and Biotechnica, and currently is field-testing products and technologies.

MYCOGEN CORP.---This firm, based in San Diego, has received a patent on a way of delivering biopesticides to crops. The system, called MCap, uses killed bacteria that have been linked through bioengineering with toxins deadly to pests, delivering potent biopesticides in a way that does not harm the environment yet has long killing times in the field. Pending EPA approval, Mycogen also hopes to begin marketing a Bacillus thuringiensis-based pesticide, called M-One, against the potato beetle sometime this year.

PLANT GENETICS INC.---Since its founding in 1981, this Davis, CA, firm has used plant breeding and tissue culture to create three products, including Nu-Spud potato seed tubers and PGI-brand hybrid processing tomato seed. The company has also developed the Gel-Coat encapsulation delivery system for use with synthetic seed for celery, lettuce, cotton, and rice.

From The Packer, February 13, 1988 (used with permission). Part 1 appeared in the September issue of Plant Disease.

## Salute to APS Sustaining Associates

This section is designed to help APS members understand more about APS Sustaining Associates. Information was supplied by company representatives. Each month different companies will be featured. A complete listing appears in each issue of *Phytopathology*.

**Abbott Laboratories, Chemical and Agricultural Products Division, Contact: Bruce Kirkpatrick/D913, 6131 RFD (Oakwood Road), Long Grove, IL 60047.** From its inception, Abbott Laboratories has operated under two guiding principles: perform superior research and manufacture top-quality products. Following these principles, the Chemical and Agricultural Products Division has become a world leader in biological pesticides and fermentation technology. Its main interests are in the fields of mycoherbicides, bioantagonists of plant disease, plant growth regulators, biological insecticides, and natural products from fermentation. Its mission is to conceive, research, and develop new agricultural technologies for the production and protection of crops.

**Advanced Genetic Sciences, Inc., Contact: Trevor Suslow, Director of Product Research, Staff Scientist Plant Pathology, 6701 San Pablo Ave., Oakland, CA 94608; 415/547-2395.** Advanced Genetic Sciences was founded in 1980 as an independent biotechnology firm directing its research and future product development towards agriculture. It has a strong

commitment to basic research in the areas of plant molecular biology, plant biochemistry, plant cell biology/tissue culture, plant genetics, bacterial genetics, and plant pathology/biological control. The development and application of core technologies for gene isolation, identification, manipulation, and reintroduction into plants and plant associated microbes is one primary focus. Current and near-term products include the use of *P. syringae* in snow-making (INA<sup>+</sup>) and in frost protection (INA<sup>-</sup>), and *Pseudomonas* spp. as biological control agents for root-infecting fungi.

**Agriculture Canada, Contact: M. A. Fraumeni, Librarian, Research Station, Vineland Station, Ontario, Canada L0R 2E0; 416/562-4113.** The Agriculture Canada Vineland Research Station, one of over 40 research establishments of the Research Branch of Agriculture Canada, was built in 1967 and was formed from amalgamating the Dominion Entomological Laboratory at Vineland and the Plant Pathology Laboratory in St. Catharines. A comprehensive program of crop protection research serving the horticultural industry is carried out at the Vineland Research Station. A multidisciplinary approach is administered, applying entomology, toxicology, acarology, nematology, virology, mycology, computing science, and residue chemistry expertise to the pest and disease problems of various horticultural crops. Pest and disease management programs at the station include research on tree fruits, vegetables, grapes, glasshouse ornamentals, small fruits, and woody ornamentals. Some work is also performed on forage crops and tobacco. The diversification of plant protection research supports a wide range of horticultural industry problems.

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