CHRONICLE

"We're reconsidering our involvement in the biotechnology area in light of the leveraged buy-out," says Al Ingulli of Uniroyal (Middlebury, CT). Uniroyal stockholders were scheduled to vote at the end of September on the proposed buy-out. The company recently began to sponsor major research programs with Genetics Institute (Boston, MA) on biological insect control and with Biotechnica International (Cambridge, MA) on nitrogen fixation in crop plants. Uniroyal also maintains an unspecified research agreement with Ingene (Santa Monica, CA).

Field-testing of a killed recombinant strain of *Pseudomonas fluorescens* was scheduled to begin in Florida during the final week of September. Mycogen (San Diego, CA) says the organisms contain up to 10 percent *Bacillus thuringiensis* endotoxin, a potent insecticide manufactured by an engineered plasmid. The bugs are killed by chemical washing, a proprietary treatment that cross-links the cell-wall proteins and microencapsulates the pesticide, prolonging its effective life by about two-fold, to about 10–15 days. Cell for cell, the stabilized pseudomanads are more pesticidal when dead than when alive. Because the Environmental Protection Agency has ruled that the dead microbes can be treated as a chemical, not as recombinant organisms, the tests can be carried out—on cabbage loopers infesting lettuce—without special precautions.

Tumor necrosis factor (TNF) could be the same as a substance that shuts down fat synthesis and storage, according to researchers from Stanford University Medical School and Rockefeller University. As reported in *Science*, the discovery uncovers additional applications of TNF in treating obesity, but could mean that weight loss will be a side effect of the agent's use in cancer therapy.

The first DNA probe product for clinical diagnostic use has been cleared by the U.S. Food and Drug Administration. Gen-Probe (San Diego, CA) reports that its assay is the only one that can detect all 22 species of the bacteria that cause Legionnaires' disease. The probes are complementary to *Legionella* ribosomal RNA, rather than DNA .

The patent suit over Monoclonal Antibodies' use of monoclonal antibodies in "sandwich" immunoassays has been settled in its favor, according to the company. Hybritech (San Diego, CA) had alleged that Monoclonal Antibodies (Mountain View, CA) was infringing on its patent, but the U.S. District Court in San Francisco declared the patent invalid because the art described was "obvious and logical to anyone skilled in the field."

In other patent news, Cetus Corp. (Emeryville, CA) resumed its license agreement with Stanford University for the Cohen-Boyer patents covering basic genetic engineering techniques. Earlier this year, Cetus had terminated the license, stating that its work did not use the patented technology.

Finally, important patents were issued to two plant genetic engineering firms. Calgene (Davis, CA) said it has received a U.S. patent on its glyphosate tolerance *aroA* gene, now tradenamed GlyphoTol™. Calgene is waiting for U.S. Department of Agriculture approval to field test tobacco plants containing the gene. And, Plant Genetics (Davis, CA) was awarded a patent for development of synthetic seeds with its proprietary GelCoat™ system for encapsulating somatic embryos.

New agreements involving biotech companies:

- Pioneer Hi-Bred International (Des Moines, IA) plans to use a gene cloned by Molecular Genetics (Minnetonka, MN) and licensed from American Cyanamid (Wayne, NJ) to develop proprietary, herbicide-resistant, hybrid corn seed. As part of the agreement, Pioneer will also make some "public" corn lines resistant to the imidazolinone herbicides for Cyanamid. Separately, Pioneer and Cold Spring Harbor Laboratory (Cold Spring Harbor, NY) signed a five-year, $2.5 million cooperative research agreement for genetic manipulation of corn.
- DNA Plant Technology Corp. (Cinnaminson, NJ) will develop and commercialize new popcorn products with American Home Products Corp. (New York, NY), by combining such techniques as classical plant breeding and somaclonal variation.
- Genetic Systems (Seattle, WA) purchased all rights to the program it had been pursuing with the Cutter Group of Miles Laboratories (Elkhart, IN) on monoclonal antibodies to treat hospital-acquired infections from gram-negative bacteria.
- Integrated Chemical Sensors Corp., an affiliate of Biotechnology Development Corp. (Newton, MA), acquired the rights to a biosensor technology from Texas A&M University Systems. Called Bion™ sensor technology or microgravimetric assay, the technique uses propagation of surface acoustic waves on specially cut crystals to measure the mass of analytes in a complex mixture without preliminary separations.
- Johnson & Johnson (New Brunswick, NJ) and Amgen (Thousand Oaks, CA) have agreed in principle to develop, manufacture, and market erythropoietin, hepatitis B vaccine, and interleukin-2. Amgen expects to receive milestone payments of at least $6 million during the current fiscal year.

Financing has been achieved by BioTechnica International of Canada (BTIC, Calgary), Sepracor (Princeton, NJ), and C-Bio Management Company (Chagrin Falls, OH). BTIC, the new Canadian affiliate of BioTechnica International (Cambridge, MA) will receive (Canadian) $12 million from Vencap Equities Alberta Ltd., and initially will focus on developing herbicide-tolerant canola varieties; Sepracor's $3.5 million private round of equity financing will allow it to move to Marlborough, MA, and develop bioactive membrane technology for separations; and C-Bio Management will seek to acquire biotech companies and product lines.

Genex Corp. (Rockville, MD) announced that it is phasing out production of L-phenylalanine because Searle Food Resources will no longer be buying the amino acid from Genex. The beleaguered biotech firm also said that most of the 75 employees at its Paducah, KY, production plant would be laid off.

Two new monoclonal antibody-based diagnostics for chlamydia should be available within a year from Synbiotics Corp. (San Diego, CA). The company reports that one of its kits to detect the sexually transmitted disease is already in clinical trials and should receive FDA approval within six months.