

Pioneer opens genetics lab

DES MOINES, Ia. — A new research department with the primary goal of transferring advanced genetic engineering techniques from the laboratory to proven plant breeding programs has been established by Pioneer Hi-Bred International, Inc.

Scientists in the new Department of Biotechnology Research are investigating how the technology of plant tissue culture and DNA analysis can be practically applied to improvement of proprietary crop varieties and other products for agriculture.

Part of the Pioneer Plant Breeding Division, the new department is housed in a \$2.7 million complex on a two-acre site adjacent to the division headquarters in Johnston.

The 17,000-square-foot facility contains nine laboratories with state-of-the-art equipment and instrumentation. There is also office and work space for scientists, technicians and clerical staff stationed there.

First-phase staffing includes scientists trained in five disciplines: a molecular biologist specializing in applications of DNA analysis to plant breeding; a



Cytogeneticist Marc Albertsen of Pioneer Hi-Bred International, Inc., inspects a wild relative of corn he's growing at the new Department of Biotechnology Research facility.

cytogeneticist with knowledge of molecular genetics; a plant tissue culture specialist; a research microbiologist, and a plant pathologist working at the molecular level.

The Department of Biotechnology Research will have responsibilities related to all seed stocks developed and marketed by Pioneer — corn,

sorghum, soybeans, wheat, alfalfa, cotton and sunflowers — as well as microbial products that enhance seed performance.

Nicholas M. Frey, acting director of biotechnology research for Pioneer, says the new department's initial objective is to increase the efficiency of current plant breeding programs.

technological innovations including reciprocating spray guns for even application of glass and a specially designed reclaiming system for more efficient use of materials.

The new glass lining facility allows Long to produce storage structures for agricultural, industrial, and municipal application. Long also offers a full line of grain bin drying and storage systems, as well as handling equipment, for farmers who prefer dry grain for feeding or marketing.

Long begins silo production

TARBORO, N.C. — Long Mfg. has begun production at its new glass-lining facility in Davenport, Iowa. Representing an investment by Long Mfg. of over \$5 million, this facility will fabricate, clean, spray, and fire the new oxygen limiting, glass-lined storage systems, used by farmers for storage of high moisture grain and medium moisture forages, as well as their current line of Stor-Lux liquid waste storage systems,

The glass-lining conveyor system is 1193 feet in length and utilizes multi-head electrostatic spray guns. Humidity is computer controlled in each of the five spray booths. This air make-up control system assures consistent, high quality application. The 149-foot furnace is also computer controlled to maintain a constant 1500 degrees. It has air seals, and a hot air reclaim system.

The line features many

Bicarb tops limestone

PISCATAWAY, N.J. — Dairy research evaluating sodium bicarbonate or highly reactive limestone added to a control ration shows greater benefit from feeding bicarb, three universities have reported. Results also suggest that this highly reactive limestone is not effective in buffering the rumen.

In the research, Larry D. Muller of Penn State; Carl L. Davis, of the University of Illinois; and William Chalupa, of the University of Pennsylvania, participated in a cooperative study under a grant from Church & Dwight Co., Inc.

The researchers fed a total of 108 cows, about 35 at each location, from freshening through 16 weeks of lactation. The control diet was a total mixed ration of 60 percent concentrate and 40 percent corn silage, on a dry matter basis. Either 1.2 percent sodium bicarbonate, 1.42 percent limestone, or a combination of the two ingredients was added to the total ration.

Previous research had

suggested that finely-ground, highly reactive limestone might be an effective rumen buffer. However, urine and fecal analyses showed that the buffering action of the limestone was limited to the lower digestive tract. Sodium bicarbonate, on the other hand, was an effective buffer in the rumen and throughout the body.

Production records show that cows challenged for high production in the early weeks of lactation can benefit from sodium bicarbonate feeding. Cows fed sodium bicarbonate added to the control ration produced more milk during the first nine weeks of the trial, reaching higher peak milk production earlier than cows that did not receive bicarb.

Sodium bicarbonate also increased milk fat production, and production of 4 percent fat corrected milk (FCM).

On the other hand, limestone and the combination of limestone and bicarb decreased milk and FCM production.

Ideal cites new hog panels

CONRAD, IA. — Hog producers can fight rust in hog confinement operations with Ideal's new adjustable hog confinement panels which are made from heavy gauge stainless steel. The strong vertical tube panels come in sizes to fit most confinement operation floor plans.

Available in 28-inch and 35-inch heights, they can be used for nurseries, and finishing, sow, or boar pens.

"The panel systems are flexible to allow for some unevenness in the floor" says L.W. "Pete" Keeley,

sales manager. "Therefore, they can be used in many different operation layouts. Also, the panel components are interchangeable with previously used V-panel systems and powder coated systems."

The adjustment package is an accessory for this panel. It is a 4-inch powder coated steel bracket that fits at one end of the panel and makes adjustment a simple, one-step procedure. Canes or straight pins are used to connect it to the posts.



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