

though their stock generally sold at a 10 to 35 percent discount from the public-market prices.

- July saw four companies take home \$27.8 million, as Chiro (Cambridge, U.K.) raised \$15 million, Cortecs International (London) netted \$6 million, RiboGene (Hayward, CA) took in \$4.8 million, and Exogene (Monrovia, CA) captured \$2 million.

- August saw seven companies raise \$84.8 million, with MedImmune (Gaithersburg, MD) taking home \$21 million, Titan Pharmaceuticals (S. San Francisco, CA) capturing \$19 million, Oxford GlycoSystems (Oxford, U.K.) netting \$13.5 million, Cibus (Redwood City, CA) taking in \$9.6 million, Cadus Pharmaceutical (New York) bringing in \$8 million, CV Therapeutics (Mountain View, CA) raising \$6.9 million, and Khepri Pharmaceuticals (Alameda, CA) snaring \$6.8 million.

- In September, six companies raised \$93.6 million, as Genta (San Diego, CA) netted \$22 million, Affymetrix (Palo Alto, CA) brought in \$21 million, Focal (Cambridge, MA) snared \$20 million, Cyto-Therapeutics (Providence, RI) grabbed \$18.8 million, GelTex Pharmaceuticals (Lexington, MA) took home \$6.8 million, and Neocrin (Irvine, CA) raised \$5 million.

—B.J. Spalding

Streptomyces actinomycetales, the product curbs *Fusarium* fungus in ornamentals and vegetables and is marketed in Europe and North America.

Another major R&D effort is Biopol, a process that converts waste water into recyclable sludge. The technique, which is being tested on chemically and biologically treated waste water, uses tree-bark extracts to accelerate waste water's conversion to sludge.

Yet another project involves a production facility in Harjavalta, Finland, to manufacture recycled fertilizers. The \$16 million unit will produce organic and mineral-organic fertilizers for the horticultural sector, with production set for January. It will first compost and then pelletize cattle manure and forest-industry sludge.

—Gerard O'Dwyer

Institutions lukewarm on U.S. agbiotech firms

NEW YORK—Financial institutions—players in over 75 percent of U.S. stock trades—own an average of just 25.5 percent of the stock of 15 U.S. agbiotech firms, reports *Bio/Technology's* survey of institutional holdings (Table 1). This low level is similar to that found in last month's *Bio/Technology* survey, which showed that institutions hold only 27.6 percent of the stock of 89 biopharmaceutical firms.

Without a doubt, uncertainty surrounding the biopharmaceutical sector has tarnished the agbiotech sector. Setbacks to high-profile products has fueled this biopharmaceutical uncertainty, as has concern that the Clinton administration's health-care reform will rein in astronomical biopharmaceutical prices. "When the Clinton health-plan discussion started, the toll on biopharmaceutical stocks took down the agbiotech sector as well. Wall Street doesn't appreciate, on either the downside or the upside, the fact that agbiotech has its own dynamics," says Richard Laster, chairman of DNA Plant Technology (Cinnaminson, NJ).

Of course, the agbiotech sector has its own set of uncertainties, as two of its flagship products continue to list in regulatory limbo. After Calgene's (Davis, CA) \$25 million investment, the firm's genetically engineered Flavr Savr tomato—though it has received marketing approval from the Department of Agriculture (Washington, DC)—is still awaiting such approval from the Food and Drug Administration (FDA, Bethesda, MD). And after a collective investment of \$500 million in bovine somatotropin (BST) by American Cyanamid (Wayne, NJ), Eli Lilly (Indianapolis, IN), Monsanto (St. Louis, MO), and Upjohn (Kalamazoo, MI), the four firms have watched FDA endlessly de-

bate BST marketing approval and the European Community (Brussels) recommend extending its existing ban on BST for seven years.

Yet these uncertainties haven't

Company*	Number of Institutional Holders	Institutionally Owned Stock (%)
Agbiotech Companies		
Idexx Laboratories	105	81.2
Mycogen	73	63.3
Ringer	26	57.0
Crop Genetics	30	26.0
Calgene	74	25.8
Biosys	25	20.8
Syntro	32	19.9
EcoScience	18	18.9
Agridyne Technologies	21	17.8
DNX	22	11.2
Ecogen	28	11.1
Escagenetics	16	9.2
Embrex	14	8.9
DNA Plant Technology	30	6.4
Neogen	6	5.6
Average	34.7	25.5
Pesticide and Seed Companies		
Monsanto	625	72.1
Rohm & Haas	274	68.9
American Cyanamid	554	67.5
FMC	267	65.7
Dekalb Genetics	64	61.7
Pioneer Hi-Bred	210	55.0
Dow Chemical	760	54.8
Du Pont	877	41.0
Average	453.9	60.8

* Some information is up to 90 days out of date.
Source: Vickers Stock Research (Huntington, NY).

impacted some agbiotech firms. Idexx Laboratories (Portland, ME) leads these firms, with 81.2 percent of its stock institutionally held. Runner-up Mycogen (San Diego, CA) has 63.3 percent of its stock owned by institutions.

In contrast to the agbiotech sector, institutions own a whopping 60.8 percent of the stock of eight diversified pesticide-and-seed companies, on average. Monsanto is the leader among these firms, with 72.1 percent of its stock institutionally held. Yet these companies—many of which also market chemicals and pharmaceuticals—financially dwarf agbiotech firms. Monsanto, for instance, weighs in with a \$7.6 billion market capitalization and 119.8 million outstanding shares, while Idexx has a \$354.2 million market cap and 7.7 million shares.

—B.J. Spalding

TABLE 1. Institutional holdings.