Agbiotech firms increase R&D spending 39.6%

NEW YORK—U.S. agbiotech companies increased research and development (R&D) spending a whopping 39.6 percent from fiscal-year 1991 to fiscal 1992, reports *Bio/Technology's* annual survey of agbiotech R&D outlays (Table 1). In all, the 15 firms surveyed laid out \$68.5 million on research last year, for an average of \$4.6 million a company.

One reason agbiotech R&D spending has soared is last year's \$107 million infusion from U.S. stock offerings. "The more money these companies raise, the more money they have available for R&D," says George Kidd, a management consultant in Shorewood, WI. Indeed, Biosys (Palo Alto, CA) raised \$31.2 million in a March initial public offering (IPO), while EcoScience (Worcester, MA) raised \$28.6 million in a February IPO. Secondary offerings saw Idexx Laboratories (Portland, ME) bring home \$30.8 million in April, Crop Genetics International (Columbia, MD) net \$10 million in July, and Syntro (Lenexa, KS) raise \$6.5 million in April.

Another reason for soaring R&D

spending is that more companies have more products closer to commercialization. "Spending increases astronomically as products move toward the market, what with the costs of field testing and product introduction," says Kidd. Calgene (Davis, CA), for one, is poised to introduce its Flavr Savr tomato, which is genetically engineered to retard ripening and improve flavor. Though the tomato has received marketing approval from the Department of Agriculture (Washington, DC), it is still awaiting such approval from the Food and Drug Administration (Bethesda, MD).

For their part, eight diversified pesticide-and-seed companies increased R&D spending 6.7 percent from 1991 to 1992. The firms anted up \$4.3 billion for research last year, or \$533 million per company, on average. Along with agricultural research, though, many of these companies conduct chemical and pharmaceutical R&D.

As a percent of sales, agbiotech companies spent 46 times more on research than pesticide-and-seed firms, mainly because agbiotech companies didn't bring in much

money. On average, agbiotech firms laid out 299 percent of sales on R&D, with sales of \$12.3 million per firm. Research spending averaged 6.5 percent of sales for pesticide-and-seed companies, as each company averaged sales of \$9.7 billion.

Agbiotech companies—largely because they're small—spent over twice as much on research as pesticide-and-seed companies, per employee. Agbiotech companies kicked in \$38,634 for each worker, on average, while pesticide-and-seed companies anted up \$16,126 per worker.

Among agbiotech companies, Calgene was the biggest R&D spender at \$9.3 million. EcoScience increased research spending more than any other company, with its outlays 127 percent greater than in 1991. EcoScience also topped all companies in R&D spending as a percent of sales, laying out 3,098 percent of its sales on research. Per employee, Crop Genetics International laid out more research dollars than any other company, spending \$72,344 per worker.

—B.J. Spalding

Agbiotech R&D spending has soared because companies raised \$107 million in stock offerings last year and because more companies have more products closer to commercialization.

Company	RESEARCH & DEVELOPMENT SPENDING				SALES		PROFITS	
	Latest FY Spending (\$ Million)	Change From Last FY (%)	Versus Revenue (%)	Per Employee (\$)	Latest FY (\$ Million)	Change From Last FY (%)	Latest FY (\$ Million)	
AGBIOTECH COMPANIES								
Agridyne Technologies	4.008	20.3	325.6	62,625	1.231	-59.9	-7.033	
Biosys	2.554	11.6	56.1	NA	4.554	315.5	-3.869	
Calgene	9.256	61.1	42.3	32,823	21.877	-16.2	-18.616	
Crop Genetics International	6.511	8.9	206.6	72,344	3.151	107.6	-6.945	
DNA Plant Technology	9.134	41.1	76.4	63,874	11.963	31.1	-18.161	
DNX	6.121*	83.1	82.2	18,003	7.450	140.9	-5.970	
Ecogen	4.127	40.9	51.4	30,799	8.028	28.7	-21.366	
EcoScience	4.554*	127.4	3,098.0	65,057	0.147	-25.0	-5.315	
Embrex	2.491	4.5	356.4	38,922	0.699	628.1	-5.480	
Escagenetics (3/91)	3.004	5.4	178.2	55,630	1.686	-33.2	-3.619	
Idexx Laboratories	3.477	-9.9	6.0	10,934	57.653	89.3	4.923	
Mycogen	8.500	28.8	25.0	7,529	33.994	85.6	-30.370	
Neogen (5/91)	0.993	15.9	15.0	9,548	6.627	11.1	-0.818	
Ringer	1.686	55.0	8.3	28,100	20.338	-4.1	-4.239	
Syntro	2.129*	1.4	41.1	38,709	5.177	28.6	0.435	
Total	68.545	NA	NA	NA	184.575	NA	-126.443	
Average	4.570	39.6	298.8	38,634	12.305	62.7	-8.430	
PESTICIDE AND SEED COMPANIES								
American Cyanamid	565.800	15.0	10.7	17,247	5,267.500	5.6	395.100	
Dekalb Genetics	42.200	15.0	14.1	18,119	300.200	8.8	10.000	
Dow Chemical	1,289.000	11.2	6.8	21,010	18,971.000	0.9	276.000	
Du Pont	1,277.000	-1.6	3.4	10,223	37,208.000	-2.5	975.000	
FMC	144.990	7.7	3.6	6,562	3,973.663	1.9	192.601	
Monsanto	651.000	3.8	8.4	19,262	7,763.000	-12.4	-126.000	
Pioneer Hi-Bred	92.171	17.7	7.3	18,375	1,261.805	12.2	152.160	
Rohm & Haas	199.520	9.0	6.5	14,428	3,072.000	10.8	174.000	
Total	4,261.681	NA	NA	NA	77,817.168	NA	2,048.861	
Average	532.710	6.7	6.5	16,126	9,727.146	-1.1	256.108	

TABLE 1. Company commitments to R&D.

Results are for the fiscal year ending 12/92, except as noted.

* R&D includes customer-sponsored or government-sponsored expenses.

NA means not available.

NC means no change.

Source: Standard & Poor's Compustat Services (Englewood, CO).