

A few farmers wrangle over engineered cotton

Monsanto (St. Louis) is still involved in arbitrations that aim to compensate farmers who planted Roundup Ready cotton (recombinant varieties resistant to the herbicide glyphosate) last year, but the amounts of the settlements remain unclear. In mid-March, the Seed Arbitration Council, a board organized under the Mississippi State Department of Agriculture (Jackson, MS), heard the first 2 of around 18 cases that remained unsettled and thus scheduled for arbitration hearings, according to state official Robert Graves. Although the terms of a council-recommended draft settlement were leaked to the press for one of those cases, the draft and its terms were shortly nullified when the grower and the companies agreed privately to terms that remain confidential, Graves says. At least another 11 cases are expected to come before the council in May.

During the 1997 harvest, several dozen cotton growers in the Mississippi Delta region filed complaints with the state agriculture commission over Roundup Ready cotton from Monsanto and its seed company partner Delta and Pine Land Company. (Scott, MS). They

claimed that the plants shed bolls prematurely and otherwise did not perform well in the field (*Nature Biotechnology* 15:1233, 1997). Since then, contradictory accounts continue to circulate about what happened, including details of the settlements that were discretely negotiated between some of the farmers and the two companies, and what may happen for another contingent of disgruntled cotton growers who are awaiting state-sponsored arbitration hearings this spring.

Before the March hearings began, Monsanto representatives met privately to negotiate with many of the Mississippi growers who had filed complaints about Roundup Ready cotton last year. Following those meetings, the company distributed settlement checks amounting to several million dollars. "About 50 growers had filed complaints, and most of those who were offered [compensation], settled," says Lisa Drake, a Monsanto spokesperson. She says that company researchers concluded that unusually warm weather in the region and incorrect timing in applications of pesticides were to blame for cotton boll problems in Mississippi last fall.

But Charles Merkel, an attorney with Merkel & Cocke (Clarksdale, MS) who plans to present the 11 additional cases in May before the state Seed Arbitration Council, disputes this localized meteorological interpretation of events. "Our weather was not that unusual," he says. He argues, too, that the problem extended beyond Mississippi: "Other cotton farmers in Tennessee, Arkansas, and Texas also had problems," he says. Merkel also argues that Monsanto has, in effect, acknowledged deficiencies in the disputed cotton varieties by withdrawing certain product lines: "Those varieties that we had in our fields last year were pulled from the market and are not being offered this year."

Monsanto denies this. The company has discontinued some Roundup Ready varieties, company representatives say, but these are not the same as those involved in the Mississippi dispute. Monsanto claims that its marketing analysis indicates overall grower satisfaction and solid sales for the 1998 growing season with cotton lines that are genetically engineered to tolerate Roundup.

Jeffrey L. Fox

Flurry of UK early funding vehicles emerges

A recent series of financing developments in the United Kingdom are all directed at the early stages of creating biotechnology companies by mobilizing academic research.

"We are trying to bridge the gap between science and industrial development," says Mark Docherty, a director at Merlin Ventures (London), a venture capital firm that specializes in developing early-stage biotechnology firms. At the end of March, Merlin put up £10 million (\$16.7 million) to help found three companies. Microscience (London), which is working on antimicrobials, received £2.5 million (\$4.2 million); ReNeuron (London), which is involved in neurological and psychiatric disorders, got £5 million (\$8.3 million); and cardiovascular disease research company Eurogene (London) received £3 million (\$5 million). All three companies are linked to London academic institutes.

Docherty says that there is no shortage of either investment or science, but these two alone are not sufficient. "There's plenty of money, but bringing [science and management] together is the important thing." Merlin believes these new firms should have an infrastructure that also includes a management team to run the business. Merlin has £39 million (\$65 million) for investments in "early-stage biotechnology startups."

Venture capital firms are now no longer alone in funding biotechnology companies at an early stage. The world's largest charitable science-funding foundation, the Wellcome Trust (London), has established a subsidiary company, Catalyst Biomedica, that has a fund of £20 million (\$31.5 million) to further fund academia-based biomedical scientists who have already received Wellcome money for research, allowing them to obtain or add value to patents. "We're trying to improve the probability of commercializing research in universities," says Richard Seabrook, intellectual property and industry relations at Wellcome. The intention is to enable researchers to build a portfolio of tangible intellectual property that subsequently will form the basis of companies to take the research onward. The Wellcome Trust considers this phase of funding as one of the highest-risk stages of the drug discovery, says Seabrook.

The Wellcome Trust is also getting involved with a national scheme—University Challenge—announced in the UK government's March 1998 budget. A total of £50 million will be available through government funds, the Wellcome Trust, and the Gatsby Trust (London) to encourage commercial development of university-based science. While the exact amount destined for biotech-

nology projects is unknown, the Paymaster General of Her Majesty's Treasury, Geoffrey Robinson, has said, "University Challenge will help fill the funding gap which has in the past prevented innovative research [from] being turned into commercial ventures."

In addition to these new ventures, the UK's governmental biomedical research funding bodies are also involved in early-stage seed funding to mobilize the research that they have already funded. The Medical Research Council (London) is running a seed-funding scheme jointly with the Rothschild finance vehicle, Biotechnology Investment Limited (London). The Biological and Biotechnological Sciences Research Council (Swindon, UK) is also known to have looked at a similar scheme but it is not yet operational.

The fruit of this seeding will take a few years to emerge, but the strategy is likely to persist. "It's not a one-off for Merlin," says Mark Docherty. "The trends are growing, more people are starting to seed fund." The Wellcome Trust has had to be somewhat circumspect in defining what Catalyst does and will do because any overt commercial activities could threaten the Trust's charitable status. But Seabrook anticipates that Catalyst, too, will be "a sustainable enterprise."

Adam Michael