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THE FIRST WORD

ANIMAL PATENTS

Tell us what to do," asks a friend deeply enmeshed in the animal patent issue on Capitol Hill. "What model should we follow?"

Special interest groups with strong support in Congress are clamoring for complete prohibition. Some of these groups oppose animal engineering on basic principles: staunch opponents include certain animal-rights advocates and right-to-life organizations (who see animal patents as the crest of a slippery slope leading to fetal-cell implants).

Other organizations, however, are more open to discussion and compromise.

The farm lobbies are divided. Some favor animal patenting as a spur to rapid development of better strains of livestock. Others oppose it. They fear concentration of power in corporate hands, unpredictable effects on highly stressed farm economies, and (perhaps most important) onerous patent-royalty burdens on the already involved process of herd breeding. As another friend, who was raised on a Colorado cattle ranch, put it, "You mean if my dad spends a lifetime breeding a superior bull, and a biotech company buys one of the calves and engineers a gene into it, they suddenly own the whole genome my dad worked so hard to produce?" Those aren't the only questions. Would the patentee have rights to all animals carrying the gene, or only those expressing it? Should royalties be due on each calf, or should the initial purchase price include some limited breeding rights?

Some reasonable adjustment could yet win the farmers over...if the animal biotech community can modify the notions of intellectual property it has acquired from the drug makers and plant breeders.

There are, basically, five ways to protect intellectual property: Patents, trade secrets, contracts, copyright, and (as the software industry found) copy protection.

The pharmaceutical industry has traditionally used patents and secrecy to safeguard its processes and products—as software companies did in the age of mainframe computing, when software was big and costly. Running it required technical expertise and expensive hardware.

While recent decisions have made patent protection available to the seed industry, breeders have long succeeded in protecting their varieties by a biological version of copy protection, via hybridization (making pure parental strains difficult to back out) and, in corn, male sterility. In the early days of personal computing, software producers, too, relied on copy protection—along with patents, trade secrecy, and copyright. (One mind-bogglingly paranoid program, which never did catch on, invoked all four at once in language exceeded in its menace only by the "Do not remove under penalty of the law" tags that come on pillows.)

But producers of transgenic animals will eventually have to confront the same sorts of problems that software makers (now called "publishers") faced when personal computing grew up. The user base is dispersed, and the ability to employ a product necessarily implies the ability to copy it. Even so, software publishers have abandoned copy protection. And, in the face of market realities, they have tacitly, if grudgingly, modified the near-absolute protection of copyright: They generally permit small-scale copying for backup by a single user on a single machine (read "by a single farmer on a single farm").

If the biotech community is to convert farmers from powerful opponents into powerful allies, it must accept the realities of the farm market and tailor its notions of proprietorship to fit.

All of these considerations may seem rather far removed from DuPont's OncoMouse (the *myc*-ey mouse patented by Philip Leder and Timothy Stewart—see Jeffrey Fox's "Dateline" story in this issue). But until they are solved, animal patents may continue to draw fire from a significant portion of the world's largest industry—the farmers.

—Douglas McCormick

If you want to prevent a ban on animal patenting, make sure the U.S. Congress knows how you feel. Write to your congressmen, and to Rep. Robert W. Kastenmeier; Chairman, Courts, Civil Liberties, and the Administration of Justice Subcommittee; House Judiciary Committee; 2137 Rayburn House Office Building; Washington, DC 20515.