

IP Policies and Serving the Public

It may be time to ask some hard questions about the university patenting and licensing rush that has emerged after the Bayh-Dole act of 1984. As scientific discoveries in biology and biotechnology have led to the development of new drugs, crops, and foods, universities have pursued the protection of inventions more aggressively than most in the academic community had envisioned in the 1980s. Although licensing can bring financial benefit to the institution and the investigator, it can also be costly in dollars and in faculty commitment. Perhaps more important, it can mar the public perception of academic institutions as producers of knowledge that benefits and protects the public.

Many university scientists conduct basic research on problems that will, if successful, have positive impacts on the public (local and global). A substantial fraction of university research is focused on problems of commercial interest to companies that can use those discoveries to make marketable products. In contrast, there is less focus on research that will affect small numbers of individuals, on crops that grow on small acreages, or on products that bring modest profits. Because of intellectual property (IP) policies and the interest of companies in licensing potentially valuable discoveries, it can be difficult to use new technologies to address problems in developing countries that lack policies for defining IP rights or procedures for premarket approval.

The complex tangle of licenses that slowed the development of beta-carotene-enriched “golden rice” is a case in point. As many as 16 important patents and 72 potential IP barriers slowed the development of this crop, which has limited financial potential but is intended to bring tremendous benefits to poor countries. The patents at issue ranged from the use of genes in the pathway that produces beta-carotene, to methods for isolating and cloning DNA, to methods for regenerating transgenic plants from transformed cells. With substantial effort, agreements were reached that allowed scientists to proceed with research to develop lines of golden rice without licensing fees. To deny or hinder development and testing of the improved rice lines because of IP issues would be unfair to people in developing countries where vitamin A is in short dietary supply. To many, it would be morally unacceptable. Scientific advances that improve health and nutrition and produce vaccines that protect against infectious diseases (to name just a few examples) may face similar problems unless adequate safeguards are put in place.



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Science could greatly enhance its service to humankind if sufficient funds were available to support research that truly serves all people. This will probably not occur until the federal government dedicates additional and substantial resources to research partnerships that search for treatments for minor diseases, benefit small markets, and meet the needs of poor and technically disadvantaged countries. It is equally important that academic research institutions adopt policies regarding IP that make the results of research available for use in developing countries, and that their scientists be encouraged to do research targeted to the public good, including projects that will benefit developing countries.

At the Donald Danforth Plant Science Center, all research and licensing agreements will include a statement that the “Company and Danforth Center shall diligently and in good faith negotiate the terms of worldwide license, making provision for preserving the availability of the Intellectual Property for meeting the needs of the developing countries.” Although the phrase does not provide specifics, it alerts the parties to our intent. It has been our experience during the past 3 years that private-sector companies have been willing to accept the intention of this phrase, and that it is increasingly seen as good policy by those companies.

I urge all academic and not-for-profit research institutions, in particular those engaged in biological research, to include similar terms as they negotiate licensing agreements pertaining to technologies with potential benefits for poor and developing countries. Although there may be a modest financial cost of taking such a position, the potential benefits in terms of regaining public trust, and ultimately of deploying technologies where they may be needed most, far outweigh the financial or opportunity costs. And it’s the right thing to do.

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