

Intellectual Property Rights in the Breeding Industry: Farmers' Interests

BY: NIELS LOUWAARS, ROB TRIPP, AND DEREK EATON

Intellectual property rights (IPRs) in plant breeding are being introduced or strengthened in developing countries as a result of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organization. Further pressure for the adoption of IPRs in agriculture comes from bilateral trade negotiations and export-oriented agribusiness. Farmers' organizations and nongovernmental organizations that represent the interests of farmers need to know how to respond to these pressures and to participate in debates about appropriate IPRs. Such organizations are likely to offer blanket opposition to strengthened IPRs on plant varieties, but their interests will be better served by a more informed approach.



This brief, which is based on a field study in five developing countries (China, Colombia, India, Kenya, Uganda) and a large number of stakeholder interviews (Louwaars et al., 2005), is directed at helping farmers and their organizations gain a clearer understanding of the issues in the debate regarding IPRs.

IPRs are meant to stimulate innovation. They provide temporary exclusivity on the commercialization of the protected invention. The holder of the right can prohibit the use of the invention by others and negotiate conditions (normally royalty payments) for its use under a license contract. To be useful for society, the rights and obligations of the right holder and the users have to be well balanced. Different IPR systems are appropriate for different types of inventions. In plant breeding, plant breeder's rights (and, more recently, patents) are the principal mechanisms, although trademarks and trade secret protection are also important. We briefly distinguish between plant breeder's rights and patents before analyzing the interests of farmers.

PLANT BREEDER'S RIGHTS AND PATENTS

Although living organisms have traditionally been excluded from patent protection, pressures to promote plant breeding in several industrialized countries (including pressure from farmers' organizations) resulted in the development of specially adapted IPRs for plant varieties beginning in the 1930s. Many of these plant breeder's rights (PBR) laws were harmonized following the Convention on the Protection of New Varieties of Plants in 1961, which also established an intergovernmental body, the Union for the Protection of New Varieties of Plants (UPOV), to support and oversee the new system. These so-called sui generis protection systems included two important conditions:



a farmers' privilege, allowing farmers to reuse (and in some cases exchange and sell) the seed, and a breeder's exemption, allowing anyone to use the protected varieties for further breeding.

In addition, patents are now beginning to play a role in plant breeding. A number of decisions by the U.S. Patent Office introduced patent protection for living organisms used in industry, as well as for genes, biotechnologies, and plant varieties used in agriculture. Many of these decisions were confirmed by court cases that provided new interpretations of the patent law. Farmers have not been involved in this extension of the patent system to plant breeding. Patents on plant varieties provide much stronger protection to the inventor and do not take into account the customary rights of farmers. Although patents on plant varieties are granted only in the United States, Japan, and Australia, biotechnology patents can be granted in many more countries and can influence access to plant varieties and seeds.

It is important to note that IPRs are based on national laws and that protection granted in one country may not be valid in other countries, either because protection was never applied for or because of differences in national laws. There is no such thing as a global patent or plant breeder's right.

FARMERS' INTERESTS

Why would farmers be interested in a legal instrument that is likely to make them pay more for seed? The answer is that farmers are the immediate beneficiaries of new varieties, and they benefit from increased investments in breeding. Even though the immediate link between IPRs and investment in plant breeding is debated, and the study showed a very weak link between the introduction of IPRs and the emergence of a private seed sector, farmers have an interest in creating incentives to develop better planting materials. The farmers' privilege creates a useful balance between the rights of breeders and those of farmers. However, revisions of the UPOV convention (representing the needs of the industrialized member countries of UPOV) have gradually strengthened the rights of the breeders at the expense of farmers' flexibility. The 1991 convention allows breeders to prohibit farmers from saving seed of protected varieties, unless specifically excluded, and prohibits any seed

exchange of protected varieties among farmers. UPOV now accepts new member countries only if they adhere to the 1991 convention.

A major difficulty for farmers' organizations in developing countries in adopting an appropriate position on IPRs in plant breeding is that different farmers have different interests. The interests of commercial farmers are quite close to those in industrialized countries, whereas those of smallholders may be very different (box 1). An IPR system that limits the degree of seed saving obviously offers much stronger incentives to plant breeders, but such restrictions may severely limit local seed provision, particularly where competitive and efficient commercial seed systems are not in place.

Box 1. Different Farmers' Interests in IPRs: Two Contrasting Examples

Flower producers in Kenya or Colombia, for example, may get higher prices for new varieties of roses than for standard varieties. Novelty pays in the flower market—traders and consumers pay more for new colors and flower types. Flower breeders get their share of this profit by charging higher royalty fees. They are thus very careful to ensure that their market is not spoiled by illegal production, and they are more likely to introduce their newest flower varieties in countries where their control over the planting materials is ensured by strong IPR laws. Flower farmers generally have no problems with an effectively implemented protection system based on the latest UPOV convention.

Smallholder farmers commonly obtain new varieties through informal channels. Rural development policies may support such channels for diffusing modern varieties of grains and legumes (called "lateral spread" in countries in South Asia) to stimulate uptake and for reasons of food security. IPR laws that attempt to limit such lateral spread of modern varieties act against the interests of these smallholder farmers.

Source: Authors

Box 2. Article 9 of the IT PGRFA: Farmers' Rights

- 9.1 The Contracting Parties recognise the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centers of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.
- 9.2 The Contracting Parties agree that the responsibility for realizing Farmers' Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to national legislation, take measures to protect and promote Farmers' Rights, including:
- (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
 - (b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and
 - (c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
- 9.3 Nothing in this article should be interpreted as to limit the rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

Source: International Treaty on Plant Genetic Resources for Food and Agriculture

FARMERS' RIGHTS

Decisions about what level of farmers' privilege is appropriate in national IPR legislation are further complicated by the related concept of farmers' rights. The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) confirms the important role of farmers in conserving, improving, and making available the genetic resources used in modern breeding, and establishes the concept of farmers' rights (box 2). The treaty confirms the right to save, use, exchange, and sell seed, the implementation of which is, however, subject to national law.


The restriction on saving seed in UPOV 1991 (and even stronger restrictions provided by patent laws) creates a conflict between the two concepts that has to be resolved at the national level. In many countries, private rights (IPRs) seem to have priority over communal rights. A major question is whether the farmers' rights should apply to all situations or whether farmers can agree to limit these rights for their own benefit (e.g., for profitable export crops, such as described in box 1).

In some countries (e.g., India, Thailand), the right of farmers to protect their own local varieties is included in

national IPR legislation. This protection is not in conflict with conventional IPR systems, but several points deserve attention. If this right is to be implemented by relaxing the standards for application (especially uniformity standards for the variety), there is a risk that it can be misused to protect broader gene pools rather than individual varieties. Others argue that IPRs on varieties conflict with the moral values of farming communities that have always relied on free exchange of materials, and that such protection should not be promoted for farmers' varieties. Finally, protection itself serves a purpose only when the variety is commercialized on a sufficiently large scale to cover at least the cost of protection. At the very least, an IPR system should avoid granting protection for farmers' varieties without the consent of the community that developed them.

THE ROLE OF FARMERS' ORGANIZATIONS

Farmers' associations and nongovernmental organizations (NGOs) that represent farmers need to be involved in the national debate on agricultural IPRs. The concept of farmers' rights in the ITPGRFA obliges countries to involve farmers in decision making relevant to plant genetic resources, including IPR systems for plant vari-



eties and genes. Organizations that represent farmers thus need to develop consultation mechanisms with their members on this issue and to develop a well-informed capacity to involve them in decision-making processes. At the same time, national political systems need to ensure adequate opportunities for open debate about IPR legislation.

The challenge of enforcing IPR legislation offers a second justification for ensuring a strong political voice for farmer organizations in the development of IPR legislation. If farmers have not participated in the debate and helped define the nature of IPRs for plant varieties, the enforcement of these rights is liable to be problematic. Wide differences in success among European Union (EU) countries in enforcing royalty payments on saved seed, and the current controversy over royalty collection for transgenic soybean varieties widely sown in Argentina and Brazil, illustrate this point.

The fact that IPRs can help stimulate the development of a stronger commercial seed system offers an additional justification for involving farmer organizations in the development of IPR legislation. The commercial seed sector will thrive in developing countries only if farmers are well acquainted with the rules and regulations that govern the companies that offer their products to farmers.

STRIKING A BALANCE

It is unlikely that all farmers' organizations and NGOs in a country will adopt a similar stance on IPR legislation, given the range of interests of different types of farmers. Countries' legal systems differ, and the balance between export-oriented farming, production for national markets, and subsistence agriculture will also vary. It is not reasonable to expect blueprint advice on the design of an optimum IPR law.

However, the yes-or-no discussion on IPRs that is occurring in many countries today is not very productive.

Efforts should concentrate on balancing the different interests. The five-country study concluded that there is no reason for developing countries to adopt overly restrictive plant variety protection systems; adoption of such systems to acquire trade benefits reduces options for broader support of rural development objectives. The report stressed that opportunities exist to create a useful balance within the minimum requirements offered by the TRIPS Agreement. Important elements are the right of farmers to save, use, exchange, and/or sell seed; the right to use protected materials for further breeding; and protection against appropriation of farmers' varieties for commercial purposes.

The interests of different groups of farmers can be served by providing different levels of protection within one legal framework. This can be done by either providing a minimum level of protection and adding rules for specific crops or farmers (e.g., export crops can be protected according to the UPOV 1991 model and subsistence crops by a less restrictive system), or by designing a stronger IPR system but carefully delimiting exceptions. For instance, smallholder farmers should be free to save their own seed of protected varieties, while commercial farmers are not (as is the case in the EU for seed protected by both plant breeder's rights and patents).

In countries where the rights are weaker, it is important to recognize that private sector incentives for investment will be correspondingly lower, and that public-sector plant breeding will need to be well financed to provide the necessary support.

REFERENCE

Louwaars, N.P., R. Tripp, D. Eaton, V. Henson-Apollonio, R. Hu, M. Mendoza, F. Muhhuku, S. Pal, and J. Wekundah. 2005. "Impacts of Strengthened Intellectual Property Rights Regimes on the Plant Breeding Industry in Developing Countries: A Synthesis of Five Case Studies." Wageningen, Centre for Genetic Resources, The Netherlands.

Derek Eaton is an Economist at the Agricultural Economics Research Institute at Wageningen University and Research Centre, Wageningen, The Netherlands. Niels Louwaars is a Senior Scientist at the Centre for Genetic Resources at Wageningen University and Research Centre, Wageningen, The Netherlands. Rob Tripp is a Research Fellow for the Rural Policy and Governance Group at the Overseas Development Institute, London, United Kingdom. This note was prepared with financial contributions by the World Bank and the Netherlands Ministry of Agriculture, Nature and Food Quality. You can download the text of this note, at www.worldbank.org/rural or email ard@worldbank.org.

