9th International Conference on
Agricultural Biotechnology: Ten Years After
organized by the:
International Consortium on Agricultural Biotechnology Research (ICABR)
and the:
Catholic University of Leuven
CEIS - University of Rome "Tor Vergata"
Centre of Sustainable Resource Development, University of California at Berkeley
Economic Growth Centre, Yale University

Ravello (Italy), July 6-10, 2005

"Intellectual Property Rights and their Impacts in Developing Countries: An Empirical Analysis of Maize Breeding in Mexico"

Andréanne Léger
DIW Berlin, Dept. International Economics and
Humboldt University of Berlin, Faculty of Agriculture and Horticulture
Dept. Agricultural Economics and Social Sciences
Chair International Agricultural Trade and Development
Koenigin-Luise-Str. 5, 14195 Berlin
Tel: +4930 89789 328; Fax: +4930 89789 108
aleger@diw.de

ABSTRACT

There is little empirical evidence concerning the effects of intellectual property rights (IPR) on a technologically advanced developing country. Complete enumeration of the Mexican maize breeding industry showed that, contrary to the hypothesis that IPR would provide, in a technologically advanced developing country, incentives for R&D and innovation, IPR play a negligible role for the industry in general, but that they are important for certain breeders' categories.

The paper starts with a presentation of the theory on IPR and the identification of their potential impacts. It is followed by a short background on the Mexican maize breeding industry, including its biotechnology activities. Based on these two sections, the hypotheses are developed:

1. IPR provide incentives for private R&D and innovation;
2. IPR restrict access to germplasm, new varieties and inventions;
3. IPR foster the concentration of the industry and an increase in seed prices; and
4. IPR play different roles for different breeders' groups.

The results of the study do not support the general expectation that IPR would play a role for innovation in a technologically advanced developing country. The evidence gathered and the perceptions of the breeders do not support the hypotheses under study, except for the last one: IPR do play different roles for the diverse actors' groups. Breeders did not perceive stronger IPR as providing them with incentives for maize breeding, nor did they invest more in these activities due to their presence. The little knowledge most breeders have of IPR reflects their minor role in their activities.

These results lead to the conclusion that the theory on IPR should be revised and take into account the characteristics of developing countries critical for the good functioning of IPR: quality of the institutional environment and the judiciary system, height of transaction costs involved in obtaining protection. The level of technological development also determines the extent to which actors can benefit from IPR protection. Finally, the implications for the future development of biotechnology in developing countries are discussed.