

UNIVERSITY OF SASKATCHEWAN Intellectual Property Protection in Canadian Agriculture: Is There a "Tragedy of the Anticommons" at Work?

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Background

- In the early 1980s the public sector accounted for over 95% of formal plant breeding in Canada and 100% of breeding for cereals and oilseeds (Kuyek, 2004).
- > The latest achievements in the breeding industry were openly discussed among scientists and breeders, and new cultivars were freely distributed to farmers.
- > Rapid development of biotechnology techniques and significant budget cuts for agricultural R&D required actions from the government to attract more private sector investment.
- > Various forms of intellectual property rights (IPRs) were introduced to provide the private sector with an incentive to undertake R&D.
- ➤ in 1982 the Canadian Intellectual Property office allowed patenting of single-celled organisms or events within cells. A few years later, in 1990, new plant varieties were also granted protection in the form of Plant Breeder's Rights.

The issue

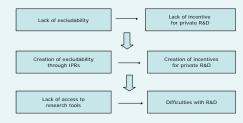
- > In R&D industries, knowledge is both an input and an
- > The generation of proprietary knowledge (protected by IPRs) creates incentives to produce new discoveries.
- > IPRs may also be used to restrict access to new technologies and research tools.
- > Question: Do IPRs block the sharing of new technology, thus stifling innovation?

Objectives

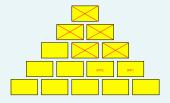
To assess the current IP protection system with regards to:

- > access by scientists to research tools/germplasm
- dissemination of knowledge among scientists

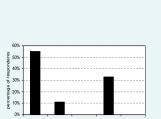
Evolution of the Research Policy Environment in Canadian Agriculture



The Structure of research in Agriculture



Stifling of innovation

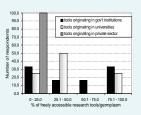


Views on secrecy in the canola breeding sector

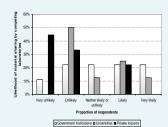
Methods

- > A case study undertaken to identify the effect of IPRs in the Canadian canola breeding sector on the ability to conduct subsequent research.
- The author undertook 8 personal interviews with canola breeders. Interviews have been recorded and transcribed to ensure the accurateness of responses.

Preliminary Results



Accessibility of research tools/germplasm by crop and breeding institutions



Sharing of research tools/germplasm by competing laboratories

Implications

- > Researchers express concerns about access to research material and germplasm
- > Research in some areas can only be carried out by the patent holder.
- >Impacts on institutions' research behaviour
- ➤Increased transaction costs
- ➤ Reduced efficiency
- ➤ Reduced research quality

REFERENCES: 1. Heller, M.A. and R.S. Eisenberg, (1998), "Can Patents Deter Innovation? The Anticommons in Biomedical Research," Science, 280, 698-701. 2. Shapiro, Carl, (2000), "Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Set ting," [available at http://haas.berkeley.edu/~shapiro/thicket.pdf.]

ACKNOWLEDGEMENTS: Funding of this project was supported by the Canadian Agricultural Innovation Research Network (CAIRN).