

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

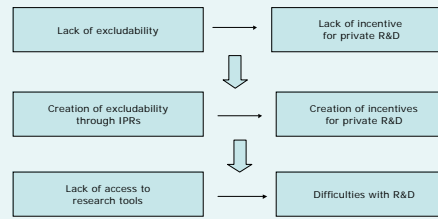
- In R&D industries, knowledge is both an input and an output.
- The generation of proprietary knowledge (protected by IPRs) creates incentives to produce new discoveries.
- IPRs may also be used to restrict access to new technologies and research tools.
- Question: Do IPRs block the sharing of new technology,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

Objectives

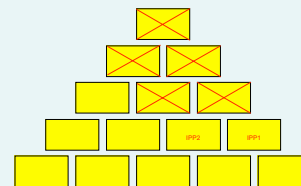
To assess the current IP protection system with regards to:

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

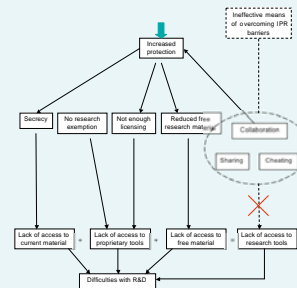
Evolution of the Research Policy Environment in Canadian Agriculture



The Structure of research in Agriculture



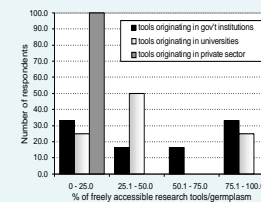
Stifling of innovation



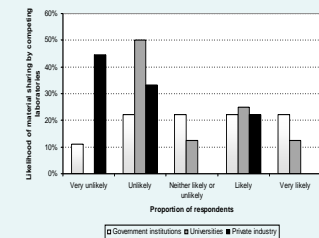
Methods

- 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.

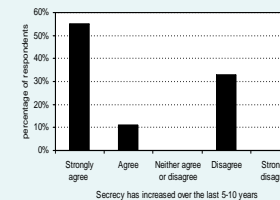
Preliminary Results



Accessibility of research tools/germplasm by breeding institutions



Sharing of research tools/germplasm by competing laboratories



Views on secrecy in the canola breeding sector

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