

Intellectual Property (IP) and Crop Biotechnology

Why do not-for-profit research institutes patent inventions?

- UK registered charities, like JIC, owe a duty to the Charity Commission to diligently retain control of the IP assets it creates with public (government) and charitable funding.
- IP protection and management is an integral part of broader knowledge transfer responsibilities of higher education and research establishments. They cannot serve the public good solely by disseminating research results through scientific publications. IP protection is an essential element of knowledge transfer policies.
- Patenting and licensing allows a licensee company to justify significant R&D investment to take inventions arising from fundamental discoveries through product development and the regulatory process to useful products. Without commercial investment to turn basic scientific discoveries into useful products, many, if not all publicly funded inventions would not become beneficial to the general public.
- Licensing for specific fields of use allows JIC to make a technology available to a company for specific crop species, geographical regions and/or business areas that the company is well positioned to develop. It also affords us to reserve rights for other companies in other fields of use, thus maximising the breadth of uses to which discoveries can be applied, for maximum public benefit.
- Licensing on a professional basis allows, with enforceable diligence terms, technologies/fields of use available to other companies if the initial partner proves unwilling or unable to exploit the invention, e.g., because of changed business direction. Without this there would be little control over whether or not our discoveries continue to be developed by our own downstream partners/licensees.
- Patent protection is not sought in developing countries and/or provides exclusive licenses for developing country fields of use. Licensing policy always seeks to retain rights to licence for humanitarian purposes.

What are Material Transfer Agreements?

- Academic co-operation is encouraged by allowing exchange of research materials under simple, standard Material Transfer Agreements (MTAs), which are freely available.
- The MTAs describe the bonafide academic research purpose for which the material is required and procures the recipients agreement to the proper use of the materials and acknowledgement of their provision.

Fact and fiction about patents

- In 1873 Pasteur obtained a composition of matter patent in the US for pure yeast culture, the first recognition of life forms as patentable. However, it was the Chakrabarty decision in the US, which first clearly gave the go-ahead for the patenting of life forms.
- Inventions described in patent applications/patents must be novel, possess an inventive step and be industrially applicable.
- The plant variety protection act is a separate legal system to patenting and provides protection for new plant varieties per se. As such, the protection provided on any one variety, is narrow.
- The description of inventions in patent documents places technologies and inventions in the public domain on publication of the patent documents rather than by withholding knowledge and exploiting it by way of trade secrets. Patent applications are published after about 18 months, as well as patents founded on these, at grant. The patent process can also accommodate the timely publication of papers in academic research journals.
- Filing patent applications is done territory by territory and incurs significant costs. Patent applications are filed only in those countries where the patentee(s) wish to protect their technology from commercial exploitation by third parties.
- Patents may establish a discretionary right to sue for infringement under statute
- Limited monopoly established by a granted patent helps to attract the investment needed to take inventions, which are often based on fundamental research, through R&D to commercial application. Without patents there would be little incentive for companies to invest in R&D or to take forward useful inventions to generate new or improved products.
- It is increasingly rare for farmers in developed countries to save seeds even with non-hybrid crops, commercially produced purchased seed is invariably superior in terms of health and viability to farm-saved seed from the previous cultivation.
- The cost of seed is in most cases a very small fraction of the overall costs of a crop for a grower, and in turn is a negligible fraction of the net value of the resultant crop. As such many growers recognise that purchasing quality seed is one of the best investments they can make in their crop.
- Some impoverished farmers in developing countries have little choice but to save seed. Nonetheless even farmers in some developing countries that have invested in biotech variety seeds, which are relatively expensive, have reported their great satisfaction with the results - providing greater crop returns, more than justifying the initial outlay on seed.
- Maintenance of farmer choice is essential in both developed and developing countries. ***In North America no-one forces farmers to use biotechnology. Farmers use biotech crops because they offer real advantages.*** Given that there is an open market in seed, with biotech and non-biotech crops freely available, the rapid rate of adoption is striking.