Intellectual property management and commercialisation of forest genetic resources.

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The CSIR Tree Improvement Research Group has an approximately 50 year old eucalypt and pine species breeding research program and during this time over 50 species and hybrids have been included in the program. By 1994, the CSIR initiated it's commercialisation of germplasm.

The commercialisation experiences can be categorised in the following pre-requisites for effective Intellectual Property (IP) management and commercialisation: the IP should have significant value; it should be effectively delivered to the market; and possession of the IP should be maintained by the inventor. Considering the first criterion, in South Africa, between the 20 year period of 1984 to 2004, the plantation area increased by only 10.3%, whilst the roundwood production increased by 92.1%, and a significant proportion of this increase in production can be attributed to tree improvement. The CSIR has also monitored the genetic gains of various clones and seed sources, and has, for instance, recorded an increase of approximately 15% per generation in pure species breeding and much larger increases in clonal hybrid releases (e.g. 30% in the hybrid GxU111). There is therefore substantial evidence that tree breeding is capable of delivering IP of value. It is however, equally evident that the market will not accept products for which there is not convincing evidence of significant value.

The second criterion - effective market delivery – has a number of unique challenges in forestry, such as phytosanitary restrictions; the market need to trial the material before acceptance; and the time required to 'bulk-up' (whether clonally or by the creation of seed-bearing orchards). These -and other- challenges result in risks of failure and in an extensive lapse of time to delivery, usually in excess of five years.

A third challenge is that of IP protection and management. Various IP protection models are discussed, including tactical options - such as rapid development of improved material, and legislative options - such as Plant Breeder's Rights and royalty and license agreements. IP management in forestry extends over many years, and the individuals and companies using the IP change. Long-term management and protection of IP under these circumstances requires particularly good systems and strategies.

The CSIR's experience is therefore that commercialisation of forest genetic resources is a long, and challenging process. The greatest short-term benefits of germplasm to the CSIR, has been in the ability to use this resource for research and development.

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