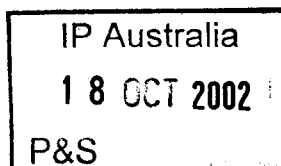




October 4 2002

Jeff Roberts
Secretary
Advisory Council on Intellectual Property
PO Box 200
WODEN ACT 2606



Dear Jeff

EXCLUSION OF PLANT AND ANIMAL SUBJECT MATTER FROM INNOVATION PATENT

Thank you for the opportunity to provide comment on the exclusion of plant and animal subject matter from Innovation Patents. When the Innovation Patent was bought into effect in May 2001, we were disappointed at the late decision to exclude plant and animal subject matter and appreciate this opportunity to comment from our perspective as a public sector plant breeder.

The Department of Agriculture Western Australia (DAWA) is one the largest Australian agricultural research and development organisations and is actively involved in crop breeding including cereals, pulses, oilseeds, Australian wildflowers and fruit varieties. DAWA currently relies on PBR to protect its varietal Intellectual Property (IP) so that it may seek a return on its investment in crop breeding. The Department is of the view that the inclusion of plants into the Innovation Patent system will provide an additional strategy for protecting varietal IP and in some circumstances could secure significant advantages for plant breeders over and above that available through PBR.

In response to the specific questions raised in your paper, I will draw upon grains related examples as this is where the most immediate issues arise. The grains research and development program currently involves an investment of \$18 million per annum by the State with additional funds from industry contributing \$15 million. The focus of the program is on the development of, and progressive improvement to, elite varieties that provide benefits to growers through improved yield, better quality and enhanced disease resistance. DAWA currently has 34 grain varieties protected under PBR. WA grain varieties have a dominant position in the national market place with DAWA wheat varieties (for example) achieving approximately 82% of the WA wheat tonnage and 35% of the national wheat tonnage.



Is the current “gap” in IP protection for inventions with a lower level of threshold, that involve plant and animal subject matter, seen as an existing or potential problem?

DAWA has been involved in the development and subsequent amendments of the PBR Act and therefore has a strong understanding of its benefits and failings. One of the key differences between PBR and patents is that a patent offers broader protection wherein an external party seeking to modify a protected variety would need the approval of the original patent holder before commercially exploiting such improvements. In comparison PBR allows further breeding without recourse to the original breeder of a variety and only requires the new variety to be distinguished by at least one essential characteristic or heritable trait. With modern genetic manipulation techniques this can be achieved with as little as one gene being inserted.

DAWA's concern is therefore related more to the “gap” in the level of protection afforded by a patent over a PBR rather than the threshold for patentability per se. The majority of the grains breeding R&D undertaken by DAWA result in incremental improvements in yield, quality, disease resistance etc. As such it is unlikely that the new varieties developed by DAWA would qualify for protection under the full patent system. On the other hand varietal improvement arising from the breeding program would potentially suit an Innovation Patent where an innovative step as opposed to an inventive step is accepted. The inclusion of plants and animals as patentable subject matter for an Innovation Patent would therefore potentially bridge the “gap” in protection available under patent vs PBR

Given the existence of the standard patent system and the PBR system, is there a need for those involved with plant and animal subject matter R & D in Australia to be able to protect their research with the innovation patent?

As per the comments above, the only effective option currently available to the DAWA for the protection of its elite crop varieties is through PBR. Once registered under PBR, these elite varieties are then available to others for “the purpose of breeding other plant varieties”. In a recent report titled “Clarification of Plant Breeding Rights Issues under the Plant Breeders Rights Act 1994, the Expert Panel on Breeding considered “breeding” to include ‘man-made’ variation (e.g. through genetic transformation, cross-pollination, induced mutations, etc).

With advances in gene manipulation technologies, PBR thereby essentially exposes our elite varieties to the risk of ‘gene jockies’ introducing new genes (e.g. for herbicide resistance) with minimal effort and thereafter commercialising the “improved” variety in competition with DAWA's variety. In effect the “gene jockey” would be both trading on DAWA's investment in developing the original elite variety as well as benefiting from the priming of the market that will occur through DAWA's prior release of an “unimproved” variety. The net effect would be to decrease our market share in a relatively short time, substantially reducing the return on investment available to the Department. This problem could eventually reduce the amount of resources available to DAWA for plant (and animal) R&D, thereby negatively impacting the agricultural industry as a whole.

The potential impact of this is illustrated in Figures 1 where a generic Variety A is released by the Department in 2003 followed by an improved Variety B (single gene insertion delivering improved disease resistance) released three years later in 2006. Figure 1 shows the expected annual return to the breeding program from Variety A, assuming an End Point Royalty of \$2/tonne in present value terms. Once Variety B is released, which

still has the yield benefits of variety A but with improved disease resistance, the uptake of Variety A declines sooner and quicker than would otherwise be expected in the absence of a competitor. The difference between the original Revenue Curve of Variety A and the new revenue curve for Variety A in the presence of Variety B in the marketplace represents the loss in royalty revenues to the breeding program.

Figure 1. Impact of competition on the earning potential of a new grain variety.

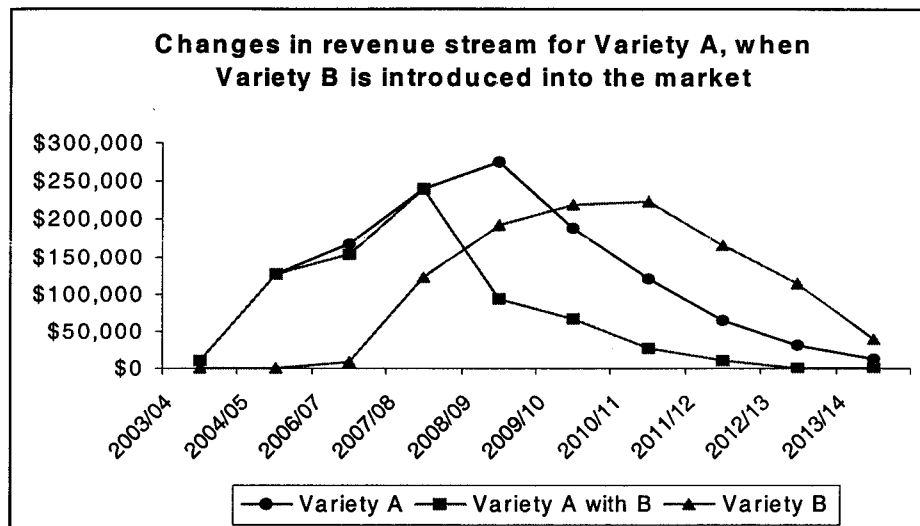


Table 1. Earning potential of Variety A

| Scenario | Return to DAWA (\$) |
|--|---------------------|
| Only Variety A available in the market place | 1,200,000 |
| Both Varieties available in the market place, DAWA receives revenue from Variety A only | 725,000 |
| <i>DAWA income loss from competition with variety B</i> | <i>(425,000)</i> |

The option to seek protection of Variety A under an Innovation Patent would ensure that the developer of Variety B would need to negotiate with the Department prior to commercialisation thereby providing an opportunity for DAWA to share in the benefit derived from its contribution to the “improved” variety.

| Scenario | Return to DAWA (\$) |
|--|---------------------|
| Both Varieties in the market place & DAWA receives 30% share of revenue from Variety B in recognition of its BIP | 1,050,000 |

It should be noted that in supporting the inclusion of plants and animals as patentable subject matter under an Innovation Patent DAWA does not seek to use the Innovation Patent as a barrier to further development of our IP by third parties. Rather the aim is to provide an opportunity for DAWA to be compensated for the competitive use our background IP and for priming the market.

What, if any, are the national benefits of excluding plant and animal subject matter from the innovation patent?

DAWA can not identify any viable reason or national benefit as to why plants and animals should continue to be excluded from Innovation Patents.

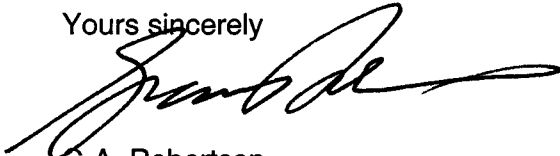
What impact would the innovation patent have on non IP right holders were it to include plant and animal subject matter?

DAWA acknowledges that an Innovation Patent could be used to restrict the rights of growers to retain seed, but this does not make a case for plant and animal subject matter to be excluded as the PBR Act, coupled with contract law, can also be used in such a manner. It is DAWA's opinion that with the increasing reliance on End Point Royalties to generate a return on investment, the IP owners would not want to restrict the adoption of varieties in such a way.

DAWA staff would be happy to participate in future discussions and further contact should be addressed to Dennis Thiele, Manager Business Development, Department of Agriculture

It is our hope that the results of this review will be collated and circulated as a draft report for further comment so that all parties can gain a broader understanding of the differing perspective's on this issue

Yours sincerely



G.A. Robertson
DIRECTOR GENERAL