

No Economic Penalty if GM Grass Bypassed

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If New Zealand chose not to approve the use of GM grasses developed by Pastoral Genomics, no economic penalty is expected as a non-GM technique could provide the same projected gains.

Marker Assisted Selection (MAS) could deliver equal economic benefits without the risk of triggering the type of consumer resistance that GM food has provoked.

Documents released to the Sustainability Council under the Official Information Act provide the first detailed analysis of the economics of genetically modified grasses to become public. They reveal how surprisingly thin the projected benefits are even when just considering it as an investment. The Council's analysis is set out in a report entitled *Betting the Farm*.

Tens of millions of taxpayer dollars have so far been staked on three groups researching GM grasses, with around \$20 million going to the Pastoral Genomics consortium. While the message from GM proponents has been that New Zealand must pursue GM or be left behind, the documents show Pastoral Genomics' GM grasses have no greater ability to raise pasture productivity than non-GM means of accessing new gene science.

The GM grass estimated to have the highest value is expected to provide a 20% gain in biomass – exactly the same as Pastoral Genomics expects it can obtain using MAS to achieve the same outcome. However grasses produced using MAS carry none of the marketing risks that arise if GM-sensitive markets discriminate against produce from farms that use GM grass or have been contaminated by it.

Government officials describe grass pollen as “notoriously difficult to contain” and warn of GM grasses becoming “irreversibly established in the environment”. Ultimately it is labelling standards set by supermarket chains that would determine whether products from GM contaminated pasture were no longer GM Free.

If labelling were required for any level of GM content, this could result in lost earnings worth hundreds of millions a year or more. For example, 35% of New Zealand's meat exports are destined for Europe. If all this product was supplied from farms either growing GM grass, or deemed to be contaminated by it, then if prices for GM Free and other stock separated by as little as 10% this would result in an opportunity cost of \$180 million a year. That alone is greater than the total benefits that Pastoral Genomics' consultant expects to be generated by the best of its GM grasses in any year (\$155 million).

Even ignoring the marketing risks, there is little or nothing in it for the nation once rosy assumptions are stripped out of the consultant's valuation of Pastoral Genomics' GM grasses. The estimated present value range of \$25 million to \$379 million comes down to minus 22 million to \$107 million once three assumptions are altered to those used by another consultant that reviewed Pastoral Genomics' work. Lower the rate of uptake of the GM grass to also align with their thinking and factor in the technical risks of new grasses that "in some cases have not even been developed", and the peak value falls to a range of small to negative.

In addition to the roughly \$20 million of government funding that have gone to Pastoral Genomics for GM research, two other GM grass projects are also receiving substantial government funding:

- AgResearch has received more than \$44 million for work on both GM and non-GM grass varieties and although the split between the two is unclear, that devoted to GM is a large amount under any reasonable allocation.
- PGG Wrightson is in partnership with an Australian research centre and their Gramina venture has received at least \$5 million in grants from New Zealand Trade and Enterprise.

MAS offers a non-GM technology that is expected to deliver the same level of benefits without the market risks and should be the preferred investment to the extent it stacks up against other means of raising agricultural productivity. The government's investment in three separate GM grass programmes suggests very high opportunity costs are involved. This and the absence of a clear "path to market" for GM grasses mean the agriculture sector and the nation stand to benefit from a review of future funding to GM grass programmes.

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Notes

1. Pastoral Genomics is a research consortium comprised of Beef and Lamb New Zealand, Fonterra, DairyNZ, Deer Industry NZ and AgResearch. The consortium is funded by pastoral farmers, with matching funding from Government. (For further detail, see Sustainability Council, *New Zealand GM pasture grass R+D: Three programmes and a new technology*, June 2011.)