

We import GMs into WA – so why can't we grow them?

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This evening we have heard from some esteemed Australian scientists on a range of GM issues. These speakers believe that GM derived crops are:

1. As safe, if not safer, than from using conventional breeding tools,
2. Enjoying widespread global adoption in agricultural crops and medicinal products and are
3. Very powerful at speeding up breeding, which is inherently slow?

I believe that they would also agree with Greenpeace's cofounder in Dr Patrick Moore who said; "The campaign of fear being waged against GM is based largely on fantasy and a complete lack of respect for science and logic."

**Greenpeace
cofounder**

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However, after some 16 years of widespread use globally, there are still only two legal GM crop-types available for Western Australian farmers. One is Bt-RR cotton, grown in the Ord on a small area, and the other is RR canola for farmers in the medium to high rainfall regions of the south west.

But for the dry wheatbelt farmer, who does not grow canola, there are no GM traits available. This reality is in stark contrast to most of the agricultural exporting countries that our farmers compete with across the globe.

Since 1996, the year that I lived in Canada, GM crops have boomed, especially across the Americas. Where allowed, GM crops are the most

rapidly adopted new technology ever introduced into agriculture – even faster than the tractor or no-tillage. GMs bring with them;

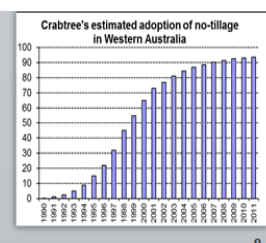
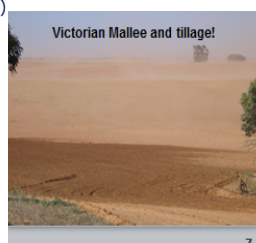
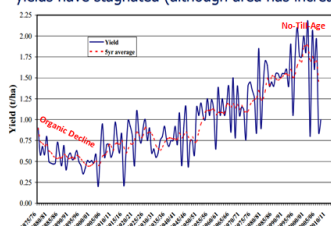
1. reduced pesticide use,
2. improved time of sowing (which increases crop yields),
3. stronger and more reliable weed control,
4. reduced burning of fossil fuels,
5. improved food safety (less fumonisin),
6. increased no-tillage adoption with tremendous soil health benefits and
7. greatly improved crop water use efficiencies.

The No-Till-Age of agriculture has arrived. And for our Western Australian farmers, who are no-till world leaders, it came just in time with our long period of dry winters since the year 2000. If no-tillage had not been adopted so widely, I suspect our farmland would have looked like the dust bowl of the 1930's again in this last decade or as it was when I was ploughing our paddocks as a young man on the south coast of WA in 1970s and 1980's. The advent of new technology in herbicides has made no-tillage possible.



When my mother's father and grandfather farmed in the Victorian mallee 100 years ago (at Rainbow and then Murrayville), they regularly ploughed the soil, applied no fertiliser and the soil regular blew away, fertility declined and the yields dropped. Agriculturalists call this period a declining "organic farming" era and it was not sustainable!

In decade from 1995-96 to 2005-06, Australia wheat yields have stagnated (although area has increased)

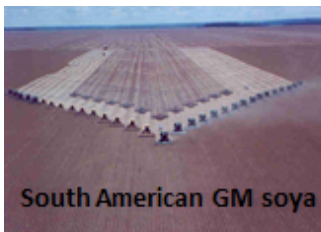


With modern agronomy, strategic balanced fertiliser inputs and no-tillage we have survived the last 13 years as farmers, but we are operating at a disadvantage.

We are without access to some of the safe and smart breeding tools that are available. We are losing ground on the international market.

I recall a comment in 2006 from one of UWA's best agricultural Professors (Vice Chancellor, Professor Alan Robson), when I took him to visit the then WA Minister for Agriculture, Kim Chance, he said; "By our farmers not having access to GM technology we are effectively forcing them to farm with one arm tied behind their back."

Scientists have become increasingly frustrated with the misinformation and the scaremongering by inconsistent philosophies. There has also been a general lack of due diligence from a portion of the media on GM realities and they have been more prone to run with the idea of "bad news sells stories". This has hampered agricultural scientists ability to do some good things.



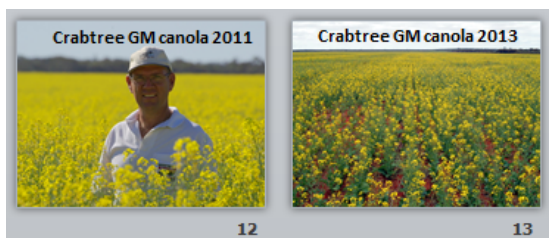
Last year I was invited to speak to Sydney agriculturalists on GM crops. At the end of my talk a plant breeding Professor came up and thanked me for my talk. He said that he had led a somewhat unfulfilled career.

He said, that as a new PhD graduate some 30 years ago his boss came back from France and said he was shutting down the Universities biotech unit – as France was not going to accept biotech. So, as a disappointed scientist, now not being able to do what he was trained to do, he had made three nice little GM traits. He then published papers on them and put them away in a vault. These changes included; canola pods that did not shatter in the wind (only now are just being introduced from Canada), tomatoes that keep their flavour for longer and trees that grew wood faster.

I know of Murdoch University biotech graduates that have not been able to use their degree in WA and continue their gene technology profession – over a 20 year period. Some may even have gone over to our competitor in USA's Monsanto! This, in my view, is a waste of local talent at the expense of our local agricultural industry and is a disappointment for many graduates. I met one at CSBP's office being a soil laboratory technician.

So, we have the talent, we have the will and we have the problems. These include issues of; frost, drought, salt, acidity, nutrient efficiency, allergenic traits, insects, weeds, diseases etc. We even have some of these helpful genes already discovered.

But, our problem is that we have a group of globally niche crops. These include; barley, oats, triticale, cereal rye, lupins, peas, chick peas and faba beans. So, what is the problem you may ask? The problem is cost of registration of useful GM traits in these small crops! We are fortunate that GM canola can be used in some areas of the state profitably.



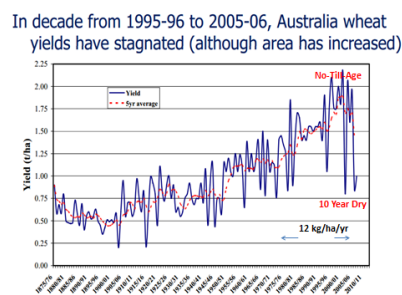
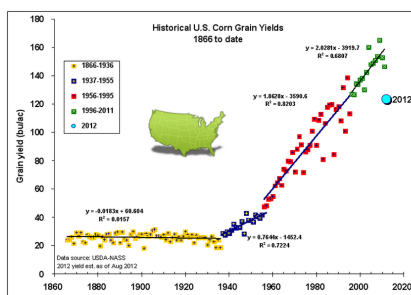
In my view, because of over-regulation with the GM technique, this safe tool is out of our reach for our significant, but niche, crops. Crop Life informs me that the cost of bringing a new GM trait to market is over \$100 million. No Australian company is prepared to take this level of financial risk for crops that are so small, or for traits that give useful, but incremental, benefits.

This over-regulation of GMs makes it more feasible for us to import say GM soya than to grow lupins for the same purpose. I went through Ag Science, at UWA, with Dr Campbell Thompson who used to formulate the rations for half of the states livestock meal. His, and all other feed meal companies, swung over to GM soy beans about 10 years ago. GM soya was about half the cost per unit of protein-and-oil value over our local non-GM lupins. So now we feed our children pork, chickens and some beef, based on imported

GM feed from South America while our farmers have reduced their lupin production by 70% over the last 10 years.

This leads us to another fascinating conclusion. Australian consumers of meat benefit from GM crops. Such imports of GM soy make for cheaper meat – this is the meat that we feed our children with. Interestingly, the same is true for the EU also. This GM soy is at the expense of the local lupin farmer who can't compete against this imported GM soy. Australia imports about 500,000 tonnes of GM soy annually.

We also have to compete in the coarse grains industry with corn. Wheat pretty much follows corn prices within 20%. Over the last 60 years corn genetics, including hybrids, more recently GMs and the associated better agronomic package have lifted corn by 120 kg/ha/yr while our wheat has gone up at 12 kg/ha.



US farmers have generally gone away from wheat to corn which is more profitable – this is not possible for our farmers, in our wheat-belt, we have nowhere else to go.

So our lupin industry has suffered from GM soy imports and our wheat industry has suffered from GM corn. We want a level playing field. We need access to all new and safe breeding tools. In 2016 the Argentinian farmers will have access to GM drought tolerant wheat, lifting yields in droughts from 600 to 810 kg/ha, which is a 34% yield increase. We would like the same. In WA frost is a debilitating problem which has hit severely during our better years within the drought decade.



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What we are asking for is a fair go! We want the public to better understand our constraints and allow some relaxation of the strangle-hold that the multinationals have over our grains industry by making GM technology so expensive that only the big corporates have the ability to operate in.

We want our graduates to be able to make nice traits suitable for our crops and in our soils in our backyard. We realise however, that this is a global issue. But we are scientists and farmers who are proud of our profession and believe that our views have validity. If we do not stand up for our industry then we can't expect our city cousins to be supportive. We ask for your understanding and thank you for coming to this information event. I will close with my faithful dog who is genetically modified, as too is her pup.



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