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OPINION PIECE

The true value of GM crops

Leading USA agricultural economist, North Dakota State University's Distinguished Professor of Agribusiness and Applied Economics, Dr William Wilson, says Australian farmers need to know about how GM technology is being used across the American continent.

Here's a 'heads-up' to Aussie farmers: keep a close eye on the technology sweeping the America's.

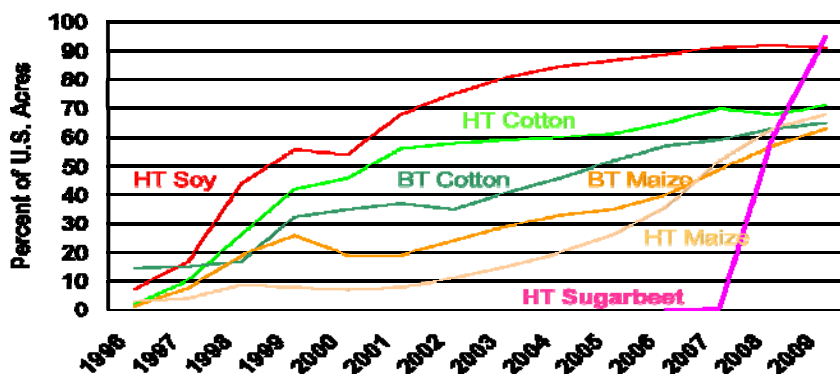
And I'm not talking about new GPS or tractor toys; farmers through both South and North America are making full use of GM technology to keep out in front of the cost-price squeeze.

Yes, we have large areas of good soils in climates that allow us to grow a wide range of broadacre crops: corn, soybeans, canola, wheat, barley, pulses and cotton. But, we also have droughts, floods, pestilence, activists, consumers and governments to deal with!

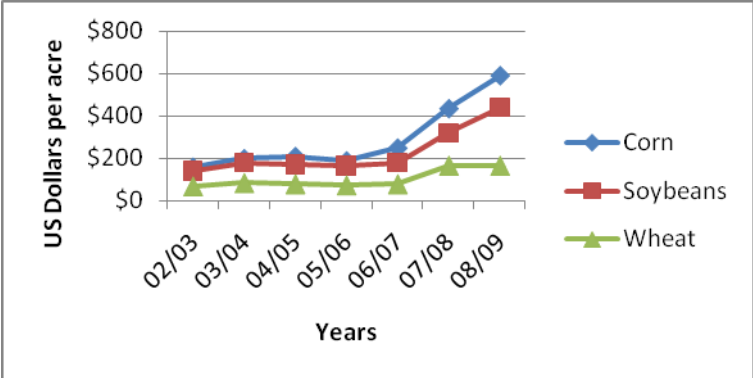
My point is that GM technology is being increasingly welcomed on our farms as the next major wave of agricultural innovation, and Australian farmers should know about this.

North and South American farmers are using multiple varieties of GM cotton, corn, soybeans and canola to ward off insects and provide alternative weed controls. New varieties with 'stacked traits' - where all these benefits are available in one variety - are being commercialised by the R&D people. This is real agricultural innovation! Simply, GM varieties accelerate farm output and financial return for least risk.

The huge increase in use of two key GM varieties (Herbicide Tolerant and *Bacillus thuringiensis* insecticidal) across the USA's 134 million arable hectares is clear in the graph:



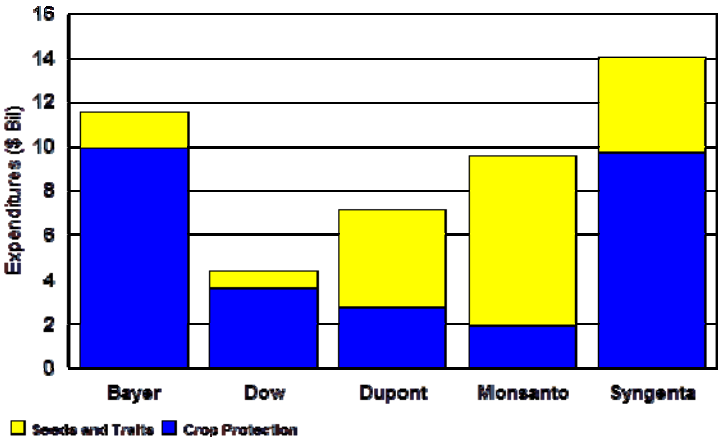
The investment in GM varieties is having an effect on industries for which there is no commercial GM variety. Wheat areas in the USA are declining as the returns from corn and soybeans are increasing, as shown:



Even Kansas – the ‘Wheat State’- now produces more corn than wheat, and North Dakota wheat farmers are switching to GM soybean, corn and canola.

Where innovation is not adopted, farm businesses stall and go backwards - irrespective of how much government (taxpayer) assistance is provided. There is hard economic data on the costs of NOT having access to GM technology; I have calculated that a drought tolerance trait in corn and/or soybeans (~ 6 years away) will result in a 60c/bushel (A\$22/tonne) opportunity cost for wheat production on the same land. That is, the market will need to pay another A\$22/tonne for wheat to match the returns from corn or soy with this trait. New traits, such as second-generation HT GM soybeans, will push the opportunity cost out to near \$US1.50/bushel (A\$55/tonne).

Another way of thinking about the value being placed on the role GM technology is to look at the investment that private enterprise has made. From 1990 to 2009, major companies have collectively spent some US\$45 Billion on crop protection R&D, with each allocating significant sums to GM ‘seeds and traits’ work, as shown:



Clearly, this scale of investment wouldn’t occur if the benefits of GM varieties didn’t exceed their R&D costs, and if farmers didn’t choose to use GM varieties.

And at the other end of the supply-chain, USA customers are comfortable with GM technology. A recent International Food Industry Centre report found that '95% of consumers will not take any actions because of concerns they may have about food produced using biotechnology, and among the remaining 5% who would take action, only half would alter their purchasing behaviour'. Between 70-80% of food products in the USA contain biotech ingredients.

Overall, and contrary to the multi-agenda activist's alarmist pronouncements, GM technology is an agricultural innovation that can provide lasting and cumulative solutions to land, water and food shortages; natural resource sustainability and environmental issues; and reduced availability of fuel, fertilizers and crop protection products.

Do not doubt the international scale and acceptance of GM: there were 134 million hectares of GM crops grown worldwide in 2009, and a large number of traits are anticipated to be commercialised in the next 10 years: corn has 21 and soybean has 22 new GM traits respectively.

There are crystal clear economic and scientific reasons why GM technology acreage is increasing by 9% per year. It would be sad to see Australian agriculture miss out.

About Professor William Wilson

Recognized as one of the top 10 USA Agricultural Economists in 1995, William W. Wilson was named Distinguished Professor in 2007 at North Dakota State University. His research program is focused on grain marketing, transportation, international trade, marketing and logistics. He has had numerous awards, lectured around the world, served on the Board of Directors for the Minneapolis Grain Exchange, and has provided advice to numerous international companies and countries on grain industry issues. For more: www.ext.nodak.edu/homepages/aeddept/staff/bio_wilson_w.htm

About AFAA

Agrifood Awareness Australia Limited (AFAA) is an industry initiative, established to increase public awareness of, and encourage informed debate and decision-making about gene technology. AFAA is committed to providing quality, factual, science-based information on the use of gene technology in agriculture to allow for informed decisions. AFAA works broadly across the agriculture sector. The organisation has three founding members – CropLife Australia, the Grains Research and Development Corporation and the National Farmers' Federation – and the organisation's activities are also supported by the sugar industry, the Grain Growers Association and through a project partnership with the red meat industry.