



BIOTECHNOLOGY

- The cotton industry uses two types of genetically modified (GM) cotton - Bollgard® II and Roundup Ready®.
- Over 95% of Australia's cotton growers planted GM cotton for the 2004/05 season, translating to over 70% of the crop, and approved by the Australian Government.
- Bollgard® II replaced Ingard® in the 2003/04 season.
- GM cotton, introduced in 1996, has been an environmental success story and is regulated by the Australian Government's Office of Gene Technology Regulator.
- GM cotton has contributed to the 75% reduction in the number of pesticide applications since 1998 (Source: University of Sydney, 2004)
- Bollgard® II cotton is a second generation, genetically modified cotton variety tolerant to the Heliiothis caterpillar. It contains two genes from the naturally occurring protein Bacillus thuringiensis (Bt).
- Bollgard® II cotton requires 86% less pesticides when compared to the management of conventional seed varieties.
- The Bt gene gives the plant an in-built tolerance to the Heliiothis caterpillar. When a caterpillar eats a small amount of the cotton plant, the Bt protein that is ingested disrupts the gut and is fatal.
- Cottonseed oil derived from a GM plant contains no genetically modified material since the crushing process separates the oil from any protein. This is why cottonseed oil doesn't require GM food labelling.
- Cattle and other animals fed cottonseed cannot pass the Bt protein on to humans through milk or meat products. When cattle eat Bt cottonseed they digest it and utilise the nutrients but the Bt protein does not appear intact in meat or milk.
- Bt is a naturally occurring soil organism. Organic farmers throughout the world have used formulations of Bt for over 20 years as a "natural" pest control method. Bt sprays have been used for over 50 years in agriculture.
- The use of genetically modified cotton is a key component of the industry's Integrated Pest Management (IPM) strategy. IPM uses a combination of natural controls and pest specific chemistry with the aim of reducing pesticide use.
- Herbicide resistant cotton (Roundup Ready®) reduces the amount of spray required on cotton plants as it can be applied directly onto weeds and leaves less herbicide residue in the soil.

