

**COTTON FIBER FROM BIOTECH COTTON IS AS  
SAFE AS FIBER FROM CONVENTIONAL COTTON**

**K. Gustafson, R. Goodman and J. Astwood**

**Monsanto  
St. Louis, MO**

**Abstract**

An animal and human health risk assessment of fiber from Bollgard and Roundup Ready cotton plants was completed prior to the introduction of these products into commerce. This scientific assessment evaluated potential hazards and exposures in reference to the philosophical principles set forth by international organizations, such as the OECD and WHO. Under these principles, both the safety of the introduced traits and the equivalence of the plant to its conventional counterpart are considered. Bollgard cotton contains the Cry1Ac and NPTII proteins, whereas Roundup Ready cotton contains the CP4 EPSPS and NPTII proteins. These proteins are from sources with no history of toxicity, are not structurally similar to any known toxins known to be toxic to vertebrates and show no adverse effects on body weight, food consumption and gross necropsy on mice when fed at high levels. Additionally, these proteins are from sources that are not allergenic, are not structurally similar to allergens and do not possess characteristics typical of food or contact allergens. The substantial equivalence of these cotton plants was established through extensive food, feed and fiber analyses and confirmed by animal feeding studies with cottonseed or meal in rats, catfish, quail and goats. Exposure to the introduced proteins is the second component of the risk assessment. The data demonstrate that a significant proportion of the introduced protein present in raw lint samples comes from plant debris and that proteins are eliminated by processing of the fiber fractions. Therefore, with no potential adverse effects identified and no exposure to the proteins in processed fiber, it is concluded that fiber derived from Bollgard or Roundup Ready cotton is as safe as fiber from conventional cotton.