Protecting Human Health

The effects of genetically modified crops on human health remains a major public concern. Any product intended to be consumed by people in the United States will require a formal environmental risk assessment according to the Coordinated Framework for Regulation of Biotechnology (1986).

GM products not intended for human consumption are not required to undergo a formal environmental risk assessment. Potential GM producers should consider the possible public health impacts of their products even if their products are not intended for human consumption. As GM technology advances, the possibilities for creating consumer products is likely to also increase. Although each product should be evaluated independently there are some common public health concerns that should be considered for all novel products and organisms.

The most serious concern for a novel organism should be toxicity. Most current GMOs provide food or medicine so public health and safety are high priorities.  Concerns of toxicity have persistently surrounded GM foods and were raised following concern that *bt* corn was harming wild monarch butterflies. There has been no substantive link between GM foods and toxicity in humans but producers of novel products should ask themselves if their product could harm humans. We should keep in mind that classic environmental risk assessments for toxicity have separate recommendations for children and infants. Children and infants have lower tolerances for toxicants.

Also linked to risks of human health are allergens. Producers of GE products are required to consider the allergenic properties of their product by the FDA (Fed Reg, 992) Genes from a Brazilian nut was once inserted into soybean but the modified soybean never left the lab; the modified soybean expressed allergenic properties in people allergic to Brazilian nuts (Nordlee *et al.*, 1996).

Works Cited

Federal Registry (1992). Statement of policy: foods derived from new plant varieties. Fed Regist, 57(104):22984-3005.

Nordlee, J. A., Taylor, S. L., Townsend, J. A., Thomas, L. A., & Bush, R. K. (1996). Identification of a Brazil-nut allergen in transgenic soybeans. *New England Journal of Medicine*, *334*(11), 688-692.