Chapter 5

MANAGING LIABILITIES ARISING FROM AGRICULTURAL BIOTECHNOLOGY

Stuart Smyth, Peter W.B. Phillips, and W.A. Kerr
University of Saskatchewan

Abstract: While most innovations commonly enter the marketplace with little notice or fanfare, this cannot be said for products of agricultural biotechnology. The commercialization of innovative new transgenic crops and the resulting food products have resulted in some products entering the market that are not desired by some consumers. It is argued that these new products are creating a new class of socioeconomic liabilities in the marketplace. We examine three strategies for managing these liabilities: scientific, regulatory, and market strategies.

Key words: risk, liability, regulation, transgenic crops

1. INTRODUCTION

The global agri-food industry has reoriented itself in the past decade around technological change and innovation. Both farmers and the rest of the agri-food supply chain have recognized that the long-term threat to their livelihoods is other local and regional demand for land, labor, and capital. Ultimately, the sector will need to achieve productivity gains at least equal to those in other domestic sectors, which will require significant technological and institutional change. Change creates risk, which can, if not anticipated and managed, create liabilities for someone. The purpose of this chapter is to identify the context for these changes, examine the concepts of risk and liability, and review the institutional responses to these new liabilities.

While the technological imperative is not a new feature for agriculture—waves of change involving machinery (1930–60) and chemicals (1950–90) have swept through the industry in the past—the acceleration of biotechnological innovation since 1985 has fundamentally challenged the industry. In the first instance, governments have encouraged the search for new technologies and products by extending monopoly intellectual property rights
(both patents and plant breeders’ rights) and by offering new or different forms of government subsidy and support to develop and bring new technologies to market. Second, even though ultimate ownership is more clearly defined, the scale and complexity of using this globalized science has precipitated a wide array of collaborations between traditional competitors and between public and private research organizations, which spreads responsibility much more widely than previously. Third, the privatization of agriculture research has led many national governments to renationalize and enhance their regulatory oversight of new products (Phillips and Khachatourians 2001).

The combination of these three trends has opened a broader debate about what to do if and when one of these new technologies creates some undesirable, adverse effect. Who is ultimately responsible, how should the problem be managed, and what compensation, if any, should be paid? Ultimately, this is a debate about liability.

Liability is an evolving concept, especially as it pertains to agriculture. Historically, lawsuits in crop agriculture have been mostly about one-to-one production externalities, such as aerial spraying. Occasionally, an aerial application of a chemical would be too close to a neighboring farmer’s land and would drift onto a crop belonging to another farmer. Depending on the crop, the damage could be substantial. In some instances, the farmer whose crop was adversely affected sued the commercial sprayer of the chemical for damages suffered. Another commonly cited example is the situation where a scrub bull escapes an enclosure and impregnates pure-bred cattle indiscriminately.

The genetic modification of crops has changed the nature of the liability debate and the application of the term. The commercial release of transgenic crops has created a split within agriculture, both within and between countries. In North America, there is a small organic agriculture market that is strongly opposed to further commercialization of transgenic crops due to the potential for co-mingling. The organic market’s fear is that if transgenic seeds are detected in organic shipments, then domestic and export markets may be destroyed. Other producers and processors have adopted quality control systems to differentiate between GM and GM-free produce. Even in the European Union (EU), divisions are forming. Spain, for example, has produced between 45,000 and 55,000 acres of Bacillus thuringiensis (Bt) maize annually for the past five years (Brookes 2002), while many farm and consumer lobby groups are strongly opposed to any GM traits in the EU food system.

Internationally, there has been a split between EU countries and North America (the United States and Canada). The EU views transgenic crops as a liability and will not allow domestic production of transgenic crops for large-scale food consumption, or the importation of transgenic raw materials.