

BIOTECHNOLOGY AND THE AGCHEM INDUSTRY

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Consumer driven developments in biotechnology will create new food systems with customized food products. It is argued that a large percentage of agricultural products will be produced under strict contractual guidelines, and that relationships between farmers, manufacturers, and agricultural input retailers will be redefined.

Key words: farmers; agricultural input retailers; food manufacturers; value-added crops; biotechnology; contracts, niche markets

Biototechnology in agriculture will likely go down in history as one of the defining technologies, much like the advent of mechanical power, hybrid seeds, or the use of pesticides to control diseases and insects. What we see on a commercial scale today is only the tip of the iceberg.

The future holds exciting opportunities for agriculture and how we do business. We will be able to quickly and easily match production to the demands of end consumers anywhere in the world. But reaching that new level involves a very unsettling transition period that takes manufacturers and retailers into unfamiliar and often uncharted territory. Let me share a scenario of how the future may look for those currently involved in the crop input business.

The consumer's quest and demand for quality will drive food processors and manufacturers to form coalitions that create new systems and higher standards for food safety. Biotechnology will provide the primary vehicle that allows the system to work and insure that quality. Biotechnology will also allow products to be customized for almost any trait, including taste, texture, nutrient content, and medicinal value. The potential is almost limitless.

We will certainly have a percentage of the market for agricultural products that is still primarily commodity oriented, similar to what we see today. However, biotechnology will allow for an increasingly large percentage to be produced under strict contractual guidelines. Such contracts will be managed by input suppliers who, in partnership with the farmer, will produce within contract parameters for specific niche markets.

Under the scenario described above, the customer would approach the processor and indicate the exact specifications and tolerances they will accept. The processor will transmit those exact specifications to the biotechnology firm that will in turn provide the seed with the exact genetic traits

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to produce the desired output. The retailer and manager provide the expert management for the process.

In this arrangement, the manufacturer supplies technology which, depending on the market, could be very specific and sophisticated. They could also expect to be compensated accordingly. The retailer becomes a broker for various types of products, information, and services that may also be highly technical and sophisticated. The level of compensation for the retailer also depends in part on the market being served and how many products, services, and types of information they bring to the equation. They would earn part of their compensation from the farmer/producer and part from others further up the distribution chain. In large part they would be compensated for the number of risk management tools they bring to the process.

Biotechnology today is certainly forcing manufacturers and retailers to re-examine what business they are in. A good example is the manufacturers who just a few short years ago were in the “agricultural chemicals” business. Then they referred to themselves as “crop protection” companies. Today, many of them are referred to as “life science” companies. We have also witnessed in recent months that consolidation is the name of the “life science” game. Consolidation is occurring at all levels. The nature of the business is changing as well. Huge amounts of research and development are being funded by either before tax revenues from other entities within the company, or by the merger, joint venture, or outright acquisition of other partners who already have a biotechnology pipeline.

Similarly, at the retail level, retailers are examining their business opportunities and venturing into new areas such as precision agriculture, information and data services, financing, marketing, custom application, and more. The vast majority of retailers are either now selling biotechnology seed or examining how to enter that market.

The above transformation will not occur overnight. In the midst of making such a transition, we will likely experience a variety of business combinations that survive for a length of time and then give way to new market pressures. The difference from past transformation periods is the rate of adjustment. For instance, today we see single trait genetics leading to a variety of identity preserved markets. Soon there will be gene stacking on a commercial basis. New market forces will be at work and new “winners and losers” will emerge. Some remnants from the past will also survive.

Will the agricultural chemicals industry survive as we know it today? No. Will we eliminate the use of chemicals and pesticides completely? No. Will we see much greater emphasis on biotechnology? Definitely. The stakes will be much higher. The risk factor and the potential liability will be increased. People up and down the distribution chain will be searching for new partners to help manage the increased risk and liability. Those bringing the most effective risk management tools to the table through the most effective partnerships will emerge as winners. Biotechnology will be the driving force behind all of this change. It is changing the way we do business in the agricultural chemicals industry and will continue to do so well into the next millennium.