

## Fields of Change



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There's been a lot of talk recently about the "new economy." The dizzying pace of innovation in cutting-edge technologies can easily inspire a "gee-whiz" response. While I have used this space in previous issues to argue that change and innovation are not new phenomena, the current wave of technological breakthroughs does seem somewhat unique.

People don't usually associate agriculture with the new economy. Yet, as this issue's cover story emphasizes, farming continues to make significant contributions to the regional and national economies. Does this industry represent an "old economy" island in a sea of new economy marvels? Far from it. Change and innovation are very much a part of the agricultural economy.

Historically, of course, the development of new farming techniques has always been an important source of progress. Each generation's "high-technology" farmers have made their particular contributions, from the moldboard plow of the Middle Ages to the steam-driven combines of the 19th century. The current generation's contributions range from the simple application of information technology to spread knowledge of new techniques and market conditions, to sophisticated uses of genetic engineering.

Perhaps even more striking than the introduction of new technologies are changes taking place in the organization of farming activity. The picture of a farming enterprise that many of us still carry around in our heads is that of a relatively small, family-run farm. While this form of organization is still the most common, the importance of larger, corporate farming enterprises has been growing. Also, many independent farmers contract with corporate producers. These often long-term arrangements facilitate the sharing of new techniques, and they can allow smaller farmers to avoid some of the risk in market prices. The general trend toward larger organizations, of course, is hardly unique to farming. Similar trends can be seen in almost any industry experiencing

sustained productivity growth, from banking to telecommunications.

Typically, as the more standardized parts of an industry become increasingly dominated by large-scale operations, smaller operations will need to seek out specialized market niches to serve. In farming, this phenomenon can be seen in the spread of new specialty crops being grown in the region. Does this mean ginseng can sustain the family farm? No. But it does suggest that, as in many industries, farming will always have room for small, flexible operations that can respond to the ever-changing whims of market demand.

The growth of large-scale farming operations, especially in livestock, also shares with other industries the growing challenges of dealing with resulting waste materials. But here, too, innovation plays a role. The use of tradable nutrient discharge allowances strikes me as a promising application of an idea that originated as a means of controlling industrial pollutants. I'm a big fan of looking for ways to use market forces to address social problems.

Finally, I recognize that in farming, as in any industry, change and innovation are not always immediately beneficial to everybody. Many of the advances in farming will necessarily lead to an agricultural industry with fewer farms and fewer farmers. Such adjustments are always painful and are perhaps especially poignant in this case, given the significance of farming in our history and our culture. But the best lubricant for these adjustments is a growing economy. This is really what the new economy is all about, in agriculture as well as in other high-tech fields — like computers.



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