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CHOICES

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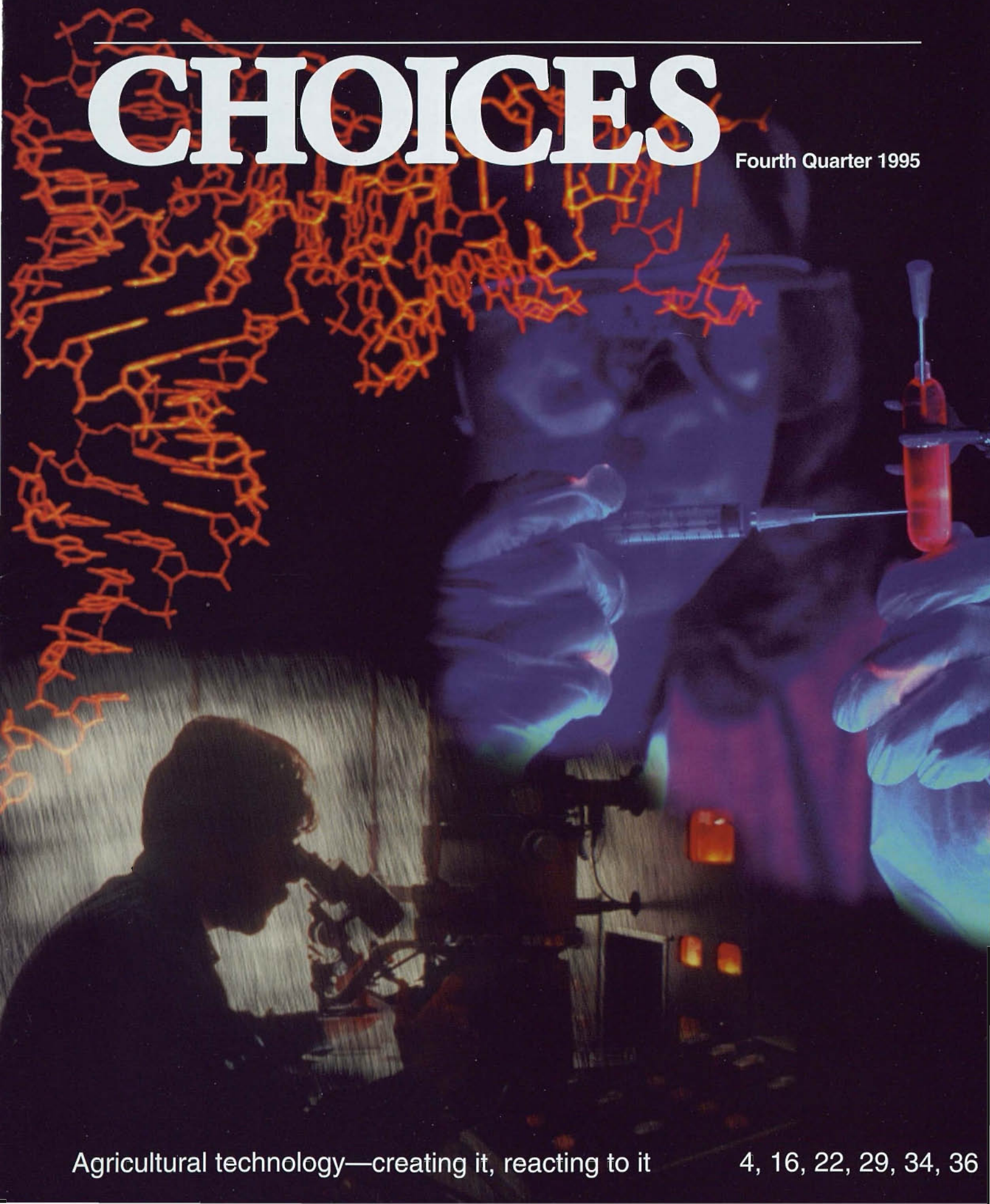

Agricultural technology—creating it, reacting to it 4, 16, 22, 29, 34, 36

Findings

What agricultural and resource economists are finding about food, farm, and resource issues.*

- The benefits of cost efficiency have outweighed the social costs of oligopsony power resulting from increased concentration in the beef packing industry—say Azzam and Schroeter.
- Environmental stress, including soil erosion and salinization, cut China's grain yields between 1983 and 1989 by an amount equal to about 30 percent of China's yearly grain imports in the early 1990s—say Huang and Rozelle.
- In corn-growing areas of Nebraska, soil nitrogen testing can improve farm profits and more general social benefits, but the net benefits vary from farm to farm and seem greatest in areas of unirrigated fields treated with added organic sources of nitrogen—say Fuglie and Bosch.
- Branded beef, pork, and poultry advertising have much greater effects on meat consumption than does the generic advertising of checkoff programs—say Brewster and Schroeder.
- A taste test coupled with educational materials can positively shift consumer perceptions about a new lean-beef product—say Khan, Teas, and Uhlenhopp.
- At a large urban center on the east side of San Francisco Bay, a combination of water markets and the conjunctive use of surface and groundwater provide far less costly ways than new storage facilities to meet the water needs during a drought—say Fisher and coauthors.
- The siting of noxious waste disposal facilities by auction to communities with majority agreement leads to inefficient site choices and an excess of sites—says Ingberman.
- Ad valorem energy taxes in the 10 to 25 percent range and subsidies of the same percentage magnitude have a much greater impact on energy conservation technology used in new home construction than has direct regulation such as building codes—say Jaffe and Stavins.

*Findings are taken from recently or soon-to-be published research in the *American Journal of Agricultural Economics, Journal of Agricultural and Resource Economics, Review of Agricultural Economics, Journal of Agricultural Economics Research, Journal of Agricultural and Applied Economics, Agricultural and Resource Economics Review, Land Economics, Journal of Environmental Economics and Management, Agribusiness— An International Journal,* and other journals which publish the research findings of agricultural and resource economists. Abbreviated citations are found on page 40.

ON OUR COVER—Images of DNA and cutting-edge laboratory scientists remind us of the wonders of agricultural technology. Several authors in this issue discuss the benefits and costs of these developments and how we react to them.

Old Think, New Think: Implications for Environmental Policy Analysis

Sandra S. Batie is Elton R. Smith Professor in food and agricultural policy at Michigan State University.

My son, like most teenagers, has little patience for anything but the most current music, clothes, expressions of speech, or thought. Around our house, we refer to noncurrent things as *old*, as in old music, old clothes, old expressions, and *old think*. One advantage of this labeling of my choices and rhetoric is that I more quickly recognize old think in my professional endeavors.

Consider agro-environmental policy. Old think is informed by a vision of a domestically oriented agriculture, populated with independent decision makers (mainly farmers), supported by public technical assistance, and faced with severe tradeoffs between profitable and environmental protecting activities. Consumers are not part of the vision, although an amorphous "public" is. This public acts through federal policies to enforce demands for food safety or reduced agro-environmental problems.

Describing *new think* is not easy, for the changes encompassed in new think are still emerging and inconsistent. New think, however dimly, is informed by a vision of agriculture that is global, populated with actors whose decisions are intertwined in complex ways. Technical and informational services are increasingly supplied by the private sector—sometimes as part of a service surrounding the sale of a product (e.g., a video accompanying a pesticide product, which explains the safe use of the product). Sometimes it is the service itself which is being sold (e.g., integrated crop management services). While some severe tradeoffs between environmental protecting and profitable activities do exist, there is a growing suite of complementary technologies and information that provides opportunities to improve both the environment and profits.

Consumers are main actors in this vision, getting the product attributes for which they are willing to pay. For some products, these attributes include both product characteristics (e.g., pesticide-free baby foods) or certain production processes (e.g., free range poultry products). Customers range from Hispanic American housewives in Florida to Japanese restaurant owners in Osaka. Thus, some so-called public demands for reduced agro-environmental problems or enhanced food safety appear to be percolating through the private sector.

Federal institutions are declining in importance, and international and local institutions are rising in importance. The distinction between private and public is blurring, with private-public/ quasi-public (i.e., nongovernmental organizations) partnerships designing and delivering environmental-related programs.

Like the wearing of old clothes, there is validity in applying an old think vision in particular circumstances. For example, there are many agricultural situations which better match the old vision than the new. Indeed, the true challenge may be to differentiate between the situations where old versus new think applies, and to sort out attendant policy implications. Still, to use old think exclusively to design policies, to direct research, or to teach classes is to invite irrelevancy and obsolescence.

For example, relying on old think, one might assume that a poultry or potato producer is free to adopt a profitable environmental practice, and a public technical assistance program would be designed accordingly. But if that producer is contracted to a processor who dictates what production practices will be followed, or who penalizes any decrease in supply in any year, then such a technical assistance program will probably fail.

As another example, relying on old think, one might argue that the domestic agricultural industry may experience increased costs and reduced competitiveness from trading rules such as food safety standards. However, new think would lead one to explore the possibility that nondomestic consumers are demanding these food safety attributes. Thus, one would anticipate that the domestic industry will reorient so as to meet these consumers' demands, regardless of the trading rules.

One advantage of a child who labels some of my thinking as old is that it invites creative thought, rather than a retreat to the familiar. So too does the contrast of old think with new think visions of agro-environmental issues. While there is much to learn about emerging trends and their impacts, the answers cannot be pursued without first challenging the applicability of old think to current agro-environmental problems and policies.

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Jim Chen has been a member of the University of Minnesota Law School faculty since 1993. He received his J.D. degree from Harvard Law School, where he served as an executive editor of the *Harvard Law Review.* He teaches and writes in the areas of agricultural law, constitutional law, economic regulation, industrial policy, and legislation. He has lectured on agricultural subjects for many organizations, including the University of Minnesota's Center for International Food and Agricultural Policy, and the American Agricultural Law Association.

In Short

Departments

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