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AGRICULTURE IN A NEW CENTURY:
WHAT ROLE FOR USDA INFORMATION?

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Information is a critical issue for the future of the U.S. Department of Agriculture. While the Department has always played a critical role in providing information on U.S. agriculture in the past, this role will, if anything, be more important in the future. Many would argue that agriculture is moving into an information age, where information becomes the crucial ingredient, supplanting seeds, livestock, and markets. Just as the role of information is changing, however, so too is the type of information that everyone from farmers to processors to policymakers needs. Therefore, the question before this session is a very important one: What role will the USDA have in providing information to changing agriculture of today and tomorrow?

My goal today is to provide a broad framework for assessing the USDA information role. It is not within the scope of this brief session this afternoon to bring forward a detailed list of what information should stay, what should go, and what should be added. Rather, it may be more useful to offer a framework from which these details might be addressed.

Three questions define this framework. First, how has the world of agriculture changed? Second, given those changes what are the new information priorities? And third, what is the USDA's information niche in light of the above?

Stated briefly, my conclusions are these. For more than a century, the Department of Agriculture has been writing the book on U.S. agriculture, commodity after commodity, chapter upon chapter. But the actors in the agriculture of the 21st century no longer use all of this book. Instead, they need a broader web of information that spans the farm gate to the dinner plate, the fruited plain to the distant port. And even as business decisions have become more complex, so have the policy decisions. For businesses and policymakers, the Department of Agriculture still is the only author for key pieces of information. But the times call for a new web, and to do so probably means giving up some chapters in the old book.

HOW HAS THE WORLD CHANGED?

Before describing the agriculture of today and tomorrow, it is useful to recognize where we have been. The agriculture of *yesterday* focused on:

- Government programs;
- Commodities;
- Commodity markets;
- Family farms; and
- Domestic markets.

There was an information assumption attached to this general structure of the industry. The assumption was that if the Department of Agriculture supplied unvarnished information on commodity markets, then family farms would flourish, and rural America would prosper. A less explicit, if no less important, assumption was that if farmers respond to a barrage of commodity information, then consumers will be happy. Both assumptions are now in question because the very nature of U.S. agriculture has changed so dramatically.

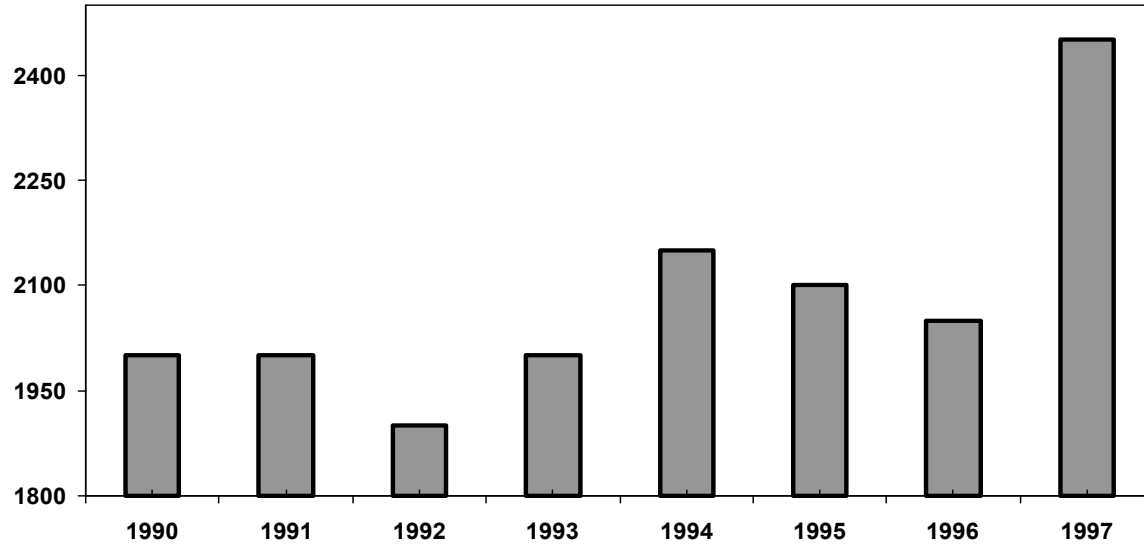
With dramatic change in agricultural markets, agricultural policy, and the structure of the industry, the agriculture of *tomorrow* will focus on different things. Specifically, the focus seems likely to shift to:

- Market signals;
- Products, less on commodities;
- Contract markets, less on spot markets;
- Farm alliances, not homogeneous farms;
- Domestic and global markets;
- Rural America; and consumers.

The shift in focus is evident in a number of changes underway in U.S. agriculture. First, producers are becoming much more responsive to commodity market signals. In the wake of the new farm bill, farmers are clearly no longer wedded to Washington commodity program signals. In the Heartland, for instance, Kansas farmers were quick to respond to high soybean prices and the loss of their wheat base by boosting soybean plantings sharply in 1997 (Chart 1).

Chart 1. Soybeans in Kansas

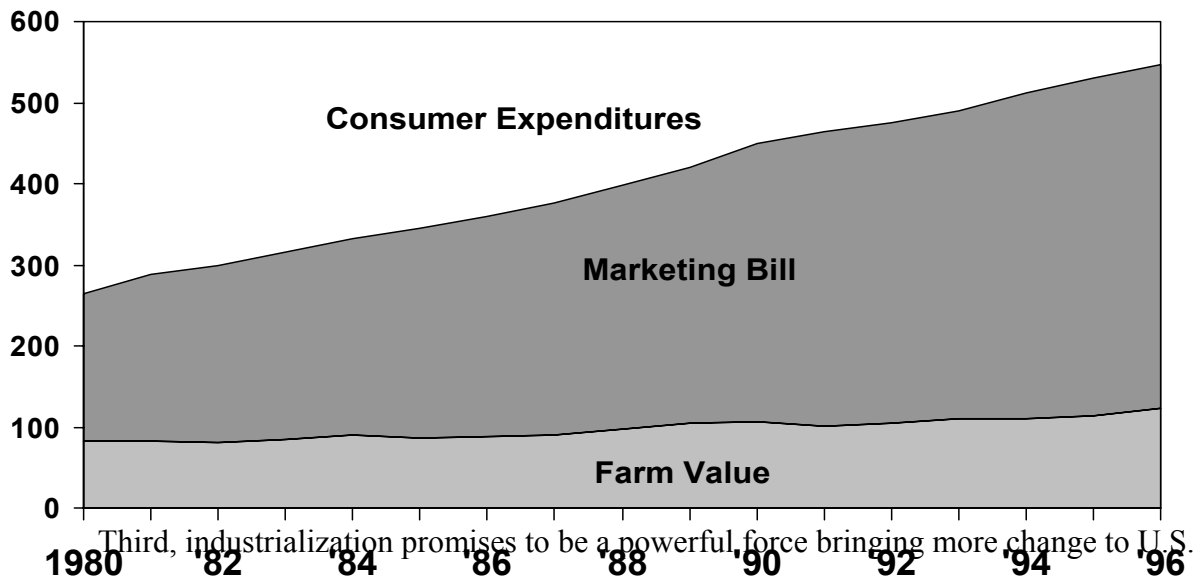
Thousands of acres



Second, lines are blurring in the food system as farmers shift to new generation products. Historically, U.S. agriculture has been marked by sharp lines of distinction between production, processing, distribution, and retailing. Increasingly, farmers view themselves as participants in other segments through such innovations as identity preserved products, which transcend traditional lines. Thus, the very concept of a food marketing bill, a standard chart of the old agriculture, may need to be rethought (Chart 2).

Chart 2. Food Marketing Bill

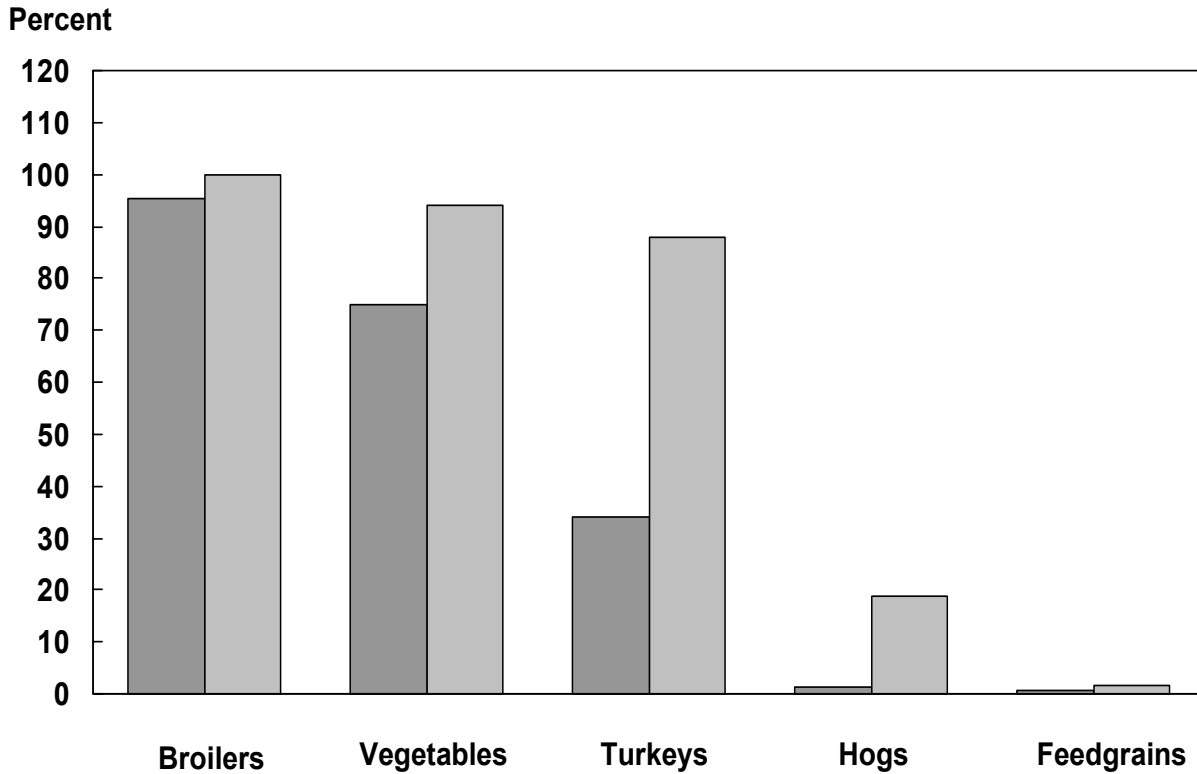
Billion dollars



Third, industrialization promises to be a powerful force bringing more change to U.S.

agriculture. Contract production is spreading to more and more commodities, and the share of total production under contract is rising rapidly in some cases, such as hogs (Chart 3). This trend gives few signs of abating. Indeed, in a new market era, contracting seems likely to increase as producers find new ways to manage risk.

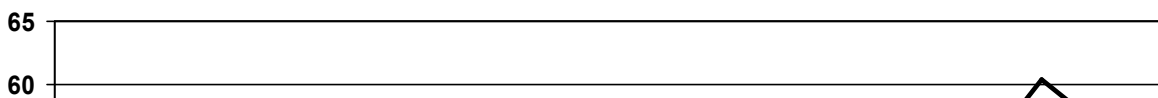
Chart 3. Production Under Contract



Fourth, globalization may be an even more powerful force. Many of U.S. agriculture's institutions--whether market institutions or policy institutions--were designed for a domestic industry. While many of those institutions have evolved and adapted to a more open sector, the fact remains that globalization will continue to have a major impact on information needs as the tide of sale abroad keeps rising (Chart 4).

Chart 4. U.S. Agricultural Exports

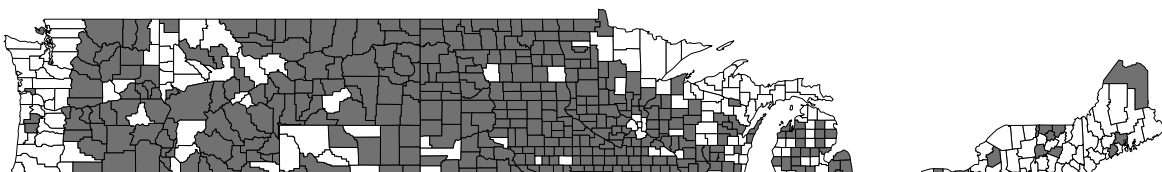
Billion dollars



Fifth, the economic character of rural America has undergone sweeping change in recent decades. Agriculture was once the dominant economic base for most of rural America (Figure 1). The same can simply not be said today. The number of rural counties where agriculture is the primary source of income is a mere fraction of what it was forty years ago. Many rural communities have diversified their economies, in many cases going well beyond agriculture to industries like services and manufacturing. As a result, we need a much broader set of economic indicators than just agricultural ones to track the performance of the rural economy.

Figure 1. Farm-Dependent Counties

1950



In short, several shifts in the agricultural and rural economies suggest that information needs have changed radically from the time when many of the Department of Agriculture's information systems were first put in place. Given the fundamental nature of those changes, a useful first step in designing new information systems is to establish new information priorities.

WHAT ARE THE NEW INFORMATION PRIORITIES?

There are probably many ways to think about new information priorities for 21st century agriculture. Nevertheless, five core needs seem likely to rise to the top of the discussion regardless of one's starting point. Those five are: sector performance, commodity and contract benchmarks, global market developments, retail market outcomes, and rural economic conditions.

Sector performance

As in the past, sector participants and policymakers will both be interested in the overall performance of the agricultural sector. The problem will be defining the "sector." How should the sector be defined as it undergoes an integration process that by its very nature blurs traditional lines of distinction between producer, processor, and retailer? While a clear-cut definition may be impossible at this stage of the sector's transformation, there is no doubt that structural change will *broaden* that definition.

At a minimum, two current performance measures will need improvement. Better farm income measures will be needed to track the performance of producers *and* value-adding segments beyond the farm gate. Such changes will also force a more realistic line of what constitutes a farm. Today's definition, many would argue, simply includes too many producers who are not viable as commercial enterprises.

Better balance sheet measures will also be needed. Historically, we have viewed a farm balance sheet as resting on farm real estate (typically about three-fourths of total farm sector assets). Yet in the agriculture of tomorrow, real estate may be a much less important asset as producers utilize information to add value to traditional production enterprises. Partnerships and relation-related assets, meanwhile, will be more important and will need to be accounted for.

Commodity and contract benchmarks

This is the information area most people probably associate with the USDA, and it will remain important, although in an altered way. The relevant question, it seems, is this: What information do 21st century "markets" need from the Department of Agriculture? Three types of information seem likely to be important: (1) benchmarks for spot transactions; (2) benchmarks for contract transactions; and (3) benchmark contracts.

The forces of industrialization notwithstanding, commodity production is not likely to fade away anytime soon in 21st century agriculture. There will remain a need for a solid foundation of supply, demand, and inventory information for basic commodities. But the slate of commodities for which such information is needed will be shorter than in the past. In deciding which commodities to keep and which to cut, consideration should be given to the extent to which the commodity has been "industrialized," and the extent to which private sector alternatives for public information are available and at what cost.

Similarly, even as some commodities shift to contract production, producers and processors will still need basic benchmark information for such contracts. For example, more and more corn producers may shift to special use corn grown under contract instead of #2 yellow bulk corn. Even so, the underlying bulk corn market probably will provide useful information in setting contract terms. Again, some care will need to be taken in deciding which underlying commodities will serve as benchmarks for contracts, and thus which commodity information programs need to continue.

An emerging but potentially highly valuable information need relates to benchmark contracts. As more production goes under contract, producers and policymakers may want to know if the terms of the contracts are "fair." Thus, there may be growing demand for sharing contract terms in aggregate fashion through a survey. The question is, who would conduct such a survey? The private sector or the government? There are few answers to these critical questions today. They deserve far more study and debate.

Global market developments

As U.S. agriculture becomes even more integrated into a global market for food and fiber, the need to assess opportunities and risks abroad will rise significantly. The current Asian economic and financial crisis provides an excellent case in point. There is an immediate need to

assess the impact of economic turbulence on U.S. exports. There is an equally important need to also evaluate the degree to which long term prospects have changed. In each case, detailed export sales information by commodity and product category and by country is needed.

The implications are plain. There is a growing need for timely, accurate export information. Timeliness will be crucial, as the current Asian situation has shown. In addition, better foreign investment information will be needed. While trade is often the focus, investment is almost certainly going to become a more prominent feature of a global food market where alliances frequently cross borders.

Retail market outcomes

While farm level markets have been the primary focus in the past, attention will steadily shift to the supermarket, in my opinion. The issue will be this: How to track retail market outcomes, especially ones that are of primary concern to consumers? For the near future, at least, consumers are likely to have two primary concerns. First, is the food safe? And second, is a more concentrated food and agricultural sector leading to "unfair" competition and higher food prices?

This issue suggests a considerable shift in attention. Historically, USDA has devoted far more attention to farm markets than retail markets. Yet consumers will probably not be satisfied with limited answers to burning questions. The implications are that USDA will need to provide rules which clearly establish a "food safety trail." And, more and better retail price information will be needed to monitor potential anti-competitive actions.

Rural America

Finally, more information will be needed on the performance of the rural economy. The issue will be, How to track a rural economy which is far more diverse than in the past? Rural America is now something of an "orphan." As it has moved beyond agriculture, there is no longer a clear-cut case for making the U.S. Department of Agriculture its primary agency. Still, there remain many logical reasons why USDA is still a good host for rural economic information. Put simply, it is not clear any other agency is in a position to take on the responsibility.

In the rural economy of the next century, there will be two primary implications for rural information. First, public and private decisionmakers will need more complete and more timely rural economic indicators. Currently, rural employment numbers are available with about a two-year lag--a delay far too long to address many current policy questions. Second, there will be a need for much better information on rural financial markets. These markets are receiving a lot of policy attention in Congress, but information is scant, in part because researchers have historically devoted more attention to agricultural credit markets.

WHAT IS THE USDA'S NICHE IN SUPPLYING INFORMATION?

The most important question, of course, is what niche should the USDA fill in the agriculture of the 21st century? Before drawing some conclusions based on the above discussion, it is useful to take account of what the Department of Agriculture's comparative advantage may be. What does the USDA do uniquely or best?

There are clearly a number of information tasks that belong in the USDA. While this list is not exhaustive, it does illustrate some of the types of information where USDA clearly dominates the field:

- Large surveys, such as farm costs and returns or the food consumption survey;
- Surveys on sensitive issues, such as chemical or pesticide use by farmers;
- Key market benchmarks, such as the World Agricultural Supply and Demand Estimates;
- Synthesis of foreign market developments, such as the Foreign Agricultural Trade of the United States.

In light of its comparative advantages and the new priorities outlined above, what are the conclusions for USDA information programs. First, as agriculture moves to a new industry structure, there will be less overall need for commodity market information. Second, while demand will shrink overall, that does not mean there is no need for commodity information. There remains a great need for commodity *benchmarks*. A major unanswered question is who will provide benchmark contract information. Finally, a broader array of information will be needed on global markets, consumer market, and rural America.

Agriculture's world is changing in dramatic ways. These changes are decreasing the need for some USDA commodity information programs while increasing the need for new programs to provide better information on global markets, consumer outcomes and rural America. To return to my analogy at the outset, the USDA has been writing the book on commodity agriculture, but the industry and policymakers now need a wider web of information. Providing that set will likely require eliminating some of the old chapters on some commodities.