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1994

# *Sustainable Agriculture:*

People, Products,  
and Profits



Leopold Center for Sustainable Agriculture  
1994 Conference Proceedings

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# Acknowledgments

To hold its fourth annual conference, Leopold Center staff relied on help from a variety of sources:

Iowa State University President Martin Jischke welcomed the attendees. ISU Professor of Animal Science and Leopold Center Advisory Board President Allen Trenkle moderated the general morning session.

Duane Brodie, Cele Burnett, Paul Charter, John Dutcher, Tim Fevold, Gary Huber, Doug McCay, Steve Padgitt, and Jan Stone met with us early in the year to determine the conference theme and focus. Their guidance at this stage was a vital contribution.

Speakers Bill Heffernan, Neil Hamilton, and Amy Barr traveled to Ames and fielded a broad mix of questions from their audiences.

Panelists Denise Chevalier, Steve Daugherty, Bill Holstein, Lindsey Larson, Paul Lasley, Rose Kleyweg

Mitchell, Naomi Maahs, Ralph Neill, Chris Novak, Denise O'Brien, Duane Sand, and Doug Rushing offered their views, answered questions, and engaged conference participants in discussion. Facilitators Ken Prusa and Gerald Schnepf kept these discussions on track.

Harold Wright made available his collection of sustainable-agriculture-related books and other literature, which drew numerous interested browsers during breaks. Mary Holmes, Shelly Gradwell, and April Franksain recorded and summarized the discussion sessions.

Dick Schultz, Joe Colletti, and Jeff Lorimor led the tours; John Creswell served as tour host. Don Baker assisted in transmitting Bill Heffernan's presentation to the Council Bluffs area via the Fiber Optic Network. Mark Redmond of ISU's Speech Communication Department facilitated the listening posts.

Center staff gratefully acknowledge the contributions of these individuals.

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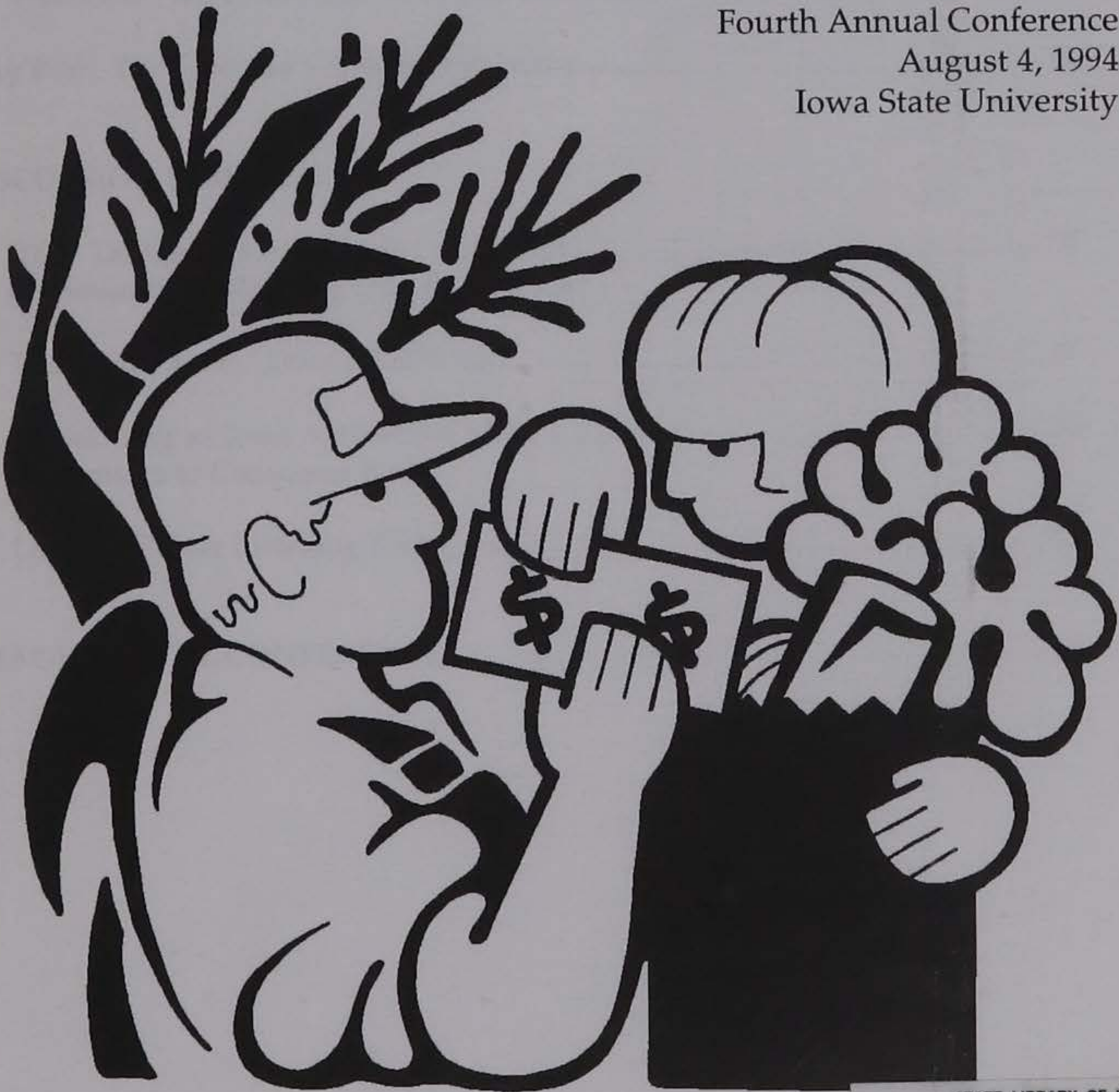
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# *Sustainable Agriculture:*

## People, Products, and Profits

Leopold Center for Sustainable Agriculture  
1994 Conference Proceedings

Fourth Annual Conference  
August 4, 1994  
Iowa State University



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## Foreword

The August 1994 conference involved some 340 persons in a variety of roles: attendees, panelists, speakers, tour leaders, support staff, and others.

Center staff worked hard to develop a program that would present diverse viewpoints from agriculture's stakeholders. Speakers at this conference included farmers, university researchers and extensionists, ag industry, commodity groups, farm management and environmental group representatives, and persons representing retail groceries, wholesale food distributors, and consumers.

These statistics may interest you:

- The conference attracted 291 "official" registrants.
- Nearly a third of those attending were female.
- Iowa State University staff and students accounted for only 30% of the audience; 15% were farmers, and another 15% represented county, state, or federal government. Some 7% of the registrants were non-governmental organizations and another 11% represented ag commodity organizations and industry.
- The remaining 12% consisted of the media, educational institutions outside Iowa, and other interested persons.

More than 60 registrants participated in afternoon tours to view riparian multispecies buffer strips and the ISU Swine Nutrition and Management Research Center; others attended our "listening post," a special feature in our afternoon program designed to solicit ideas about Leopold Center programs.

Diversity is a critical component of sustainable agriculture, and discussion of diverse perspectives on Iowa's agricultural future, among as many stakeholder groups as possible, was one important purpose of this conference. Although not everyone agrees with all the perspectives presented that day (and in this proceedings), all are part of agriculture, and all must be heard and considered. Participants told us they appreciated having time to discuss issues and ask questions.

We are pleased to offer this proceedings, the record of a lively exchange of ideas and information, about *People, Products, and Profits*.

Leopold Center Staff  
October 1994

# Agriculture Without Farmers?

## How Industrialization is Restructuring American Food Production and Threatening the Future of Sustainable Agriculture

Neil Hamilton



Neil Hamilton is the Ellis and Nelle Levitt Distinguished Professor of Law and the Director of the Agricultural Law Center at Drake University Law School. He also is a member of the Leopold Center Advisory Board. He is past president of the American Agricultural Law Association and author of a nation-award winning book, *What Farmers Need to Know about Environmental Law*. He has a B.S. from Iowa State University and holds a juris doctorate from the University of Iowa. As one of the nation's leading experts on the role of law in agriculture, he has written numerous chapters and articles for books and periodicals and conducted seminars throughout the U.S. and in many foreign countries. He grew up on a farm near Lenox and raises shorthorn cattle in Adams County on a farm which has been in his family since 1872.

On behalf of my colleagues on the Leopold Center Advisory Board, thank you for attending this conference, and thank you for your support and interest in the work of the Center. We are very fortunate to have the terrific staff working in the Center and we thank all of them for their efforts.

There are two quotations inscribed on the north wall of USDA headquarters in Washington, D.C. They are:

*No other occupation opens so wide a field for the profitable and agreeable combination of labor with cultivated thought as agriculture. — Abraham Lincoln*

*The husband that Laboreth must be first Partaker of the Fruits. — St. Paul*

In many ways these quotations have defined the role of agriculture in American society for the last 100 years, with opportunities in farming based on economic rewards going first to the producers.

But another timely quotation applies to agriculture. LBJ reportedly said, "Don't spit in the soup; we all have to eat." This is a question we must consider today: are we spitting in our soup when it comes to the future of agriculture?

The reason I think we have to consider this question in LBJ's more earthy manner is due to an emerging conflict between two major developments in agriculture: industrialization and the promotion of sustainable agriculture.

The starting point for our discussion has to be that American agriculture is changing rapidly—becoming more concentrated, more technically advanced, and more integrated with the input and marketing sectors. Thomas Urban, president of Pioneer Hi-Bred International, Inc., the world's largest supplier of hybrid seed, said in a now-famous article:

*Production agriculture in the Western World is now entering the last phase of industrialization—the integration of each step*

*in the food production system. The production is rapidly becoming part of an industrialized food system.*

He describes industrialization as the process whereby the production of goods is restructured under the pressure of increasing levels of capital and technology in a manner which allows for a management system to integrate "each step in the economic process to achieve increasing efficiencies in the use of capital, labor, and technology."

But the thought that American agriculture is in the final stages of becoming industrialized is not welcome by many observers who question whether application of an industrial model to agriculture is in the long-term public interest. People like Marty Strange, of the Center for Rural Affairs, and Wendell Berry question how industrialization can promote the health of either our farms or farm communities. Strange notes:

The principal organizational characteristic of industrial enterprise is the separation of ownership from operation. There are owners (investors) and workers, plus managers who run the affairs of both owners and workers.

Urban and Strange are both talking about what economists refer to as the "structure of agriculture"—the economic organization of agriculture. The structure of agriculture is determined by many factors: the sizes and types of farms, the distribution of wealth, who controls decision making. But it also affects how the food system functions to meet the objectives set by the American public. Another way of looking at the structure of agriculture is to consider who will control agriculture—who will own the land, perform the labor, market the food, and profit from agriculture?

The changing structure of agriculture received the most focused attention in the late 1970s when Bob Berglund, then U.S.

Secretary of Agriculture, initiated a national study and dialogue on the issue. The final report, *A Time to Choose: Summary Report of the Structure of Agriculture*, was completed at the very end of President Carter's term of office. The study was so controversial that there were concerns whether the new administration would even release the final report. It was released, but structure has received little attention in USDA circles since then.

Today the structure of agriculture is again coming into focus as an issue for local and national concern, as the process of industrialization that Urban talks about proceeds across the land.

### ***The Development of Sustainable Agriculture***

But at the same time industrialization has come into focus, another equally important force has been sweeping across American agriculture, and that is the concept of "sustainable agriculture." This development has largely been an outgrowth of increased attention to environmental issues, but it also finds its base in the extension of the ethical and historic structure of farming in the United States. *The basis of the concept is that no agricultural system can be successful in either the short or long term unless it is designed to sustain the resources necessary for its operation.* These resources include both our physical resources, of soil, air, and water, but also human and social resources of farm families, rural communities, and the economic structure necessary for an agrarian system to function.

As Iowans we can take rightful pride that our state, working through the Leopold Center, has played a leading role in helping the nation address sustainable agriculture. Attention to creating a "sustainable agricultural policy" for the United States has led to changes in how we organize and fund agricultural research, how we shape federal farm programs, and how we promote protection of the environment.

*But sustainability is also inexorably linked to the issue of structure, and the forces leading to the industrialization of American agriculture may pose a grave threat to our ability to develop a sustainable agriculture. As a result, we need to explore the linkage between these two developments.*

### **Considering the Contradictions in American Attitudes Toward Agriculture: What Do We Want from Farmers?**

The current situation in agriculture seems filled with ambivalence over what the future holds for American farmers. Farmers have never been more productive or had a wider range of technologies to utilize in producing food and fiber. Nor has our well-fed society ever had the range of food products available or paid so low a portion of its income to obtain them.

But at the same time serious doubts about the health of American agriculture abound. Changes in the economic structure of agriculture may threaten the independence, profitability, and future of the traditional farming system. Questions of agriculture's impact on the environment and about the safety of our food supply are altering how the public sees farming, threatening to diminish generations of good will and political support.

Reflecting on these divergent trends makes one question how the policies to address such issues will be shaped. Undoubtedly we will continue to have farmland, and food will be produced. Consumers will continue to thrive, and they will be presented with an increasingly diverse array of processed foods. But real questions exist over who will produce the food and how it will be raised, who will market it and at what prices. Will these questions be ignored as we content ourselves to let market forces, time, and inattention resolve the issues for us?

Part of the concern about the future of American agricultural policy is a reaction

to a number of contradictions that exist in our attitudes and policies toward agriculture.

The most significant contradiction can be summarized as the question *Can the agriculture we are building yield the harvest we desire?*

It is clear that the public expects agriculture to perform many new tasks—as environmental stewards; producers of safe, abundant, inexpensive food; preservers of rural culture; and engines of rural economic growth. In many ways these are the challenges the family farm and American agriculture have tried to meet in the past. What is new is that the public is now more involved in determining the content of the tasks placed on agriculture.

But at a time when it is clear we expect more of farmers, the structure of agriculture and thus its ability to fulfill these public expectations may be moving the other way. Farm numbers are declining; tenancy is increasing along with farm size; and livestock production is increasingly concentrated in an industrialized structure. Food production has become increasingly specialized to the point where the traditional diversified family farmer with wide knowledge of different crops and farming systems faces increasing obstacles to survival.

The question then is whether we as a nation can develop a food and agriculture system that relies on farmers to play a central role in meeting public goals, or instead, whether agricultural policy will in reality become an industrial food policy?

In many ways this contradiction reflects the relationship of the current trend toward industrialization to our ability to promote a sustainable agriculture. There are many important questions embedded in this tension. Do we care what



shape or structure agriculture assumes? Do we see a linkage between health of rural communities and health of the land and our food? Or is it true that all we care about is the price of our food, and that we assume the land will be cared for and the rural society will exist regardless of how agriculture is structured or who controls the land?

### ***How Industrialization is Affecting Iowa***

The current debate over the industrialization of agriculture is vividly portrayed in a number of issues now being played out across our state. Let's look at the current situation concerning changes in swine production.

In recent months we have seen an explosion of disputes across Iowa focusing on proposals to build new swine units. The tensions have resulted in lawsuits over alleged nuisances due to odors, packed hearing rooms for discussion of proposals to form "agricultural areas," and county officials wondering whether county zoning can be used for large-scale facilities. The issues are never the same in any two disputes, but questions of size, location, impact on the rural environment and quality of life, who owns the facilities, and whether they are for contract production have all been raised.

At the state level the local debates have led to creation of a governor's task force to address the need for better rules to protect Iowa's air and water and control disposal of animal wastes. The legislature will also consider the need for legislation. The debate has triggered serious concerns about the long-term future of swine production in Iowa, an issue complicated by the activities of large swine integrators and packers in neighboring states.

These developments reflect the tension between the economic forces underway in the swine industry, which is moving

rapidly toward a larger scale and more industrialized form, and Iowans' desire to preserve the most important economic component of our agricultural sector.

The stakes are high for all Iowans because the loss or restructuring of our swine industry would seriously test the "sustainability" of thousands of farms and dozens of rural communities alike. But the debate is difficult because there are no clear answers to many of the questions.

One issue in the development of a more highly concentrated swine production system, especially one which relies increasingly on contract production, relates to the role of independent farmers in the future of agriculture. As you think about the role of farmers it is valuable to reflect on how we have traditionally defined what a farmer is.

Ask yourself *is there an agricultural canon*—a body of beliefs or assumptions that define farming in our cultural and social context. Most of us would say there is or at least was. We might identify different factors, but here are common features the canon might contain:

- farmers are independent; they can't be fired, and they don't work for someone else,
- farmers own their property or intend to some day, and thus have a long-term stewardship relation with the land,
- farmers sell their goods on the market and profit from their marketing skills and pricing opportunities,
- farmers may join organizations but they retain control over production and marketing decisions,
- farmers are largely free from government regulation as to production and marketing decisions, and
- farmer-owned cooperatives provide a means for farmers to collectively obtain inputs or access markets.

If we have such a canon, our changing agricultural structure means we are now moving away from this view of farming. If there was a historic progression in agriculture it was a person not born to farming or wealthy enough to buy land, who would begin as "hired man" or laborer. Then, with savings, the worker would become a tenant, building equity to one day own a farm. Once the farm was purchased and the mortgage paid, often with the help of labor-intensive production such as hogs, the "mortgage lifters," the farm family might expand their "owner occupied" farm. The opportunity to own their own land, to be their own boss, and accumulate wealth to pass on to their children were the ideals which attracted and motivated millions of farm families throughout our nation's history.

Consider how in recent years we have begun to replace this traditional progression of farm structure. First came the "lesson" of the farm crisis, which taught it is not wise to own all of the land you farm; instead the wise farmer will use leases to leverage equity in equipment and let other investors carry the risk of land ownership.

Many factors have now resulted in increasing levels of tenancy in American agriculture approaching those of the Depression years, when tenancy rates were considered a grave national concern. Now comes the onset of "industrialization" and the movement of processors and suppliers into food production, often through contract production.

While the merits of industrialization are praised by some in agriculture, it promises to take much of agriculture one step further back down the progression. While contract production of livestock may be seen by some as a way to share risks, it can also turn farmers into low-paid, piece-work employees on their own land, in everything but name.

Bill Haws, CEO of National Farms, Inc., one of the nation's largest and most successful corporate farms, views the development of contract production of livestock and increased vertical integration with anticipation and promise. He characterizes the history of broiler production, where roughly 100 producers now raise most of the chickens in the United States, as the model for the future of the pork and beef sectors. He believes such an integrated production system will offer consumers lower-priced, efficiently produced foods of uniform quality.

*Do we as a nation really want to trade a diverse system of independent family farms for the opportunity to turn farmers into employees of food marketing conglomerates, just so we can buy a more uniform pork chop for perhaps a few pennies less a pound? But that is what explanations for industrialization pretty much boil down to—lower cost, more uniform food. There is little claim farmers will be better off, or the land will be better treated, or rural communities will be healthier, or even that the food will be better quality or more nutritious—it will just be cheaper.*

One of the more ironic justifications offered for industrialization is the idea that it is merely a response to consumer demands. It is true that consumer tastes may determine which foods are in demand, but it is questionable that consumer demands are a driving force in promoting shifts in the structure of food production systems. If consumers want lean pork, farmers can produce it without doing so under contract to packers. To argue that farm production must be restructured because of demands by "discriminating consumers" is to be disingenuous about the methods of modern food marketing and the interests of consumers.

Most consumers do not know how the food they buy is produced or by whom, but it is reasonable to suggest that if

given a choice between foods produced by an independent family farmer or by employees of large conglomerates, most consumers would side with the farmer. If we took a survey it might even indicate that if consumers had this information they would be willing to pay more for the food. Consumer preference for "farm-produced food" is why companies continue to rely heavily on labels touting "farm produced" and traditional rural images in the ad campaigns. The reality may be that we are rapidly converting farmers into low-wage employees, but the images in food commercials will never tell this story.

The willingness of the agricultural industry to hide behind a justification of "consumers are making us do it" allows the sector to mask the true reason why processors and suppliers are rapidly moving into food production. The truth is that they have determined integrating into production is a ripe area for additional profits.

There is nothing un-American about seeking to make a profit, but let's be honest about the motivations. *The opportunity for profits is especially attractive when integration can be done in ways which limit the risk of loss, as is the case in most forms of agricultural industrialization.*

The use of short-term contracts allow contractors to decrease or end production in the face of declining prices, but the producers remain responsible for paying the costs of production facilities—the notes and mortgages on the buildings. Contracts typically place the risks of mortality and environmental compliance on producers, and many contracts use a pricing and payment mechanism that producers find impossible to decipher.

The opportunities for increased profits from food production are especially real when you don't have to own the farm

but instead can own the crop and in some ways the farmer.

But if industrialization does occur, will consumers even know such a change has happened, and if so, will they even care? There will still be people doing the hard work which is agriculture—driving the tractors, farrowing the sows, harvesting the grain. The change may in fact be unnoticed by most people, except those who will ultimately feel the consequences—farmers and rural communities. But if this structural change does happen, there is one important question we will need to ask—do we still call the people who do the work farmers?

I asked Mr. Haws at the American Bankers Association Agricultural Bankers conference, in Dallas in November 1993, if the people who tend their corporate sows are "farmers." He answered without hesitation, "Of course they are." But one wonders if the workers were asked the question whether they would answer the same way. Do tellers in the bank fool themselves into believing they are the bankers? Of course not. An employee knows all too well what makes the difference between who is the boss and who is the employee.

There are three good questions to ask yourself if you are confused on the issue. Does someone sign your paycheck? Does someone tell you what work to do? Can you be fired? In some ways these three questions have been a historic test of farming. Traditionally, American farmers could answer all with a loud no. Farmers should be asking themselves these questions today as they consider how industrialization may affect them.

But does it really matter to society whether the people who do the work in agriculture are farmers in the traditional sense, or instead are employees of industrialized agriculture? I believe there are many reasons why it should matter, both

to farmers and to society. The status of food producers as farmers or workers influences many aspects of food policy.

The **first** important question is who we will need to address as the decision-makers for agriculture on matters such as environmental protection or adoption of new technologies. If the real decision makers are the integrators, then why bother trying to educate "farmers" about the need for environmental protection or spend public cost-sharing to induce their compliance? It will be easier to just deal with the handful of companies really controlling the decisions on the land.

If this occurs, the **second** question may become easier to answer: What methods should society use for achieving desired environmental goals? Consider the issue of water quality protection. Rather than fund a program of cooperative education and economic incentives designed for a diverse system of farmers, couldn't industrial agriculture be more easily and effectively regulated by uniform mandates? The regulations can be implemented as a cost of doing business and the costs passed on to consumers in higher prices. While corporate integrators will no doubt use the image of the "family farmer as the best steward" to oppose such approaches, society should be willing to test the reality of the production system integrators develop.

A **third** important question for society will be how to justify various economic programs related to agriculture. Whether the issue is continuing federal farm programs, eligibility for property tax exemptions and homestead credits, or claims to special estate tax valuations, the need for or purpose of such programs may disappear if independent family farmers no longer exist. Why should society worry about assisting farmers in passing the operation on to the next generation, if this generation has voluntarily waived their franchise on independence?

A **fourth** question relating to the distinction between "farmer" and "employee" concerns the self-image of producers, or how they see themselves. Will farmers continue to consider themselves stewards of the land working for the good of society, striving to build an economically and environmentally sustainable operation to pass to their children? Or will they come to recognize that they have become employees, or even less, in a system where the promise of profits and risk sharing has become a reality of risk-shifting and servitude? As Americans, especially in the Midwest, we must ask ourselves if we are building a concentrated system of land ownership and economic control over agriculture not unlike that faced and fled by our ancestors in lands far in time and memory.

If the reality of industrialization is to yield an "agriculture without farmers," society must recognize how it will change the very nature of the laws and programs that become priorities to those who work in agriculture. Rather than the key issues being new export markets and the level of cash prices or government supports, the driving concerns for the new class of farm workers will be what is in their employee benefit package and whether "sitting up with the corporate sow" will include pension benefits and health care.

A **final** impact of this changing structure relates to who will benefit from the future opportunities in agriculture. The emergence of biotechnology and its promise of increased productivity, new and expanding export markets for high value products such as pork, and the continuing need to provide for a burgeoning world population are all factors that create optimism for the future economic opportunities in agricultural production. This potential is not lost on the processors and suppliers who are rapidly integrating into food production; in fact it helps explain their actions. *The concern for us should be whether at a time when the*

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*promise of agriculture profits may become most real, will there be any "farmers" left to take advantage of the opportunities?*

Can the reality of industrialization be so bad? And if it is, why would farmers voluntarily lose grip on their futures and freely give up their vaunted independence? The first answer, of course, must be that it is too early to tell whether producers will in fact trade their role as "farmer" for that of corporate employee. If it does happen, as trends indicate it could, there will be several likely explanations.

**First**, farmers may not recognize it as such. They trust the companies with which they deal and are sure they will be treated fairly in new production and marketing arrangements.

**Second**, perhaps some farmers don't want independence, especially if the reality of it is low returns and the opportunity to work hard and live in debt. You can't pay the bills with independence, especially if society and consumers won't support farmers in the marketplace.

**Third**, from a financial standpoint some producers might not have any alternative but to look for economic linkages with integrators.

**Fourth**, perhaps the most significant reason why structural change is reshaping agriculture and reducing the independence of farmers is because we are not working hard enough to provide alternative opportunities to allow farmers to seek profits and remain independent.

This should be the role of the land grant universities, of farm organizations, of cooperatives, of government, and of the legal system. Unfortunately, in many ways the institutions to which farmers should be able to turn for assistance are, with few exceptions, willing participants in the restructuring of agriculture. The

agricultural business sector does not need public assistance in devising ways to maximize profits or increase agricultural spending by farmers; it is very successful at that. But farmers do need assistance in opening new markets, reducing production costs, and increasing the share of the food dollar retained on the farm, if they are to maintain their economic independence.

### ***What is the Relationship Between Sustainability and the Structure of Agriculture?***

The promotion of the concept of "sustainable agriculture" has been one of the central policy and scientific developments of recent years. Much of the attention to sustainability has focused on scientific research to reduce use of purchased inputs, such as pesticides and fertilizers, in an effort to protect environmental quality and increase farm returns. While most of the work in sustainable agriculture has been agronomic, it is important to recognize the important linkage between the economic structure of agriculture and the development of a sustainable agricultural system.

For an agricultural production system to be sustainable it cannot just deal with soil and water or price and income. The system must also consider the farmers, their families, and the rural communities that make up the cultural structure of an agrarian system. If agriculture is to thrive, there have to be people in the equation because the people are the actors to whom the knowledge and advice of the research community is directed. It is the farmers and their families who care about preserving the quality of the land they farm and building an economically viable operation through which to accumulate wealth and acquire the resources with which to live. It is the people in an agricultural system who act as the transfer agents for knowledge and wisdom across generations. For these reasons most definitions of "sustainable

agriculture" include references to either people or the social structure of agriculture.

The definition of "sustainable agriculture" in the law creating Iowa's Leopold Center for Sustainable Agriculture is "the appropriate use of crop and livestock systems and agricultural inputs supporting those activities which maintain economic and social viability while preserving the high productivity and quality of Iowa's land." The references to "social viability" and "appropriate use" are both clear mandates to include a structural component in discussions of sustainability. However, for a number of reasons, public research efforts concerning sustainability have found it difficult to address the cultural component.

Perhaps the most significant obstacle to including questions of structure and social policy in sustainable agriculture research is that it is impossible to address the issue without immediately encountering difficult "political" issues that are very controversial in the agricultural community. If the public is going to fund research on swine nutrition, improved animal waste handling, and lower-cost building design, isn't it also reasonable to address questions concerning the rapid structural change going on in swine production? If we don't, we might wake up to find we have developed some lovely research on how to raise hogs, but now the hogs are all owned by vertically integrated food conglomerates rather than independent producers—or are raised in a size and scale of operation that have resulted in changing societal attitudes or laws about their acceptability. Isn't that what we are facing in Iowa today?

To address structural issues in swine production would require considering topics such as fairness of contract production terms, restrictions on packer feeding of swine, and the legality of

packer premiums for large marketers. But these issues are politically controversial and there is little attraction for researchers to embrace such topics or research social and structural questions.

It is much easier to research whether an alternative pest control practice is effective than it is to determine whether there is a maximum "appropriate" size to farrowing operations. Production issues deal with observable and quantifiable "scientific" facts, while the issue of what is "appropriate" does not have a definite answer but instead must be grounded on a set of beliefs about what structure of agriculture is best for the land and people. In addition, the scientific questions are directed at production enhancement, the traditional objective of most agricultural research in our nation's history, while consideration of issues of "social viability" may not find an answer through the scientific tools of today's researcher.

But this does not mean all is lost at the land grant universities. Efforts to promote sustainable agriculture at Iowa State University have generally been met with a warm reception by the agricultural research community. This is demonstrated by the broad research agendas of the interdisciplinary issue teams developed by the Leopold Center. The challenge now is to see that issues of structural change and social policy are recognized, accepted, and embraced as part of the research agenda.

### ***What We Should Do to Confront Structural Change in Agriculture***

The changing structure of agriculture is the subject of growing attention and discussion in farm policy circles. Peoples' reactions are largely influenced by their location in the food production system and their understanding or perception of the effect of the changes. As a result, whether the coming industrialization of agriculture is viewed as good or bad de-

depends on who is asked and where they sit. Even so, it is still necessary to ask: What should we do to confront structural change toward industrialization in agricultural production? How can industrialization be made compatible with sustainability? The answers to these questions will take the input and counsel of all of us in this room, but here are several obvious suggestions.

**First**, as a nation we need to re-ignite the debate over industrialization, so we can recognize the trend and its implications. Secretary Berglund tried to do so in the late 1970s but with only limited success. Perhaps it is time, if it is not already too late, for the nation to have a thorough discussion about what we want from agriculture and how the farming sector needs to be structured to best deliver what society wants.

**Second**, as part of the review of industrialization it may become apparent that some of the economic relations being created need to be regulated. Undoubtedly agriculture will continue to change and evolve, but society, farmers, and the rural sector do not need to lay supine, accepting industrialization as inevitable regardless of the form. While some economic and social forces driving it may be irreversible, this does not mean the process cannot be shaped by government policies and laws.

**Third**, as part of the effort to shape and preserve the future of farming, more attention must be given to developing alternative marketing and production structures that allow farmers to maintain their economic independence while prospering economically. We must recognize that a central key to a sustainable agriculture is a profitable agriculture for farmers.

This is not an idle or empty wish. There are a number of innovative mechanisms we can use. These include **developing**

**composition-based grain-marketing systems** that allow farmers to produce value-added crops and market them at higher prices in the traditional public marketplace, thus giving them access to new crops and an alternative to contract production. A resurgence of interest in using and **forming local farmer cooperatives** could provide a mechanism for producers to form economic linkages to develop opportunities for processing and marketing of their production. **Developing swine marketing networks** that offer independent producers an alternative to vertical integration are a related tool that may exist to stem industrialization of production. In recent months there have been important developments in Iowa on all these issues. These developments need to be encouraged.

**Fourth**, there already exist institutions in agriculture which should be ideally suited and eager to carry the responsibility for finding innovative solutions to protecting the future of farmers. The land grant universities and the research and extension system were created partly for this purpose. They should be given the charge and responsibility for helping to lead the effort. The universities have a self interest in doing so, because if farming ceases to exist as an independent activity, then much of the justification for the very existence of the agricultural research and extension system has disappeared.

**Fifth**, as part of the effort to develop an agricultural and food policy that preserves the independence of farming, there will be opportunities to develop federal farm programs that reflect our commitment to a family farm structure. The rhetoric contained in various agricultural laws shows we pay considerable lip service to maintaining an independent farming structure in the United States. How we confront the current trend to industrialization will provide

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lawmakers with the opportunity to put their money where their mouths are and test the depth of our commitment to farming.

The recent GATT accord on agriculture and domestic budgetary concerns will fuel demands for reforms in the structure of existing farm programs. Many of the ideas being promoted as possible reforms, such as revenue assurance, are unfortunately almost silent on conservation, environment, and structural issues. The GATT agricultural agreement clearly provides the authority and opportunity for us to develop and fund conservation and environmental programs for agriculture.

The Green Box approach offers us a way not just to de-couple farm programs but to re-couple them to environmental aims, much as the Europeans are now doing with CAP reforms. Our existing farm programs are now the primary force for the "delivery" of soil and water quality protections. No one seems to talk about how these goals will be achieved if we dismantle the current programs. There is no reason to expect that public demands for environmental stewardship will disappear just because farm programs might. If the farm programs do not exist, the public demand will

most likely find expression in regulatory approaches to protect soil and water. If we miss this opportunity to take the money now used for price and income supports and convert it into "GATTable" environmental and conservation programs, agriculture will have missed the opportunity to make a rightful claim for public support to protect the environment. We as a nation will also have missed an important opportunity to promote sustainable agriculture.

Finally, an essential part of the effort in joining a national debate about the future of farming will be to educate consumers about how our food is produced. This effort must include an explanation of why the form of our agriculture matters. Only if the nation's consumers realize they have a stake in the future of farming will it be possible to actively shape agriculture rather than passively watch it change. Only if we consumers can be convinced that our actions—what foods we buy and from whom—as well as the farm programs we support are key elements in preserving a productive, sustainable, and most importantly, farmer-owned and operated agricultural system, will the future of agriculture include a role for farmers. If this effort fails, there will be a future for agriculture, but it may be one without farmers.



# Agricultural Profits: Who Gets Them Now, and Who Will in the Future?

William D. Heffernan



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United States agriculture is often held up as a model of a competitive economic system. If one uses as a definition of a competitive system the criterion that there are enough buyers and sellers that no one firm is able to affect the price, then we no longer have a competitive agriculture sector in the United States. Although the United States has over one million farmers (the number depends on the definition one uses) and millions of food consumers in the United States and other countries of the world, there are only a few processing firms. The food system resembles an hourglass with many producers and millions of consumers, but the few firms that control the processing are in position to control the food industry. Thus, these firms receive a disproportionate share of the economic benefits from the food system. I will begin by looking at the U.S. food system and then move to a discussion of the global food system.

## **Concentration of U.S. Markets for Farm Commodities**

To summarize the U.S. food system, there are three major points to be made.

First, a few companies control the processing segment for each of the major agricultural commodities. Since the processing segment purchases the agricultural commodity from the farmer, this means there are relatively few markets for each of the major agricultural commodities.

Data in Table 1 indicate that four firms control forty percent or more of the markets for each commodity. Recognizing cultural differences, there is a general assumption that when four firms control 40 percent or more of the market, the market no longer behaves as a competitive market. The conclusion to be drawn is that for poultry meat, cattle, pork, sheep, wheat, soybeans and corn processing, United States farmers no longer sell in a competitive market.

The second point to be made from the table is that a few firms—names like ConAgra, Cargill, Archer Daniels Midland, Bunge, and IBP several commodities—appear on the list of several commodities. In many countries the concentration is even greater.

**Table 1. Names of Largest Four Firms and Percent Market Share they Control\***

<b>Broilers:</b>	<i>Largest four control 44% of production</i> Tyson ConAgra Gold Kist Perdue Farms
<b>Beef:</b>	<i>Largest four control 72% of slaughter</i> IBP ConAgra Cargill Farmland
<b>Beef Feedlots:</b>	<i>Twenty feedlots market over 50% of the fed beef</i> Continental Grain Cactus Feeders ConAgra (Monfort) Cargill (Caprock)
<b>Pork Slaughter:</b>	<i>Largest four control 45% of pork slaughter</i> IBP ConAgra Cargill (Excel) Sara Lee
<b>Sheep Slaughter:</b>	<i>Largest four control 70% of sheep slaughter</i> ConAgra Superior Packing High Country Denver Lamb
<b>Turkey:</b>	<i>Largest four control 35% of the production</i> ConAgra Rocco Turkeys Hormel (Jennie-O) Carolina Turkeys
<b>Flour Milling:</b>	<i>Largest four control 71% of milling</i> ConAgra Archer Daniels Midland Cargill General Mills
<b>Soybean Crushing:</b>	<i>Largest four control 76% of the processing</i> Archer Daniels Midland Cargill Bunge Ag Processors
<b>Dry Corn Milling:</b>	<i>Largest four control 57% of the milling</i> Bunge Illinois Cereal Mills Archer Daniels Midland ConAgra (Lincoln Grain)
<b>Wet Corn Milling:</b>	<i>Largest four control 74% of the milling</i> Archer Daniels Midland Cargill Tate and Lyle CPC

\*SOURCE: Concentration of Agricultural Markets - Summer 1993

The third point to be made, which is not obvious from the table, is that a few of these firms control the food system from "seed to shelf." This vertical integration of the food system that has occurred relatively recently can best be understood by examining an example of such a firm. I will use ConAgra as an example.

According to ConAgra's annual report, ConAgra is the largest distributor of agricultural chemicals in North America, one of the largest fertilizer producers and, in 1990, it entered the seed business. ConAgra owns over a hundred elevators (both local and terminal), 2000 railroad cars and 1100 barges. ConAgra is the largest turkey producer and second largest broiler producer, producing its own poultry feed as well as other livestock feed, and it owns and operates hatcheries. ConAgra hires growers to raise its birds and processes the birds in its own facilities. This poultry meat can then be purchased as fryers under the name of Country Skillet or in further processed foods such as TV dinners and pot pies under the labels of Banquet and Beatrice Foods. ConAgra's acquisition of Beatrice gave it "center of the plate" brand names such as Swift Butterball Turkeys, Hunt's, Peter Pan, and Orville Redenbacher. ConAgra is the second largest food processor in the United States and fourth largest in the world.

The largest food processor is Philip Morris, which includes names such as General Foods, Kraft Foods, Miller Beer, Marlboro, Louis Rich Turkeys and Oscar Mayer. After Philip Morris bought Kraft Foods, food industry analysts reported that ten cents of every dollar spent on food in the United States goes to them. Philip Morris is also the second largest food processor in the world. With this type of an integrated food system, one can ask: Where do farmers fit into the overall production process, and how do the farm family and the rural community benefit?

### ***Consequences of Concentration***

The ownership and control of the processing sector, and increasingly the production sector, by firms located in places quite distant from the rural community where the production and processing takes place have major economic consequences for the local community.

In a family business (family farm, family clothing store or family grocery store), the family subtracts its annual expenses from its income to determine profits that are allocated among labor, management, and capital. For the economic well-being of the family and the rural community, it makes little difference how the profits are allocated among the three costs of labor, management and capital. The local family spends much of the "profit" in the local community. In the past when family businesses were the predominant system in rural communities, researchers talked of multiplier effects of three and four. Newly generated dollars in the agricultural sector would circulate in the community, changing hands from one merchant to another three or four times before leaving the rural communities. This greatly enhanced the economic viability of the community.

Large non-local corporations, agri-business firms or retail firms, see labor as just another input cost to be purchased as cheaply as possible. The "profits" then are allocated to return on management and capital and are usually taken immediately from the rural community. They go to the company's headquarters or, if the corporation is a transnational corporation (TNC), the "profits" are very likely invested somewhere else in the world.

In the case of the non-local corporation, the only economic benefits to the farm families and rural communities are the economic benefits from labor. Since the corporation sees labor as just another expense, it attempts to purchase the labor as cheaply as possible.

The food sector of the economy is second only to the pharmaceutical sector in terms of return on investment. But the concentration of control by a few firms suggests the economic benefits are not shared equally by all portions of the food sector. Farm management data from states such as Missouri, Iowa, Illinois, and Nebraska indicate that the most economically profitable farms receive perhaps a three to five percent return on their investment. If a farm family has a sizeable debt, interest payments soon destroy the economic base of the operation.

In the past decade, thousands of farmers forced from their farms for economic reasons. Meanwhile, the large food firms expect to receive over 20 percent return on their investment. In the past five years, ConAgra, for example, has earned a 22.8% return on its investment.

### ***World Concentration of the Food System***

In the past few years, the changes occurring in the United States have also been occurring worldwide. Familiar names like ConAgra, Archer Daniels Midland, Mitsubishi and Cargill (which operates in over 60 countries) are beginning to spread their control worldwide. Three examples will help to elaborate the point.

The first example underscores the movement of these TNCs into the United States and how these large TNCs often work together to dominate a market. Ferruzzi, from Italy, joined forces with Mitsubishi, from Japan, to establish Innovative Pork Concepts (Indiana Packing), which recently constructed state-of-the-art hog slaughtering facilities in Indiana. They then developed an agreement with Cotswold Pig Development Company, one of England's primary breeding companies, to provide the genetic stock for this highly controlled production and processing of pork.

The second example of the changing world food system focuses on the beef in-

dustry. In the past few years, the Canadian beef industry has been restructured as a result of the TNCs. In 1987, shortly after ConAgra acquired Monfort beef operations, the dominant beef facility in what is referred to as the northern Great Plains of the United States, Cargill moved across the border into Alberta, Canada, to set up a large beef slaughtering operation. At the time Canada Packers was Canada's largest manufacturer of livestock and poultry feeds, the largest cattle slaughterer, its only national poultry processor and Ontario's largest hog slaughterer.

Shortly thereafter, Canada Packers began experiencing very difficult economic times. It was bought by Hilldown Holdings, Europe's largest fresh meat processor and manufacturer of value-added meat products, the United Kingdom's largest poultry processor and manufacturer of value-added egg and poultry products, and its largest canner of fruits and vegetables. Hilldown Holdings also owns Maple Leaf Mills, Canada's second largest flour miller. Hilldown Holdings recently announced that Canada Packers was exiting the fresh beef market. In the last couple of years, Mitsubishi has indicated its interest in developing beef slaughter operations in Canada.

At about the same time, ConAgra purchased half interest in Elders of Australia. Elders was the dominant beef slaughter operation in Australia and the largest beef and lamb exporter in the world. Shortly after ConAgra purchased Elders, Mitsubishi began to invest in the beef slaughter industry in Australia and most recently, Cargill purchased beef slaughter facilities in Australia. Cargill also has beef operations in countries such as Brazil, Honduras, and Mexico. With ConAgra having trading offices in 23 countries and Cargill operating in over 60 countries, it is clear that the three TNCs are rapidly moving into position to control the world beef industry.

A third example of the changing world structure of the food system comes from Thailand and represents, perhaps, the best example of how the TNCs operate across national borders. In this case, Cargill from Country A (United States) developed a joint venture with Nippon Meat Packers from Country B (Japan) in Country C (Thailand) and set up a poultry production and processing operation with the primary purpose of selling the product into Country B (Japan) and Countries D (Asian countries). The operation is called Sun Valley Thailand.

Ten years ago, Thailand was not thought to be an important commercial producer of poultry. Cargill took the nutritional information, the genetic stock, the information on buildings and even the social/economic contract between the integrating firm and the grower from the United States to Thailand. In Thailand, they found both farmers and those who would work in the processing companies willing to work for much lower wages than would farmers and workers in the United States. Processing plant wage rates are well under \$5 per day in rural Thailand. Nippon Meat Packers, the largest meatpacker in Japan, provides the marketing and distribution system in the Far East. Today, Thailand ranks sixth in the world as an exporter of poultry.

What we see in Thailand is an excellent example of the organization of the new global food system. The Thailand example underscores the fact that in the global food system, both capital and technology are highly mobile. Both the capital and technology can be transferred to any country in the world, almost instantaneously. Organizational arrangements such as Sun Valley Thailand take advantage of each partner's strength—Cargill supplies the production technology and social relations, Nippon Meat Packers supplies the access to markets, and Thailand provides the

low cost feed and labor plus a "friendly business climate."

Given that capital and technology are constants, the four major costs of producing meat are labor, feed, transportation, and government regulations (such as those applied to the environment or the health and well-being of farmers and other workers in the food system). This means that the TNCs roam the world "sourcing their inputs" as cheaply as possible. If two countries have an adequate transportation system and feed availability, the question is this: In which country will the farmer provide labor at the lowest cost, both in terms of income earned and working conditions which include health issues? The other implicit question is, where might they exploit the environment with least government interference? In a sense, the TNCs are seeking to get the world's farmers and countries to compete rather than cooperate with one another. Countries that succeed in attracting TNC investment may do so at high cost to their environment and to their workers.

Tracing the ownership and control of the world food system is not easy because TNCs often buy national firms and continue to use the original name in the country rather than the name of the TNC. In addition, TNCs often enter a new market by forming a joint venture with an national firm. In such a global food system, the importance of federal governments in controlling the food system declines as the TNCs gain more power. For example, if a firm in Korea orders beef from ConAgra, Cargill or Mitsubishi, it is these firms, not the Australian, United States, Canadian or Japanese governments, that control the origin of the product. The point is that firms trade with firms rather than countries trading with countries, which implies that the importance of governmental policy in shaping the world food system declines as the role of TNCs increases.

This new global food system is not just a concern to farmers. There are many other persons and groups raising questions about the implications of the system. For example, environmentalists are concerned about the ecological implications because of the efforts to circumvent government regulations. Consumers are concerned about quality issues, safety issues, and especially the sustainability or food security issue. There are animal welfare issues, rural development issues, labor issues and ethical issues to be raised. One of the major ethical issues focuses on the fact that many of the economically desperate farmers are in the "have-not" nations of the world. Often these farmers will work for less income because there are few or no other job alternatives. This means that much of the food will be produced in the "have-not" nations of the world, but the TNCs transport it to the "have" nations of the world where consumers have adequate income to buy the food. This pattern will continue the distortion in the inequality of food availability around world. Farmers can find other allies in helping them address the social issues surrounding this new world food system.

Farmers of the world need to understand the new global food system, how it is evolving, how it attempts to create competition among farmers of the world, and how it affects other individuals and groups who have a major interest in the structure of the world food system.

The common saying today is: "Farmers must understand the global food system and how they fit into it." I suggest: "Farmers must understand the global

system and how they can unhook from it." When a farm family uses a rotation to reduce the use of pesticides or uses a legume in the rotation to reduce the need for purchased nitrogen, they are beginning to unhook from the system. Likewise, when a family individually, or collectively with other farm families, seeks to market their product as a food (and not a commodity) directly to the consumer, they are beginning to unhook from the global food system.

The factory system of agricultural production that is evolving today in the animal segment is similar to the factory system of the industrial sector. In it managers are hired to do the thinking and workers are to follow directives. Frederick Taylor, father of scientific management, felt workers should not spend time thinking since it slowed the work activities. In the sustainable agriculture paradigm, the farm family is constantly appraising their resource base to determine better ways of producing. The major relative advantage farmers in the United States, and other western countries, have over peasants in non-industrialized countries is their strong educational background and outstanding managerial abilities.

Sustainable agriculture takes advantage of these attributes. The factory system, which does not want the worker to think, will move toward those countries where the workers cost the least. The competing paradigms raise questions not only about whether we will have a sustainable agriculture in this country, but about whether we will have a sustainable food system in the United States.

# The Consumer's Stake in Agriculture

Amy Barr



As Director of the Good Housekeeping Institute, the research and service/editorial area of Good Housekeeping magazine, Amy Barr guides investigations of consumer products ranging from microwave popcorn to paints. A registered dietician, she has worked at the Food Marketing Institute in Washington, D.C., and at General Foods in White Plains, N.Y. Among her many affiliations are the American Dietetic Association, Institute of Food Technologists, and advisory roles for the American Egg Board and the Scientific Advisory Committee of the United Soybean Board. She also sits on the National Advisory Committee for the Food Safety and Inspection Service of the USDA. She holds an undergraduate degree in nutrition from the University of Nebraska and master's degrees in nutrition education and science journalism from Tufts University and Boston University, respectively.

You may wonder why a spokesperson from *Good Housekeeping* in New York City is coming here to the Midwest to address you agricultural experts on "The Consumer's Stake in Agriculture."

One good reason comes from widely quoted American colonial farmer J. Hector St. John de Crevecoeur. Around 1782, he penned a letter to a friend overseas; this letter has become known as "Thoughts of an American Farmer on Various Rural Subjects." He noted:

*The philosopher's stone of an American farmer is to do everything within his own family, to trouble his neighbors by borrowing as little as possible, and to abstain from buying European commodities. He that follows that golden rule and has a good wife is almost sure of succeeding.*

Well, I represent the "wife" part! With almost 28 million readers (26 million are women and the other 2 million are men—mainly because we women leave the latest issue of *Good Housekeeping* in the bathroom), we at *Good Housekeeping*

listen very carefully to what our readers are thinking. If we don't, we'd soon lose our readers' interest and my magazine—which is well over 100 years old—would cease to exist. In short, as a "women's service book," we need to answer our readers' concerns and questions. Further, I will later discuss the fact that women consumers are the most influential consumer group when it comes to food and agricultural issues.

Now the other reason I'm here is because I grew up on a Nebraska farm and my parents and two of my brothers still farm. How does a Nebraska native who grew up near a hometown of approximately 180 people (on a good day!) function in the largest city in the world? A good sense of Midwestern humor certainly helps! I can tell you quite frankly that farm kids can cope better in a city environment than the city kids can handle rural life. Why? Because agriculture provides the base for much of urban daily life. City dwellers just don't realize the fact. A statement from the W. K. Kellogg Foundation best summarizes the reality: "The production of food—agri-

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culture—is the basic human enterprise, yet each decade fewer people have a full appreciation for its reality....”

The further this country moves from the farm, the less the “average consumer” understands about any aspect of agriculture. And I can tell a hundred humorous stories: My city slicker girlfriend who came home with me to the farm and asked my dad, on viewing our large swine production, what he’d named each of the hogs. A New York City co-worker who asked me how we ground our farm wheat for flour. (You may laugh along with me on this one, but give the woman credit; at least she knew that wheat could be ground into flour!)

Basically, most consumers are simply unaware of their stake in agriculture. Because we are such a wealthy nation, we enjoy abundant, high-quality food and clean water. One only has to reflect on the recent covers of *Time* or *Newsweek* to be reminded that Rwanda—and much of the world’s population—can expect neither.

Many of my co-workers’ ancestors arrived in New York following Ireland’s potato famine. Few, if any, of us could appreciate such hunger or even imagine it. As a dietitian, I often tell people how fortunate they are that they have the *luxury* of deciding to become a vegetarian. Only a wealthy country provides them that gift.

In general, food has been uncoupled from agriculture. Blame the post-World War II advent of products like Betty Crocker cake mixes and Frito Lay Fritos. My mother fell in love with these products and the food industry continued to supply more and more convenience foods that came from boxes featuring pretty colors and recipes.

In essence, we farmers have served as our own worst enemies. Our overwhelming success as the breadbasket of

the world allows American consumers the “hobby” of worrying about pesticides, additives, preservatives and all the new and often “scary” sounding technology that has made our food supply the safest and most abundant ever. Most consumers don’t realize that our food is very cheap and that we spend only slightly over 11% of our personal incomes on food, compared with Japan’s 21%, Italy’s 26%, Greece’s 42% and China’s 53%, to name a few.

So the average consumer’s food interests and knowledge do not match. Essentially, most consumers’ experience with food starts at the supermarket door and ends at the garbage disposal. Can you blame them? We farmers have become so efficient that we’ve lost our strength in numbers. Today, less than 5 million people live on the farm, compared to 29.8 million in 1900.

Consumers don’t feel they need to know where food comes from. On the other hand, the increase in “food terrorist” scares like Alar, Chilean grapes, BST and the like can only alarm an agriculturally ignorant consumer audience. How best can we balance consumers’ interests (or lack of them) and the importance of our progressing with efficient, high-tech food production?

This food-fear movement coincides with the technological surges in modern medicine and health care. We consumers soon learned that what we ate or didn’t consume would affect our health.

Finally, we in the media, many having no experience or expertise in food-, health-, and agricultural-related topics, are generating sensationalist news stories that often add to consumers’ confusion. According to Richard Saul Wurman, author and social scientist, the overload has led to “Information Anxiety.” He defines this phenomenon as “...a black hole between data and knowledge. It occurs when information we re-



ceive doesn't tell us what we want or need to know." Thus, the information explosion has backfired, leaving consumers inundated with facts, but starved for understanding.

### **Getting the Message Across**

First, I'll discuss a new piece of consumer research that details who we need to reach with agricultural information. Then I will review some specific topics and my experiences in dealing with consumers' concerns toward various food issues.

So who should the agricultural community elect to serve as spokespeople who can most effectively deliver appropriate and accurate messages to consumers? The answer, according to the Agricultural Council of America, is farmers themselves. Revealing new data from a study conducted for the ACA by Saatchi & Saatchi Advertising shows that the public has a positive image of ag producers. Consumers like farmers and ranchers and hold them in high esteem.

As a spokesperson for *Good Housekeeping Magazine*, I am pleased to learn that, far higher on the credibility scale than government officials and scientists, farmers and especially women (moms!) are the most believable. Further, women are involved in the operation of more than 130,000 farms. What's more, families or individuals own 87 percent of today's farms, totaling 65 percent of total farm acreage. This is definitely my *Good Housekeeping* reader!

Not only is the *Good Housekeeping* audience well-represented as credible spokespeople, but so are grocers. Consumers apparently feel comfortable with people who represent their communities rather than corporations. Additional findings from the most recent research also note that:

- The most credible sources seem to be farmers and ranchers and mothers;

these are followed by consumer groups, health professionals and major media. All groups were cynical about government as a credible source; conversely, they cite government as the primary party responsible for safety.

- The most important and concerned audience to reach is probably women ages 25 to 55 with some college education and a household income above \$30,000.
- The most activist-oriented part of the population is unlikely to change its mind to a positive stance about traditional agriculture. This attitude appears to represent about five percent of the population overall.
- There is some initial resistance to biotech, yet such negative assumptions seem to be refutable when direct consumer benefits are cited.
- Women like messages of progress/movement, but are less impressed than men by data supporting such messages.
- Women especially like messages linking technology to their own consumer benefits, such as "safer, cheaper and more nutritious" concerns. They are less interested in broader impacts such as economic benefits.
- Men and women respond well to safeguards overall, but are somewhat skeptical of their effectiveness. Some of the doubt seems to reflect uneasiness with the parties responsible for protecting our food supply rather than the effectiveness of the safeguard itself.
- Food safety remains the most immediate and personal of issues. However, concerns about food safety seem to vary, especially among women. Older women focus on food handling,

while younger consumers focus on food content.

- The “promising future” sells better than the “successful past.”
- Dramatic images (eating 1,000 heads of lettuce a day) and metaphors tend to play better with men than women.
- Consumers are looking for reassurances about safety. Yet reassurances about pesticides are resisted aggressively; benefits play better but are still resisted. Biotech sells best as a replacement for ag chemicals.
- The delivery process between field and grocer is confusing. Discussing the size/breadth of the industry seems to exacerbate the problem. The word “industry” is negative, suggesting images of big business and corporate farms.
- Attitudes toward new technology, such as irradiation and biotech, are fluid—consumers are initially resistant, but become more favorably inclined with additional information about benefits.
- A sense of personal control is crucial for reassurance. Both men and women love information, specifically labels, regardless of their usefulness.
- Acknowledgment of problems helps disarm even the most strident.
- The preeminence of the U.S. food supply was recognized, but it seemed irrelevant. Consumers still believe there is plenty of room for improvement:
- Advertising raises skepticism, since it lacks third-party credibility.

### ***Agriculture in Our Daily Lives***

Consumers really don't know, and we've done a poor job of teaching them, how

agriculture affects their daily lives. Here is just one example to illustrate my point.

On July 18th of this year, the *Wall Street Journal* ran an article entitled, “Insect Swarms Threaten Asia Cotton Crop”; the subtitle read, “Insect Swarms in Asian Cotton Fields May Mean Shortages for Clothing Retailers, Higher Prices.” The article noted that China's and Pakistan's cotton crops, due to infestations (some of which were exacerbated by bad farming practices), would be severely affected. In turn, consumer prices on many cotton products that we consumers use everyday will invariably rise. The article goes on to note that, “While customers have begun ordering L. L. Bean classics from the fall catalog, canvas prices have as much doubled since last spring . . . . By year end, world cotton reserves will amount to just a third of world demand, the U.S. Department of Agriculture warns.”

Here are some of the ways this news will affect me. At work, the price of cotton balls, used by the case at the *Good Housekeeping* Beauty Center, will rise. So will the cost to replace the cotton-containing linens in the *Good Housekeeping* Dining Service. The price of the cotton aprons my home economists wear will also increase, as will the special cotton stain strips used by the *Good Housekeeping* Home Care department to evaluate laundry detergents.

The cotton L. L. Bean bags in which the *Good Housekeeping* home economists tote food and equipment to the photography studio will also be more expensive. The *Good Housekeeping* fashion department will be quoting higher prices to our readers when we feature cotton clothing. Ditto with the decorating department for sheets, towels, and curtains. The *Good Housekeeping* chemistry lab cotton wipe clothes will be more expensive, and even the night cleaning staff will pay more for cotton rags! And I haven't even begun to add up the cost increases at my own home.

While consumers will probably not be aware of these price increases on such a familiar item as cotton, they will continue to believe that cotton truly is "The Fabric of Our Lives." Cotton is an interesting topic because, in this case, advertising and public relations experts have created a positive image—although one full of errors—that actually works for the ag industry. Few consumers are aware that conventionally grown cotton accounts for one-quarter of the world's total pesticide use. And processing involves an array of chemicals, including chlorine bleaching, formaldehyde to prevent wrinkling and metal mordants to force dyes to set in the fibers.

True, a number of cotton growers have successfully employed integrated pest management (IPM) to significantly lower cotton's pesticide requirements. Further, entrepreneurs like Sally Fox have entered the business to turn good news *for* consumers into good money *from* consumers.

Because of cotton farmers' traditionally less-than-environmentally-friendly practices, many clothes manufacturers questioned and investigated conventional techniques. Some discovered Sally Fox, a breeder and grower in Arizona who took short-fiber colored cotton and cross-bred it with long-fiber white cotton to develop fibers that grow in colors and are long enough to be spun in commercial processing methods. The resulting cotton clothing now can be found in specialty retail stores. Bath and hand towels made from Fox Fibre Natural Cotton Colors are available to consumers through Fieldcrest-Cannon.

One final comment on perception vs. reality with traditionally grown cotton: When our promotion department was choosing a "good earthkeeping" environmentally correct tote bag, our environmental director chose a *nylon* bag after he did a complete cradle-to-grave analysis. Even with the significant energy and

chemical use in nylon manufacture, the *synthetic* bag came out ahead of cotton.

### ***The Business of U.S. Agriculture***

While the Saatchi & Saatchi data reveal that economic presentations to consumers are only impactful to certain narrow groups, I have had some success with using this approach.

Recently, an editor of *Business Week* featured the resurgence of business in the Midwest. Naturally, I was thrilled to think that the article would provide me some fodder for this presentation. How disappointed I was to find that, except for a mention of the Deere corporation, not one reference was made to agriculture. (And we expect consumers to be conscious of our livelihoods?)

However, as an urban dweller I am pleased to say that much of the best information I receive about farming comes from the *Wall Street Journal*. The impact of American agriculture, at least for a business audience, is easier to explain—numbers and dollars count to a *Wall Street* audience.

Frankly, I wish I'd known some of the business facts last winter when a prominent professor in the nutrition department at Columbia University said that she thought it would be a perfect world if we could convince every American to become a vegetarian. Now I have no problem with a healthy vegetarian diet, but when I pointed out that our nation's international ag trade and domestic ag business also depended greatly upon animal production, she truly didn't comprehend the economic impact of her statement. Here then, are a few points to ponder when someone decides that American agriculture or certain segments of our industry are not important to this country:

- Farmers and ranchers produce more than 200 raw commodities yearly for domestic and export markets.

- American agriculture employs 21 million people (18.5% of the labor force) in
  - wholesaling and retailing (50%)
  - farm production (20%)
  - marketing and processing (15%)
  - agribusiness (12%)
  - farm supplying (3%)
- By the year 2000, agriculture is expected to generate 25% of the U. S. Gross Domestic Product.
- One-fourth of the world's beef and nearly one-fifth of the world's grain, milk and eggs are produced in the United States.
- About 17 percent of raw U.S. agriculture products are exported yearly.
  - 83 million metric tons of cereal grains
  - 1.6 billion pounds of poultry
  - 1.4 million metric tons of fresh vegetables
- Within 25 years, non-food uses for agriculture products are expected to create 750,000 new jobs, increase farm income by \$30 billion per year, and contribute \$100 billion to the yearly economy.

Needless to say, when it comes to discussing the importance of U.S. agriculture, the most receptive New York audiences are bankers and commodity brokers on Wall Street!

### ***The Environmental Theme of Agriculture: It's in Your Own Backyard***

For better or worse, consumers' renewed interest in the environment that's occurred over the past five years has at least brought some attention to the fact that agriculture encompasses the "cradle-to-grave" theme.

Many consumers, in fact, view agriculture as the enemy of environmentalism. The use of crop pesticides and fertilizers

strike fear in the hearts of consumers. We have not done a credible job of explaining the role of farming and technology in preserving the environment. Says Dennis Avery of the Hudson Institute:

*Without science-based agriculture, we'd already have plowed under another 10 million square miles of (wild-life) habitat for food. Instead, because we have raised yields on existing cropland—with better seeds, irrigation, fertilizer and pest control—we're feeding twice as many people on the same farmland we used to in 1960.*

It's tough to show to consumers something that's been prevented, that never existed. The unknown is a hard concept to sell. At *Good Housekeeping*, we try to handle consumers' inquiries by choosing analogies closer to home.

When consumers object to pesticides on foods, I use the analogy of dusting tomatoes in home gardens and point out the obvious: That residues are invariably higher than on commercial crops where pesticide levels are regulated.

Organic and "natural" fertilizer is one of my favorite topics. While I have no problem with such claims for fertilizer, I point out that the balance and concentration of nutrients are the important elements, not the *form* of fertilizer. Further, I note that the use of "natural" manure would increase the need for livestock in this country to produce the manure. However, my ace in the hole came recently when I tried to explain that the number of trucks necessary just to haul the manure around in this country—each day—would cause a smelly traffic jam the likes of which New York City has never seen. If there's something urbanites understand, it's traffic and pollution!

### ***The Animal Rights/Welfare Issue***

I'll admit it. The more years I'm away from the farm, the more squeamish I be-

come at the thought of farm animals being slaughtered for food. Like many urban and suburban consumers, I equate my household pets with all animals.

The animal rights issue is probably more emotional than most other consumer agriculture issues. We have humanized animals to the point that we're still inviting them to dinner, but now they're eating *with* us, often at the table, instead of us eating them!

This is great news for the grain industry, because consumers certainly are moving meat from the center of the plate to the side-dish category in an effort to cut the fat and simply because their taste buds are becoming accustomed to new grain- and vegetable-based dishes. However, if we fail to address consumers' concerns, we will lose a valuable opportunity to educate them as to the process of "animal husbandry." (By the way, one of my employees' novice definition of animal husbandry can be described in one marital sentence: "Oh honey, you're so wild; you're such an animal.")

The BST/milk issue is at least partially an animal rights issue. One consumer drew the parallel that when she was breast feeding, she knew how uncomfortable she felt so she surmised that it was inhuman to force dairy cattle to produce and carry extra milk.

Interesting, too, is the research which shows that genetic engineering of plants is not a major concern. Yet, in other studies, consumers more strongly oppose genetic alterations in animal genes.

I believe that animal welfare is such an emotional topic that even balanced information devoted to modern farming techniques will not convince urban consumers that raising animals for food is a positive affair. Frankly, no one wants to be reminded that they're eating animals that used to be living, breathing creatures. Gone are the days when we farm

kids were made aware of where food came from or the importance of animals to our basic table, when we helped our parents axe the chickens and then pluck them clean. (And would you really want to return to those days, anyway?) In fact, I've even recommended to various beef industry groups to remove from meat counters and butcher departments those big animal diagrams of meat cuts.

### ***The Return-to-Simpler-Times Myth***

The responsible consumer must also be, in some way, a producer. Out of his own resources and skills, he must be equal to some of his own needs. The household that prepares its own meals in its own kitchen with some intelligent regard for nutritional value, and thus depends on the grocer only for selected raw materials, exercises an influence on the food industry that reaches from the store all the way back to the salesman. The household that produces some or all of its own food will have a proportionately greater influence.

### ***Wendell Berry***

I adore writer Wendell Berry. But I don't agree with him a lot of the time. We simply cannot go back to the nostalgic farm of the 1950s. In this post-Yuppie era, more and more environmentally conscious consumers, educators and food professionals are calling for a return to simpler lifestyles, more scratch cooking, acres of home gardens and a complete overhaul in the philosophy behind the USDA-supported school lunch program.

Much of this cry for "whole foods" comes from those who have the luxury to devote lots of time and energy to such concerns. I had to smile when a very prominent San Francisco restaurateur and chef called for consumers to learn that fresh tomatoes are only high quality in the summer months and to ignore high-tech, better tasting tomatoes in February. This same chef also decried the fact that consumers didn't want to cook anymore and had forgotten how.

I pointed out to her that if consumers got back into cooking they'd be eating out less often at her restaurant. However, I believe there's little risk of this. Americans spent \$606 billion for food in 1992, with 45 percent going to away-from-home meals and snacks.

Modern agriculture technology and basic "old" applications like canning and freezing have allowed consumers to expect good-tasting food year round. The genie is out of the bottle and genetic technology has allowed us more variety and healthier-tasting foods. Are we going to deny someone a BLT sandwich in the middle of winter? No. We're trying to provide a better tomato to meet consumer demands. Consumers are demanding more—not fewer—new foods. Further, elite chefs who are leading many projects on the pure food campaign may be unaware that my 28 million consumers are demanding complete meals in less than 30 minutes (20 minutes would be nice, they tell us).

Also, more convenience foods are processed by companies that place large contracts with numerous farmers. And while I know there's been a loud cry of outrage that these practices are leading to the industrialization of farming (some sounds even coming from the Leopold Center experts), much of this trend sprouts from consumers' convenience-oriented demands.

Many nutrition educators are calling for a revamping of school food service. I know that even in New York City, certain professional groups are championing school garden plots and proposing the use of only locally grown ag products. These revolutionaries have not considered the exorbitant supply, transportation and labor costs of such a utopian society, much less the fact that New York City has *no space* available for urban farming. And are parents willing to spend the extra money on these increased meal costs?

### **Good Food, Bad Food**

According to the recent Saatchi & Saatchi Advertising study, the "food connection" is about much more than fuel. Despite the fact that, unlike many of our ancestors, we do not want for food and, therefore, we don't place the same value and importance on it, food is still a metaphor for quality of life and self-affirming action. In our hectic daily lives, we feel that food is more controllable than a world out of control. Therefore, any interjection into food ("What did those apple farmers do to *my* fresh produce?") is viewed as a personal violation and an outrage. And continuous introduction of new information that often conflicts with previous data is perceived as more confusing. Bit by bit, all foods are becoming (whether positively or negatively) contaminated and turning into "bad" foods.

Even though consumers know less about the agricultural process, they are becoming more familiar with a wide array of new foods. Because of our information society, more travel overseas and more dining-out experiences, consumers are learning about new cuisines. Yet a wide gap exists when it comes to nutrition knowledge about many foods and the forms these foods take. Felicia Gressett, food editor at the *Miami Herald*, recently compared notes with me on consumers' food knowledge. She said that some of her readers don't understand that peanuts grow in the ground or that mangoes can't contain dietary cholesterol because they're a fruit and not an animal product.

Even we so-called experts learn new facts about food. Despite my working with the soy industry, I was surprised to find that over 95% of all oil used in processed foods and for household cooking is derived from soy. Meanwhile, millions of dollars of advertising—also part of the food industry—are going to convince consumers that olive oil is a healthier alternative. Last Christmas, I got a call from a consumer who wanted to know how to convert one of her traditional

holiday cookie recipes to replace the butter with olive oil. She was doing this for health reasons. Upon further questioning, she revealed that she used the recipe *once a year*. I suggested that she enjoy her occasional traditional butter cookies (which were also cheaper to make) and if she really thought she needed an olive oil cookie recipe, she should call the processor's number I gave her.

I'm sure everyone has heard of the recent "movie theater popcorn will kill you" story. While it was great news for the canola industry and bad news for the tropical oil folks, what went almost completely unnoticed was the fact that the typical American consumer steps inside a movie theater less than 10 times a year!

I'm sorry to report that such food scares will continue to alarm consumers. Why? Because we in the media know they sell magazines and newspapers and up the viewership of TV programs.

### ***The Food Safety Dilemma***

Closely tied to consumers' concerns with the nutritional aspects of food is the issue of food safety. Obviously, consumers say they're more conscious than ever of food safety implications. Here, too, confusion abounds, for many reasons.

Consumers' perceptions—or, better put, their attention span, on almost any topic—can be frequently summed up as "all or nothing," "short messages only," "terribly opinionated," and "avoid reading the fine print."

Many unpleasant food safety issues do contain a grain of truth. But food chemistry—a subject most of us barely survived in school—is not understood by most consumers.

Food safety also evokes a longing for the previously mentioned romantic approach to food production—that "back to simpler times" concept when life was perceived as more wholesome and safer.

### ***"I Don't Want Things in my Stuff"***

I recently had breakfast with a colleague of mine at a trendy Park Avenue restaurant. I ordered my nutritionally correct breakfast of a small bowl of granola surrounded by a wealth of fresh fruits. During our lively conversation and after six or seven bites of my breakfast, I noticed a small black speck on my cereal. Thinking it was a fly, I tried to fan it away. When it wouldn't fly off, I looked closer and discovered that the entire small bowl of granola was alive with dozens of small white worms! Worse, I also noticed that *parts* of two worms clung to my spoon.

When we called the waitress over and pointed out the extra protein source wriggling in the cereal, she truly expressed surprise because the new box of cereal was just purchased that morning at the health food store. When I explained to her that the cereal obviously had sat on the shelf for a long time and that the worms were a perfectly "natural" result, she was incredulous that such "filth" was present in the first place. Thus, to her the problem wasn't a shortened shelf life; rather, the farmer's and processor's incompetence had caused this blight on her restaurant! (By the way, I was charged full price for the breakfast.) The fear of the unknown, the specter of technology run amok, is unsettling to most consumers.

When it comes to explaining food safety to consumers, a simple three-minute TV story or a column of print copy won't do it. Whom do consumers trust to ensure the safety of our food supply? No one! Despite the fact that 12 government agencies are involved with food safety, consumer distrust continues to grow. This lack of consumer confidence leads consumers to make decisions based on gut reaction. Such decisions can wreak havoc on consumer demand for whole categories of products and can disastrously affect produce prices.

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### ***The Importance of Positive Perceptions of Technology***

No less than the Nobel Peace Prize was awarded in 1970 to Norman Borlaug for developing high-yielding wheat varieties. Thus, the world recognized the importance of food technology. And maintaining even our current food supply will depend on constantly improving the technology we use.

Most importantly, positive consumer perceptions of technological advances in agriculture are vital to the passage of legislation that supports advancement of ag science which, in turn, contributes to the production of quality farm products.

In addition, progressive farmers are *demanding* technology and scientists are responding. For example, when it comes to advances in genetic breeding of plants, the process no longer is progressing via the shot-in-the-dark method of

cross-breeding. "Genetic selection," notes Dr. Joyce Nettleton of the Institute of Food Technologists, "has come out of the closet and into the focused light of scientific understanding. Gone are the days of willy-nilly progress. There's now method behind the madness."

I will close with two statements that, to me, are the essence of our dilemma and our change. "Consumers simply do not know how food is produced nor [do they] understand the benefits of modern farming practice," says William Patrick Nichols of the Agricultural Council of America. And the great Aldo Leopold himself, in his now-famous *Sand County Almanac*, said, "The problem, then, is how to bring about a striving for harmony with land among a people many of whom have forgotten there is any such thing as land, among whom education and culture have become almost synonymous with landlessness."



# 2001: Designing Iowa's Farms and Rural Communities: What are We Likely to See?

## (Session 1):

Informal presentations and discussion with the following panelists:

- **Lindsey Larson**, farmer and Farm Bureau member  
Larson is a member of the Iowa Farm Bureau Federation board of directors, representing 11 central Iowa counties. He has been active in the corn growers, soybean growers, and pork producers associations. Larson, a graduate of Iowa State University, runs a grain operation and finishes 1,500 hogs annually.
- **Denise O'Brien**, dairy farmer and president, National Family Farm Coalition  
O'Brien farms approximately 200 acres with her husband, Larry Harris, near Atlantic. Their operation has been farmed without chemicals for 19 years. O'Brien milks 40 Holstein cows and manages ten acres of fruit, including apples, strawberries, and raspberries.
- **Bill Holstine**, vice president, Hertz Farm Management  
Holstine received a B.S. degree in agriculture and an M.S. degree in economics from the University of Illinois. He has worked with Hertz Farm Management since 1974. He is past president of the Iowa Chapter of Farm Managers and Rural Appraisers.
- **Steve Daugherty**, director of public affairs, Pioneer Hi-Bred, International.  
At Pioneer, Daugherty is responsible for the corporate political interface with government at all levels. Previously employed by the Iowa Corn Growers Association and the Iowa Corn Promotion Board as director of public affairs, he has also worked for the Associated Press as a broadcast editor and farm specialist.

Facilitated by Gerald Schnepf, Iowa Natural Heritage Foundation

All stakeholders in Iowa agriculture want to see prosperous farms and rural communities, but is this what we are likely to see? Will Iowa agriculture in the next century find itself with even larger farms, more regulations, fewer farmers, and more contract production and outside ownership? In this session, diverse viewpoints were offered on Iowa's agricultural future.

(Note: the following comments have been summarized and/or paraphrased; while they represent a good-faith effort to reconstruct the content of what was said, none are exact quotations. —Ed.)

**Larson:** Agriculture is an environmentally friendly industry. This is an ongoing process, as evidenced by Iowa farmers having cut soil erosion by 30% in the past five years. Farmers must be al-

lowed to continue to adopt new technology, such as

- drilling into heavy residue
- no-till planting
- targeting weeds with specific products
- Blackmer's nitrogen test to account for nitrogen from hog manure.

Sustainable farms will have a livestock/grain mix that recycles the nutrients on the farm and improves soil tilth.

Public support for subsidies will probably decrease as agriculture has less and less representation.

- They won't disappear, but will remain in form of "green" payments.
- There will be good public support for conservation efforts.

Global markets will increase if we work for that. As a country brings itself out of poverty or raises its income, one of the first things they want is to eat better.

This usually means more meat, and life expectancy increases. Land appreciation will depend on inflation control, weather, and what happens to CRP land.

Commodities will be increasingly grown and raised on contract. Contracting is a form of risk management. We might have to ask how far we can go on contract operations before losing control of final product. Will we see an increase in futures and options? Perhaps a gradual one; 35-40 % of farmers are not keeping the records needed to know what a bushel of corn or pound of pork costs, and without this information, they are unable to use futures and options as a risk management tool. For an increase in use of futures and options, we need further adoption of record-keeping systems.

Lowest-cost producers will be in the driver's seat, a continuation of what is happening now. Whether by using borrowed capital and a large land base, or a smaller land base and more livestock, or diversified products, there are many avenues in which it can occur, but lowest-cost producers will continue to be rewarded under the present economic system.

Niche markets will continue to be developed. Japan is a potential market for consistent, high-quality beef products and a type of soybeans for tofu that are bringing a premium price at the elevator: 25-35 cents/bushel. Alternatives are important for those who don't wish to include livestock but want to diversify.

Thriving communities will look like some of the communities in Sioux and Carroll and Delaware, and Plymouth and Clayton and Washington and Scott Counties, where the agricultural base is a good cropping and livestock mix. There, farmers are turning money back into the community, involving more people in the community, and creating a place for economic growth.

**O'Brien:** For the past 15 years I have been actively engaged in designing an agricultural policy that treats the farmers fairly—cost of production plus cost of living. I will deviate from what is *likely* to what I would like to see *ideally*. Welfare of people in rural communities has not been considered in policy so what I see happening may depress you. Therefore I will go into my ideals and end with what we are likely to see if these ideals are not determining factors in the outcome of the design for Iowa's future.

If farmers and rural communities could design their future, I believe that we would see a thriving rural economy based on our precious resource, the soil. [It would be] based on quality, not quantity, where the people taking care of the soil would be respected, and those not caring for the soil would be penalized for soil erosion, water contamination and wildlife habitat destruction. A partnership [would exist] between farmers and consumers in decision-making about how food is grown, how soil, water and air are treated, and how the cost of a safe food system will be shared. Children would want to come back to the farm, because there would be opportunities for them to make a decent living.

Centers such as the Leopold Center will increase the amount of legitimacy given to people who practice soil-sustaining methods of farming. Centers such as these will help farmers and consumers understand the importance of sustaining natural resources while sustaining rural communities. Unfortunately, change is slow. I hope to see some of these changes in my lifetime. Sometimes I feel that only the next generation of my family will understand and benefit from the turmoil of the late 20th century. And I do say benefit because I have an optimistic view of the future.

If we as farmers and consumers do not take influencing policy-making seri-

ously, the policy for agriculture that has been determining our future will continue to erode rural America economically and physically. We are likely to see economic trends continue: larger farms, more income gained off the farm, and continued contamination of soil, air and water. This is if we fail to take an active role in influencing policy.

If we as farmers and consumers take an active role in determining policy, we will see more farmers in farming and rural communities thriving. We will see more direct marketing of food, and more consumers knowing where their food comes from. We will see growth in cooperatives, where decision making and profits are shared, and community sustainable agriculture associations (CSAs) where risk is shared among the consumers and the farmers. We will see education programs in the schools that teach children where food comes from—which is not the grocery store. There are hundreds of successful programs already initiated. The limiting factor is that we need hundreds more, and that the government needs to take an active role in promoting agriculture and farmers, not agribusiness and transnational corporations.

What we are likely to see and what we would design are currently at odds with each other. Major change in ag policy needs to take place. Government does have a role in agriculture, but not one of providing subsidies. We have that opportunity before us with the 1995 Farm Bill, which is an example itself of how short-term agriculture and food systems are thought of in our country. We create a new farm bill every five years, nothing long term, nothing to provide income security for those of us on the land.

I would say in conclusion that I am positive about the future. There are people out there trying to make changes, but there is money and power against them. It's a system that we have to change, and it's a system that we have the opportu-

nity to change if we continue to participate in the democracy that our country was based on. I'm all for changes in our economic systems, and systems [need to be] changed in our food policy in order to let those who don't have food have the right to obtain food, and to allow those who produce food [to exercise their] right to make a living. It's hard for me to go with the trends and play by the rules, and hard for me to take the answer that that's the way it is, and always will be. Those words make it a real challenge to try and change things.

**Holstine:** 2001 isn't very far away. We can see what may already be there. Designing a whole farm or whole rural economy has too many factors; I can't really picture it anyway. We are but a moment away from 2001, and many descriptions of farms and rural communities will not change that fast.

The major trends of agriculture will continue. To prosper, people must work harder or work smarter. Agriculture is a mature industry and will continue to work harder. This is shown in the trends of fewer and larger farms, more specialization in the support industries, lower food cost as a portion of disposable income, reduced political influence, and substitution of capital for labor in what is already a very capital-intensive industry.

The technology is already in place, and may clearly say that the optimum production is in the larger grain and dairy and hog operations in Iowa. Operations will change to fit into the framework of least-cost producers. Family farms used to include a family manager and full-time hired men because many jobs are more efficient with helping hands. Future family farms may include fewer part-time farmers and more full-time employees.

Agriculture will work smarter. Applications of technology will be oriented toward results. Satellite ability to pinpoint

locations will be used to define the yields or outputs. This allows focus on problem locations. Other tools will then be used to study the problem locations. Management problems will be defined and then decisions made to reduce costs or risks. This intense management is efficient and allows survival in any industry that is profitable. Working smarter to maximize margins and output will mean producing for specific markets with higher margins or lower risks. Today's examples include specialty corn and contract hog production. These market niches allow higher profits or lower risks or both. Whatever the name, integration or cooperation or networking or producing for a specific market, the changes allow specialization and more intense management.

The franchise, or start-up cost, of time and management and money will continue to become greater barriers for entry into agriculture. There will be higher entry barriers in an industry that is working both harder and smarter. These higher barriers may allow higher profits over the longer term. The question is whether these profits will stay with family farms in Iowa. Are these returns to land, or labor or capital or management?

The hardest thing to picture is what the trends will be. New trends will be from outside influences. Agriculture in Iowa and America will benefit from changes in the political arena. The playing field will become more equal because of past and future GATT and NAFTA discussions. The international rules and standards will help our competitive position because they will have more impact on the other people than on us. A global market with equal rules and standards will encourage more specialization and this will favor the American farmer.

Our society had already paid many of the costs of improving soil erosion and water quality and the health of workers and consumers. Those areas that allow

and encourage change and allow industry transitions will prosper, and those that do not will be passed by and decline. This will be true whether we talk about two little communities in Iowa, or versus other states, or somewhere else in the world. As a state, Iowa can be a low-cost producer. We can maintain large acres of grain production and large livestock numbers. Livestock manure needs to be applied to crops such as corn that will use and benefit from the nutrients. Specialty market production can occur in Iowa, especially if we encourage the industries that develop the specific products. Value can be added and keep both jobs and profits in Iowa. Increasing capital intensity means a large demand for capital. Some capital will be supplied by absentee land and business ownership. Will those people have a community attitude or simply be takers? The incomes or rents and base values of land and agricultural investments can and will remain strong in Iowa. We have many advantages. Profits and returns in Iowa can increase. As a farm manager who is also in the real estate business, I think we're in a period of low inflation and we're likely to shift into a time of more inflation. I don't think that there is any question that inflation will be expressed in land prices, as well as other things. I'm not at all afraid of the future—I think that we'll benefit from it.

Individual producers will move their operations to the window of least cost or highest return in order to survive and prosper. The policy groups and support industry must foster a climate that allows and welcomes changes. Those changes may now include direct encouragement of rural communities. But the attitude is as important as the long list of Iowa advantages that we are already blessed with and enjoying.

**Daugherty:** As an Iowan by birth and by choice, I am particularly supportive of efforts such as these to make sure we have the best possible state in which to live

and grow. These are personal observations of what I see and hear in what I do for a living. I think the rural Iowa of tomorrow is being shaped by the economic, political, and social forces at work today. I do believe the end result will be positive for the state's economy.

"Right-sizing" has become a euphemism for lay-offs. There is and will be continued pressure to be the right size to be economically viable in agriculture. This will likely lead to both larger and more smaller farms. The polarization that we've seen for a number of years will probably continue; I see nothing that would cause that to change. This is driven in part by the need to operate without price supports. Producers will have to be the most efficient or be particularly specialized. So right-sizing as it applies to agriculture means either getting larger or getting smaller. All of that ought to be good news to those who can do it and stay viable.

Lowest-cost-production international agreements such as NAFTA and GATT will continue to reward lowest-cost-per-unit production. That is here, and I see no change. Iowa will benefit from this because we have the natural resources, the human resources, the infrastructure, and the knowledge of institutions like Iowa State University. We have these things working for us, so it should not be a negative.

Reduced government support, reduced political clout, and a callous public will reduce commodity support programs. This doesn't sound like good news, and I don't know that it is. There are only two places to get money. One is from the government, and the other is from the market place. If you can't get it from the treasury, then you will be forced to get it from the market place. That will drive low-cost production and designer crops.

Designer crops are specialty plants and commodities. There is a move from

commodities to products. There will be a demand from consumers for this, and the need to squeeze more money out of the market place will together drive the development of specialty crops and products in agriculture.

Sundowners are those who work a full-time job in town and work the farm in the evening and weekends. We'll see more of that. Rural Iowa will also continue to attract people who are interested in the quality of life that it offers. They will obtain jobs that allow them to take advantage of communications technology. This will attract people to rural Iowa because it's a great place to live.

In "different versus bad," change is the only constant. We must find ways to use our energy and imagination toward ensuring an improved quality of life in that change. We must manage the change toward the better. We are clearly in a transition period, and now would be the time to effect change. Now would be the time to create those new systems that will give you the results that you desire.

### Questions

Q. (Paul Douglas) *Is agriculture the only industry not bound to any system of ethics?*

A. (Daugherty) No, that's not the case. Formal systems of ethics or codes of conduct are probably the exception more than the rule. I don't see agriculture as such a heinous sector of the economy. This may require a debate on what ethics are.

(Douglas) [I mean] ethics in terms of what agriculture has done to damage the environment.

(Daugherty) While agriculture has done measurable damage to the environment, a lot of change and progress has taken place. I'll let the farmers talk to this.

A. (Holstine) I think that ethics is the way we interact with other people. I see

a revolution going on in the way we communicate with other people. There has been a change from top-down procedures to Japan's model of working cooperatively. Agriculture will benefit from all of the changes happening. I think for a long time we didn't know what we were doing to the environment, and as we find out we are changing. I think we in the industry begin change 10-15 years before the press picks up on it. The trend toward sustainable agriculture began before the media started calling us "bad boys."

**Q.** (Paul Douglas) *If agriculture had strong leadership, would farmers have fallen prey to the chemical companies?*

**A.** (Holstine) I don't think that leadership can stop people from trying new things. People will find out for themselves if claims are true or not.

**A.** (O'Brien) I would like to get away from production agriculture. It is a post-World War II technology. We learned a lot from it, and maybe our leaders weren't too strong. But we had Bob Berglund, who laid out a plan, and the book that was brought out that gave many examples of sustainable agriculture. The person who put together that book was fired from his job. There is money and power behind some of the biotech products coming out, being pushed through the FDA, some of which is unethical. So I think there are problems, and you may want to look closely at the BST issue to see some of that.

**A.** (Larson) Change comes slowly. Look at adoption of hybrid seed and nitrogen as a fertilizer for corn—it was fairly slow. Now, there is a trend to reduce nitrogen use. Blackmer's nitrogen test allows me to spot check my nitrogen use and make adjustments. But these things take time to adopt; they don't happen overnight. As far as ethics, I think of myself as farmer. I am part of a community, and part of a county. I am involved

in the community, and in the county fair. This mix gives you a mix of ideas. You have to be a responsible neighbor, and show that ideal to your neighbor. Not that everyone has it, but ethics are part of agriculture.

**Q.** (Bonnie Lindemann) *What unexpected event could you think of that would change the future in unforeseen ways?*

**A.** (O'Brien) A food shortage. We don't have an adequate food supply. After WWII, Europe had a food shortage that is reflected in their food policy today.

**A.** (Larson) A failure of disease control organisms, something worldwide, such as we're seeing in Rwanda now.

**A.** (Daugherty) Since it's unexpected I haven't thought of it yet. As Denise said, a food shortage could be it. The food pipeline is incredibly short. When there was a grain shortage, overnight it went from a surplus to a reserve. I heard a speaker not from agriculture say that some day they will make food from sawdust, and there will not be a need for agriculture as we know it. I think that there will always be a need to grow something, but it could be very different than what we are used to.

**A.** (Jim Mayhew) I want to mention the possibility of perennial crops, such as hazelnuts for agriculture. I would also point out that people don't have a longer life expectancy because they eat more meat. They may have a higher protein intake, but it is a whole complex of issues that go along with increased income that raises life expectancy.

**Q.** (Andy LaBlanc) *Who will be our neighbors in 2001?*

**A.** (O'Brien) The sons of the larger farmers in my neighborhood. There is no doubt in my mind. My husband and I have seen the farms disappear around us, and we have tried to fight it. But

with the current farm policy, the trends seem to continue in this way.

A. (Holstine) They won't be farmers. Fiber optics and lifestyle changes will find people moving out to the country, either in small towns or farms. The question is whether they consider themselves as rural people or will they want it to look like the suburbs? We won't see so many in the country be farmers.

A. (Larson) I think "average" is a deceiving word. Cattle and hog producers are on an average ten years younger than that 59-year-old average for the state. I think that as farmers get older they get out of livestock and go to grain production because they are able to remain farming longer that way. I don't think we should have a mandatory age that you must leave farming. In agriculture, we have to buy the assets of every generation, so we need a change in the tax structure. In the future, there will be a huge changeover of assets and the tax burden will be too great for the new generation. GM doesn't have to buy the entire assets of the entire company every time a new generation takes over, so why should farmers?

A. (Daugherty) There has always been an inference that we may wake up someday and there won't be any more farmers. I don't think that will happen. But we must make agriculture an attractive way to make a living.

Q. (Lou Olson, directed toward Daugherty) *Many want to portray technology as the bogeyman, but is it more the economic structure of oligopoly, which allows industry to extract more than a fair share of profits from the system? Young farmers are worried about whether they will have access to an independent market, with trends toward supply controlled by genetic patents and closed markets.*

A. (Daugherty) I hear your fear of integrated markets, and the fear that

agribusiness will corner the genetic markets. In the seed companies, there is more money to be made by licensing the gene and having everyone sell it. (Olson disagrees.) Companies have responsibilities to their shareholders. You have legitimate issues, and I'm not sure how they will all be addressed.

Q. (Olson) *We keep hearing about efficiency, but isn't that about what is efficient for the oligopoly? Aren't we losing our classical competitiveness?*

A. (Daugherty) You seem to be implying there is a mythical Wizard of Oz pushing buttons somewhere. I don't know that there is a great master plan. I think that it is the force of economics, with everybody trying to make a buck.

Q. (Olson) *Did we learn this from the Japanese? Do we allow this to happen in our system as a way to compete with the Japanese?*

A. (Holstine) In order to make a living you have to have a profit, and in order to make a profit you have to talk about price. We talk about the lowest cost producer, and the product will be sold at the lowest cost. I have a brother who has an organic farm, and he can sell his produce at the farmer's market for a much higher price than normal channels. Shoes used to be \$5 or \$10, but then they stick a name on it and can sell it for \$75. So one side is cost of production, but the other side is what the consumer wants and is willing to pay. If there is a niche market, produce it for them. It requires more communication and a different style of production.

Q. (Terry Dean) *How will reduction or elimination of government subsidies come about?*

A. (O'Brien) I think that we need a different system in agriculture. We have created a system in which farmers farm the government rather than farm the land. I believe in supply management,

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some sort of economic planning. I don't believe there is a free market—I have no control over the price I get for my milk. We need some form of production control.

I think that overproduction has contributed to the demise of rural America. We have to have some control over our products. We have to have some government intervention and planning, because this is food we're talking about. People have to have food to survive, and yet the people producing the food are not surviving. There has to be another approach to agriculture; I believe it needs to be a supply management approach.

A. (Larson) I think that \$6-10 billion will still be there for government supports. I see these as mostly "green payments" for wetland restoration and CRP ground. The most highly erodible land should stay in grass and maybe trees, even for grazing.

A. (Holstine) The feed grain program tried to control supply and also provide a

base income. The result was excess instead of a reserve, and cheap food. People are so comfortable that they now think these programs should be re-directed toward wetlands or wildlife.

A. (Daugherty) The 1995 bill will not be that much different. From \$6-10 billion will be available to achieve whatever it is they want to achieve, whether it be green payments or as income support or some other desired result. There will be less and less money available, as they look for money for GATT. If GATT comes about, there will be restrictions on how much and how many subsidies can be paid. Also, we have that tremendous debt that must be paid, and when looking for money, some will come from agriculture. As a smaller segment of population with less political clout, agriculture will be an easy place to get it from. So we have to use our imagination in finding new ways to get money. There will be some sort of safety net, but it will be non-market disruptive. So it will be three inches off the ground instead of three feet.



# 2001: Designing Iowa's Farms and Rural Communities: What are We Likely to See?

## **(Session 2):**

*Informal presentations and discussion with the following panelists:*

- **Chris Novak**, director of environmental services, National Pork Producers Council  
Novak oversees the NPPC's environmental research, education, policy, and legal initiatives. He also works closely with state affiliates to build legislative programs on the state, local, and federal level. Raised on a farm north of Cedar Rapids, Novak received his B.S. degree in public service and administration from Iowa State University. He served U.S. Senator Charles Grassley as a legislative assistant for agriculture and the environment for three years before joining the NPPC.
- **Ralph Neill**, farmer, Corning  
Neill farms in Adams County near Corning. He and his wife, Joyce Neill, were honored as regional winners of the National Cattlemen's Association Environmental Stewardship Award and most recently were named as Iowa Master Farmers by Wallaces Farmer magazine. Neill holds a B.S. degree from Purdue University and a M.S. degree from The Ohio State University.
- **Duane Sand**, Silos and Smokestacks project  
Before joining the Silos and Smokestacks project, Duane Sand served for a number of years at the Iowa Natural Heritage Foundation in Des Moines. (No additional biographical information available at press time.)
- **Doug Rushing**, environmental affairs manager, Monsanto Agricultural Products Co.  
Rushing earned his B.S. degree in horticulture from North Carolina State University and his M.S. and Ph.D. degrees in agronomy and crop science, respectively, from Oklahoma University. For the past ten years, he has conducted field research and development for Monsanto in Iowa and North Carolina before becoming an environmental specialist for the Midwest. He trains pesticide applicators in safe handling, mixing, and disposal of pesticides, contingency planning, emergency response, and ground- and surface water protection.

*Facilitated by Gerald Schnepf, Iowa Natural Heritage Foundation. (Note: again, the following comments have been summarized and/or paraphrased; none are intended to represent exact quotations. —Ed.)*

**Novak:** I'm not talking about the ideal, but what I think we're going to see, with the caveat that as a producer organization, there are a lot of things we're doing to try to change that picture of the future. I talked to Steve Daugherty (in the previous session) about how things went easy for him on his panel. Steve said, "The only difference between us is that seed corn doesn't stink." If you've picked up any Iowa newspapers lately, you know that hogs and hog farms are among the most controversial issues in Iowa today.

As we talk about where hog farms are going, the biggest issue is concentration within the industry. Everyone says it's a terrible thing. But it's important as we talk about farm size to define what we mean by small and large farms. In 1992, we had the University of Missouri do a study for us on who grows the hogs. What we found was that 84% of our producers had less than 40 to 50 sows and were producing 20% of the hogs. And 16% of the producers have more than 1,000 sows; they constitute 78% of our production.

So we have to be careful where we draw the line. Most of you would recognize that an operation of 30-40 sows that may be producing 1,000 head a year isn't that

large of an operation, yet they're the top producers in our county. In thinking about what our future holds, I came across this quote: "The rapid increase in size of hog enterprises parallels the general trend in farm size enterprise specialization, the adoption of new production technology, and producer attitudes." I thought, that really fits today's industry, but this quote is from a USDA report from 1979.

So while we're talking about change, the bottom line is that there are a number of things that stay the same in the pork industry as far as how we look at it and where we'll be in 2001. As we look at trends and talk about who's farming, these are the numbers that concern people as we talk about our rural communities. From 1984-1993 we lost about 200,000 producers. It was a significant drop. But, again, the numbers belie reality. Because as we start to look at who left the business, what we see nationally is that hog operations of less than 100 head have left the industry, while those with 100-500 have decreased slightly, and those producing more than 500 head have increased. And certainly the production coming from these operations has increased dramatically. As we talk about trends, this is likely to continue. Those small producers (less than 500 head) will continue to exit this industry, producing greater concentration. But for those actively involved in the pork industry, who are earning a significant portion of their farm living from pork production, there is optimism as we look to 2001.

The other thing we have to look at is what total production in the industry has done. There were peaks in 1984-85, 1988-89, and 1992-93. As we look toward 1996, our industry is talking about something that we call the mountain of meat. In 1996, according to the economists, pork production will peak in this country. Broiler production will peak as it continues to expand. Beef production is

likely to peak in 1995-96. The U.S. consumer is going to have a record amount of meat in the grocery store. But this is likely to mean that we're going to see this drop in the number of producers continue. What do we need to do to keep producers in business? This strays toward the ideal but here are three things: increase producer demand, add in subsidies, or decrease the cost of production.

As for the likelihood of each of these: first, meat production and retail prices. Can we draw more money from the consumer? Meat production continues to go up, but the dollars the consumer spends have not been going up. "Pork . . . the other white meat" as a program was successful, but we can't count on more things like this. As for more government payments, I think we know the trend. Counting on subsidies is not a likely place to go for dollars.

That leaves decreasing the cost of production. Iowa State University conducted a study of cost of production and producers, and differences between top producers, the middle one-third, and the bottom third. As we look at production efficiencies, top producers were profitable 13 out of 13 years; the middle third, 11 out of 13; the bottom third, only five of the 13 years. We have to narrow that gap.

Trends for the pork industry:

- The key to being successful in the future will be recognizing that we compete in a **global economy**. Small producers think their competition is Tyson's or Murphy's, and they need to realize that it's the Danes, the Canadians, the Taiwanese, and others who can produce pork and export it to the United States and provide U.S. consumers with a quality pork product at a lower cost than American producers can.
- We have to look at **information technology**, and producers have to be

skilled at using computers to manage production, financial records, and the environment.

- We have to look at **business alignments**, and networking. We have to work together as independent producers, to market, to purchase genetics, and other facets of production.
- Producers have to pay more attention to **what consumers want**; that has to be the driving factor for our industry.
- We have to make sure we are sound environmental stewards, because we're looking at the Clean Water Act, the 1995 Farm Bill, and a host of other environmental regulations, and they're going to require better record-keeping, better technology, and more capital. Improving the **environment** in many cases is going to take more money than it has in the past. That's going to be an issue for producers.
- The bottom line is **continuous improvement**.

Finally, another quote from that 1979 USDA report: "Little exists in the area of technology and production practices, either existing or foreseeable, that has not or cannot be successfully and economically adapted by producers with enterprises than can be handled by one or two workers."

It was true in 1979, it is true in 1994, and it will be true in 2001.

**Neill:** The audience needs to know that I carry around a lot of baggage. I look at the world through rose-colored glasses. I have a lot of prejudices; I'm above the average Iowa farmer in that I'm 56; the average Iowa is 55 point something. I'm a full-time farmer by my definition; neither my wife nor I have any other income than our farm. We're totally focused, not part time. Our roots are deep; our family has lived on the farm since 1875; and we have only family members for employees. We're proud of that fact.

I listened to Paul Lasley's definition of family farmer, and he said it's someone who produces the labor, capital, and management, is a resident, a landowner, and a tenant. I told him he should have used the word "focused."

I also have some baggage in that my wife and I are involved in an application for an agricultural area for our county, and it just so happens that people who live just two miles west of us applied at the same time. They're building a 1200-sow farrow-to-finish operation, and that's been a most interesting situation because we've been thrown in with that; we're now in court with our County Board of Supervisors because they granted us an agricultural area, without the nuisance lawsuit protection.

**Item one:** I'd like to talk first about land values. The problem with talking about them here in Iowa is that there's not much history; only about 140-150 years. But I invite you farmers to read your abstracts, because what has taken place in history is likely to take place in the future. It's interesting that the first land that sold in Adams County, the highest priced land, sold for \$1.28 an acre. Land sold for \$1.20 sold two years later for \$4 an acre. That land sold 19 years later for \$500 to \$2,000 an acre. That boggles my mind. My thesis is that we've not seen inflation during our lifetime in agriculture at all. Land has only gone down in price three times in our history: the 1890s, the 1930s, and the 1980s. You draw the line, make the projections. They're not making any more land.

Some things will keep land values down. The average return on assets during 1993 was 1.3%. The return on equity was -0.4. With those kinds of returns, we're not going to see a rapid increase in land values. But the top 25% of that group (surveyed by Bob Jolly and reported in the 1993 Iowa Farm Finance Survey) had a 5.3% return on assets. They're interested in buying land, and they're the ones who

are going to make it expensive for the rest of us. What are the other options? Stock market? CDs? Those haven't been too good. CD value is the same at the end; hopefully the land will be more.

**Item two:** The winners by the year 2001 will be the lowest cost producers. Production has been the key through my entire lifetime; the key now is management. We're involved in Specific Performance Analysis, Integrated Resource Management, Iowa State University, on our beef herd. There are only 22 farms enrolled in this program; only 22 people who have beef cow herds in Iowa are interested in what their costs are. That is not a very positive note. If we're going to be in the low-cost one third, we have to know what our costs are. My banker says he has 100 farmer client borrowers. Four of those furnish him a financial statement each year that they've made out themselves. The other 96 provide extracts that aren't worth the paper they're printed on. We have to do a better job if we're going to survive to the year 2001.

**Item three:** A trend that isn't going to change is that farms will continue to get larger. We're going to spread those costs over more acres. We're going to have more livestock. We can no longer afford the luxury of corn, soybeans, and Miami. It is not sustainable in terms of labor. If we do the type of crop production that Iowa State University tells us to, we can plant a crop in two weeks. A couple of thousand acres, if you've got machinery. You can harvest it in [a matter of weeks in] the fall.

We've got to do something in the intervening weeks besides watching the corn grow. We're going to see more vertical integration, more contract production. One of the larger beef feedlots in the country, in Texas, is now going in this direction because there's less risk. An Extension specialist here today said in an earlier session that we've got a generation of farmers now who don't want to

take risks because they've been through the 1980s. That never dawned on me until he said it, but I think he's correct. We're going to be more businesslike. We're going to have a wider disparity out in rural Iowa between farmers who have and those who have not, unless we start getting this management down. Manure will become an asset, not a waste.

**Item four:** Government farm programs—I'd like to see ASCS close, along with a few other government agencies, but it's not going to happen. A Chamber of Commerce member said, "We'll never allow any of those offices to close because those people buy food at our grocery stores. They're warm bodies and we need them." CRP costs 1.8 billion; it costs too much, so we're not going to do any more of that. Old farm programs are going to be out; we're not going to pay for a poor job of farming, which was what CRP was; we're going to pay for green payments, for a job well done. We're going to have people who are interested in the environment, and we're going to have to join with the environmentalists to get the job done. If we have a new CRP, it'll be the most fragile acres put back in, just pieces here and there. It'll give us the most bang for our buck.

I'll close on the same issue that Chris Novak does. The most important facet between now and the year 2001 is water quality. You will be responsible for the water that leaves your farm. We have to get ready for that now.

**Sand:** What are we going to see in 2001? First we have to define what we'll have on the farms before we can talk about the rural communities. So, I'll start on the premise that by 2001, farms will have to be established on one of two tracks, or roads.

One is "the agribusiness superhighway." I call it that because our society focuses so much on the information superhigh-

way. The agribusiness superhighway is already built, and it's going as fast as it possibly can. There are still vehicles of all sizes and shapes, but we're on our way to more uniform production. The carriers may not change in terms of size, except to tend toward the larger, with the little ones becoming "roadkills," if you will, but the main question is who is going to own it. The agribusiness superhighway can be defined this way: the lowest-cost producers of bulk commodities, specialized production of commodities, very specific to one commodity or a system that allows that commodity to be produced (e.g., how much land is needed to raise grain for livestock and then to be able to dispose of manure). Other criteria are: capital intensive, management intensive, and typically designed to become less labor intensive. It's defined as energy intensive the way we're currently doing it.

In terms of environmental impact, the agribusiness superhighway falls all over the place depending on the abilities and desires and values of the particular manager and owner. So I don't believe that this superhighway can't become environmentally acceptable and benign. It's just a matter of what the managers are willing to do. If you're on that superhighway in the future, the focus will be on management. Being average will not be good enough; being in the top one-third will be essential. Having long-term strategies to help increase production by at least 3% yearly and more will be almost mandatory to survive. By increasing efficiency we'll not necessarily be increasing product; we'll be increasing profitability and perhaps reducing inputs.

My premise is that by 2001, because of the demographics—many people going into retirement and the accompanying land transfer—capital and labor will all flow to those who have the management abilities. What will have to be discarded if you're serious about following that road will be a whole lot of tradition,

practices, or values. I'm not sure ownership of equipment, or even livestock, is part of the definition of what farming will be after the turn of the century, or that strong emotional ties to neighborhood or community have a great deal of bearing on what will happen—and it may be detrimental to be too emotionally tied to any one place or group of people.

I think there is some room in production for us to be all over the place. Our recent production trends are more faddish and may prove to be less than most efficient. Our move toward no-till farming is one example of gaining efficiency by abandoning past practices, but things like rotational grazing and seasonal dairying may be one of the answers to being that low-cost producer of a bulk commodity, and it's an alternative to other systems. In terms of swine and hog confinements, adopting a more European system may be more beneficial than the total confinement we've evolved to for breeding stock from birth to market.

Appropriate land use will become more essential to what's efficient—recognizing that a portion of our land is not being utilized to its best capacity and cannot sustain itself and cannot compete in the marketplace. So some land may shift to less intensive use in the near term.

The main thing is the issue that if you choose that route, are you really up to it? Forced consolidation of businesses, of the amount of risk involved in taking on something so capital-intensive, the amount of stress of being on the management level, the amount of personal compromises it takes to remain competitive, all raise some serious questions about whether you want to stay on the superhighway or not.

As an alternative, I want to propose a second, less traveled route. I define it as the "ecobusiness county roads." I'm not

sure if they're mud, dirt or gravel, but they're definitely not a superhighway at this stage. This ecobusiness road is one where the producers are intent on producing a premium quality product or service for a premium price. In this case, the entity is defined as emphasizing diversity of crops, products, and services, perhaps all coming from the same farm; it will be far more labor intensive and far less capital intensive than the agribusiness superhighway. It will still be very management-intensive; there's no way around that. It will focus on long-term sustainability, emphasizing exactly appropriate land use for every single acre, and on having top water quality, energy efficiency, and a future for the family unit. The focus for the ecobusiness country road will be the consumer.

Iowa in particular has to face up to the fact that we're geared up to an animal agriculture diet that is not highly advocated by the public agencies and the health profession. Because of that, we need to look more at specialty whole grains for consumer use, more for fruits and vegetables, yet we're not really geared up for that, even though that's where a major portion of the consumer dollars are headed. The way to get into that is to offer better flavor, color, and texture than the industrialized system has to offer in the supermarket, either by producing it under contract, or by getting into your own direct marketing.

A second driving force is the conscientious consumer who wants to be guilt free. They're looking for products without any pesticide applications so they don't have to worry if it's healthy or not based on government recommendations. The same is true for meats. There would be a place on this road for drug-free meat, cheese, and milk. Likewise, consumers are looking for resource conservation in the way food is produced so they don't have to feel guilty about the impact on the environment.

The third thing driving the ecobusiness county road is the potential for recreation experiences on the farm. A lot of people love agriculture the way they remember it and have a desire to get more in tune whether by picking their own fruit, buying from local orchards, staying at a bed and breakfast, and the like. So a range of services is also an option.

The fourth thing driving this is the potential for a global policy of sustainable development, where we start to identify that the United States is consuming its resources too fast, and that it's consuming other countries' resources as well, particularly in industrial feedstocks and petrochemicals and petroleum fuel. If we develop a sustainable development policy as a nation, we will then use our land base as the answer to our problems, rather than viewing it as a constant source of overproduction. We will start to produce alternative crops, industrial feedstocks, and biofuels off the land.

I choose the two highways analogy because the highways and roads are built by government, and the systems we have today, and in the year 2001, are also going to be built by government. It's going to be a matter of where we put our research dollars, technical assistance, income subsidies, and tax policy, in terms of which alternative gets the resources, and whether we have more than one alternative come the turn of the century.

**Rushing:** I represent Monsanto and agribusiness, so the focus of my presentation is the impact of new technology on Iowa in the next ten years. There are a few areas where we're seeing changes and will continue to see them. One is biotechnology. We've talked about seed corn in that respect. In the next year, we're going to see the first insect-resistant crop—cotton. I see that as positive. We're going to see it for other crops too. With insect-resistant crops, insecticide applications will be much reduced.

From an environmental standpoint, it's positive. We've got the same research going on with corn, for corn borer and corn rootworm and earworm resistance. These things will help to reduce pesticide use. In Iowa, about a third of corn acres get a corn rootworm insecticide. Long-term we'll see less pesticide use due to biotechnology. We'll also see things like herbicide-tolerant crops. The first will be the Round-up ready soybeans, where a farmer can apply Round-up over the top of soybeans and control all the weeds. Round-up probably has the lowest environmental impact of all the herbicides out there, so that will be another environmental positive.

It's taken a long time, but such developments are finally getting to market. From a regulatory compliance standpoint, as Ralph said, water quality is the issue. There are just gobs of regulations in the development phase right now. The Coastal Zone Management Act. The Great Lakes Initiative. The Clean Water Reauthorization. All these things will impact agriculture, and from a nonpoint pollution source standpoint (e.g., manure management systems). So five years from now, we'll look back at 1994 as the good old days when we didn't have any regulations. Regulatory compliance is the buzzword. It's impacting our industry because we're seeing much tighter restrictions on new product introductions and labels that are very restrictive; for example, some herbicides that can only be used in one part of the state.

Another is record-keeping. Lots of technology has come on the market, for example, handheld computers that record what seed was planted on a field, what hybrid, what variety, mapping to determine what fertility to apply to what field. We're getting so advanced that soon we'll have maps of every field, so we can prescriptively apply fertilizer. We're getting smart fast, sometimes faster than we're sure of.

Another thing is that new crop protection products will be developed to have less environmental impact than in the past. In Iowa, groundwater has been a big issue, and surface water is now an even bigger issue. Many of the older products—for example atrazine and others applied on a lot of corn acres in Iowa for 25 years—were applied incorrectly. We're a lot smarter today. That is coupled with the fact that new products will reduce environmental impact and are safer in other ways: (*Rushing holds up a packet of granules approximately 1.5" x 1.5"*). This is an example—a new broadleaf herbicide that we hope to get a label for this fall. This little packet controls broadleaf weeds on four acres. It's a half ounce per acre. You put it in a spray tank; the bag is water soluble so it dissolves in the spray tank. There are no plastic containers to dispose of, and this will do the same thing that a 2.5-gallon jug of atrazine would.

So the technology will make for a lot less impact on the environment. With 2.5-gallon jugs, disposal is a challenge. A lot of states prohibit putting them in landfills, in others you can't burn or bury them. So this technology will help avoid this problem in the future.

Another issue is that of pesticide labels. For the first time, the new labels are controlling how to farm. For example, with atrazine, to use it on corn, you can't apply it within 66 feet of where water runs off into a stream. You have to have setbacks and grass buffer or filter strips. The crop protection products will affect how farming is done in a lot of cases. Another thing is custom application. Ag dealers are already custom-applying a lot of products that farmers use. In some areas, 40%-50% of farmers don't apply their own products anymore. They're depending on the ag chemical dealer. And that's where many of our farmers are seeking out their information these days.

A survey in southeast Iowa last year asked farmers who they go to for advice. The lender was first. But for technical information, many farmers said the ag chem dealer. These personnel, who act as crop consultants, are a good resource.

In terms of conservation tillage, no-till has tripled over the last three years in Iowa. About 15% of the corn acres have had some form of no-tillage. For soybeans it's up to about half the acres. That's another cultural system that's really taken hold. The reason, as Duane said, is management and economics. If you've got one guy working for you, it makes it a lot easier in many cases.

Finally, Ralph mentioned CRP acres. There are 2.3 million acres enrolled in Iowa. About 50%-60% percent of those could go back into production without any environmental impact. But what about the other 40%-50% that are on vulnerable land? The indications are that CRP might not exist, but that some kind of set-aside program will be out there for these acres, and how it's awarded may be in the form of green payments or credits.

We've heard a lot about how Iowa farmers need to reduce ag chemicals, and I think they've done that. Usage rates have gone down greatly. New technology is helping them to have less of an impact on the environment.

### Questions

**Q.** (Tom Frantzen) *How do you know that a new, low rate product is a safer product?*

**A.** (Rushing) We know because the new products are researched for eight to ten years in 30 different safety and environmental tests before they're registered. Only about one out of 20,000 ever makes from research into the marketplace. So we really have to do a lot of this work. The newer products have a shorter persistence in the environment, they're less soluble, so they move less in water, they

adsorb more tightly to soil, and if they do move, the half life (persistence) is less. The most important thing is that we are a lot better at applying them than we used to be. The biggest problem in the past was that we mixed and loaded them near water sources, near the well. Today we've got mixing and loading pads; we've got secondary containment where we store it.

**Q.** (Bill Crews) *What's Monsanto's policy on rate of return on investment?*

**A.** (Rushing) If you asked the CEO what he would like, he might say 20%. But they've never gotten it before. In some other industries, which have higher valued products, they want 50%-60%, but in our business where we've got a lot more commodity products it's much less.

**Q.** (Ron Rosman) *What about churches, schools, business, the 4-H livestock show, for example? What about youth activities? Will we continue to have fairs? What about the larger issues of rural community survival?*

**A.** (Sand) I was just waiting for someone to say "rural communities" so I could finish my speech! I expect fairs will be consolidated like other aspects of rural life are being consolidated. Industrialization of agriculture doesn't hold a great deal of hope for retaining retail; instead, there's a lot of wholesale outside the rural community. The best aspect is that because there will be so much focus on management, there will be increased demand for services, and even with consolidation, I'm not sure we can wring a whole lot more labor out of the countryside. So I'm not sure the population has to decline any further, even with the consolidations that are taking place. Along the lines of services and industries, crop consulting services are one example of how people will gain efficiency by hiring more help to do more scouting to reduce inputs. Also, the advent of precision farming equipment may open up a whole line of custom operations that may



be offered in a rural community in order to use this new equipment, satellite technology, and to pay for those services by reduced input costs or increased efficiency.

There are opportunities under that scenario. The better scenario is to become more entrepreneurial by direct marketing of high value specialty crops. And it is small businesses that have the potential to create the most jobs and use a lot of the unused infrastructure: the farm homes, the rural downtown storefronts. If we want to put money into utilizing what we have left over from past agriculture, it should be in helping people to create these specialty markets, niche markets, before someone else gets them.

A. (Neill) We must make the farms profitable. I was heartened to see that the name of this conference included the word "profits." If we make agriculture in the hinterlands profitable it will go a long way to keeping our rural communities intact. I mentioned in Paul Lasley's session that in our town of Corning, which I began farming in 1964, there were seven major implement dealers. We don't have any now. The local merchants are buying their cars out of town. There's one thing we farmers can do: buy locally. But it has to be a two-way street. Farmers can't do it alone. Fairs are getting smaller because populations are declining.

A. (Novak) We need to consider reorganizing counties. The old reasons for creating them no longer apply; now we've got 20 to 25 "hubs," or service centers in Iowa, and that's how we'll have to look at restructuring communities.

Q. (Jerry Jost) *What do we mean by the claim that we're getting smarter?*

A. (Novak) We're better able to analyze information that already exists. Pesticide record-keeping is becoming mandated. Nutrient management record-keeping is

becoming critical. Analyzing and applying the information is what I consider making an operation smarter, more efficient.

A. (Neill) Let's talk about the brain drain we're experiencing in agriculture. We send our brightest and best to ISU or some other university, but then we never see them again. We did in the 1980s; graduates came back to farm then, but they don't now. We need to reverse this now. We must encourage young people to come back to agriculture; we must do it by making farming profitable.

A. (Sand) Everyone's smarter in that we all have an information base that a few years ago didn't exist. However, we may not be getting wiser. We need to identify what the consumer wants and then give them a high quality product.

A. (Rushing) We are smarter because we have more technology. Education is the key. We've seen that with ISU and reductions in nitrogen use. I was recently in Germany, and people there don't have the access to information that we have here (e.g., with Extension). Here we take information for granted.

Q. (Frantzen) *The Amish are the most rapidly growing segment of the rural population in America. Any comments?*

A. (Neill) I lived in Ohio for a year. Rural sociologists were conducting a survey then, so I helped interview the Amish. Their concern was that their children were leaving. This was in the early 1960s. (Frantzen counters that in large families, even if three children leave, several remain.) We'll have to look outside our families to finish the work that we've started.

A. (Sand) Not many want to adopt the simplicity of the Amish lifestyle or their technologies and practices. But the reality is that they are thriving, that they're not losing population like the rest of ru-

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ral Iowa. They illustrate the value of community goals. They choose their technologies not on the basis of religious strictures, but because the technologies serve the community goals. That's a lesson for us to learn from them if we don't like the direction we're headed.

**Q.** (Mark Rasmussen) *What about land ownership? Will farms be divided among [a retiring farmer's] children?*

**A.** (Sand) We'll have further consolidation first; families that can add more will do that, but how big can you get before inheritance tax takes it away or it's more than any one family can manage? It comes down to dispersed ownership. Some of that will be individual investment; some will be inheritance, but there will also be some corporate ownership (not necessarily big).

**A.** (Novak) There may be some unexpected movement back to rural communities. People like the quality of life compared to their experiences in metropolitan areas. They may not be going into farming, but they like that rural quality of life. That's going to have an impact on communities, county fairs, and the like. It also poses concern for me as a staff member for the Pork Producers as we begin to talk about rural and urban conflicts and solving odor problems.

**A.** (Neill) People will be able to do their jobs from remote locations thanks to technology: fax, telephone, and the like.

**Comment:** (Margaret Smith) We overlook half of the population in this discussion—women. We need to encourage girls to stay in the communities, in farming, or they'll leave.

# The Family Farm: Does it Still Exist?

Facilitated discussion with Paul Lasley,  
Iowa State University Rural Sociologist  
(Sessions 1 and 2)

*Lasley's research, teaching, and extension work focuses on farm and rural issues at the state and national levels. He is known throughout Iowa for the Iowa Farm and Rural Life Poll. Lasley earned his B.S. degree in animal husbandry and his M.S. and Ph.D. degrees in sociology and rural sociology from the University of Missouri-Columbia.*

The family farm is often held up in advertisements as the backbone of agriculture. What do we mean when we talk about "family farm agriculture" today? In these sessions, Paul Lasley examined the changing structure of Iowa agriculture and discussed its implications for sustainable farming, farm families, and rural communities.

*Note: Participants in both sessions commented on a wide variety of topics in what attendees later described as a "coffee shop" style discussion. Consequently, production of a transcript was not feasible. The following consists of information presented by Lasley, interspersed with selected comments from the wide-ranging conversations that followed. Comments were paraphrased; none are exact quotations. —Ed.*

## Structure of agriculture

(Lasley) The structure of agriculture has had an important influence on the viability and quality of life of rural communities in Iowa and the Midwest. There is a symbiotic relationship between the structure of agriculture and rural communities.

The national agenda has spent little time looking at quality of life and what the "structure of agriculture" really means. One exception was a 1986 study by the Office of Technology Assessment, which projected that by the year 2000, about 50,000 farmers would produce about

three-quarters of the nation's agricultural output.

The structure of agriculture has changed, and the revolutions in agriculture have been these:

1. the mechanical (1890-1940), in which labor began to be replaced by capital;
2. the petrochemical (1950-1980), which involved energy intensification, the use of chemical fertilizers and pesticides, genetic improvements (hybrids), and vaccines that improved animal health and disease control;
3. the biogenetic (1980 and beyond), which involved recombinant DNA, paving the way for new species and varieties, new uses of existing products, and biocontrol of disease and pathogens; and
4. managerial, which demands greater human involvement in managing complex, integrated systems.

Agriculture has been buffeted by these four changes.

The Census of Agriculture defines a farm as any unit having the potential to sell \$1,000 in agricultural goods. The number of such farms in Iowa has decreased significantly from 190,000 farms in 1954 to 96,540 farms in 1992.

There have been declines in the farm population since 1940, when one in three

Iowans lived on the farm. Iowa continues to be a dominant agricultural state, yet now only about 9% of Iowa's population currently lives on the farm as compared to 2% nationally.

These changes have had great impact on communities. Communities of less than 2,500 meet the definition of rural, although they may not all be dependent on agriculture for their viability. Over the last 50 years, 57% of those communities have lost population. Three-fourths of cities sized 2,500-25,000 have increased in population. Of major cities (25,000 or greater), 80% have gained population.

A 1993 study by Paul Lasley, Eric Hoiberg, and Gordon Bultena at Iowa State University reviews previous research on the connection between sustainable ag and industrial ag on rural community viability. They looked first at the connection between industrial agriculture and environmental quality. While the research is far from conclusive, the predominant findings are that as farms grow larger, they become more specialized and practice monoculture, which leads to a decline in environmental quality. The move toward industrial farming has reduced the number of family farms. In concert with fewer people and deteriorating environmental quality, this exerts a negative influence on rural community viability.

Proponents argue that sustainable agriculture contributes to more family farms, an environmentally benign or beneficial agriculture, and a positive impact on rural community viability.

The Iowa 1991 Farm and Rural Life Poll, directed by Dr. Lasley, found that 19% of those polled plan to retire, and that 14% planned to "quit."

The 1993 Rural Life Poll asked 2,390 randomly selected farmers, "What are the threats to rural America?" They reported:

	Percentage reporting severe threat:
The loss of family farms	76
Closing of small businesses	67
The increase in illegal drug use	61
Lack of jobs	60
Changes in traditional work values	56
Decline in American work ethic	55
Changes in traditional family structure	52
Increase in crime	47
Alcohol abuse	45
Migration into cities	43
School consolidation	30
Depletion of natural resources	22
Inadequate work force	16
Decline in environmental quality	14

Loss of family farms was ranked first with 76% of the 2,390 surveyed identifying it as a moderate or major threat. Closing of small business ranked second at 67%. The first two threats reflect the loss of opportunities and the similarity of issues on farms as well as on main streets.

Another question asked what issues have impact on agriculture:

	Percentage reporting very important:
Loss of competitive markets	64
Declining viability of communities	61
Declining numbers of farms	57
Market concentration of agribusiness	43
Vertical integration	37
Influence of international corporations	34
Changing food habits	29

Data from 1992 show that 40% of Iowa farmers are age 55 or older. In the next few decades we will see a substantial turnover of farmland in Iowa and other Midwestern states as the current generation of farmers retires.

In terms of job satisfaction, the 1991 poll asked the following questions and obtained these results (where numbers don't total 100%, the remainder indicated "don't know"):

- What are your farm plans for the next five years: *retire from farming*, 19%; *quit farming*, 14% (the remainder indicated neither).
- If you had to do over again would you still choose to farm? 71% *yes*; 17% *no*.
- Would you recommend farming to a friend? 35% *yes*; 40% *no*.
- If by some chance you were to get enough money to live comfortably without farming, do you think that you would continue to farm anyway? 64% *yes*; 13% *no*.
- Do you want the farm to remain in your family when you retire? 73% *yes*; 9% *no*.
- If you have children, would you like for one of them to take over the farm when you retire? 56% *yes*; 22% *no*.
- What do you think will actually happen when you retire? 24% *said children will take it over and eventually inherit it*; 12% *will sell to children*. 26% *will retain ownership and rent it out*; 8% *will sell it*; 12% *don't own the land*.

### Defining "the family farm"

Defining a family farm resembles defining pornography: "I know it when I see it." But what do we mean when we say "family farm?" Virtually all farms in the United States, including the largest farms, are organized as family farms. Family farms are a Western creation, partially a product of our history of homesteading legislation. Some of this legislation required residency on the land. Thomas Jefferson, a spokesman for family farm agriculture, believed in making land available for the masses and providing opportunities for families. He believed that people who owned property would then take an interest in voting, paying taxes, and participating in democratic government.

In addition to family farms, which are often broken into individual, partnership, and corporate categories, there is a multitude of other farm "types": part-time, hobby, limited resource, partnerships (non-family), absentee-owned, foreign-owned, inter-generational (family), haciendas, small-scale diversified, general, specialized (e.g., dairy, cash-grain, hog), tax-loss farming, low-income, sustainable, organic, and commercial.

There is a great deal of definitional ambiguity when it comes to family farms, since almost any farm could fit the more common definitions. It may be more useful to understand the relationships between family farmers and the land within the context of neighborhood and community. Considering subjective assessments, such as the values, beliefs, and the relationships between people and the soil, may be more helpful than objective definitions of family farms. Some of the family farm values worth noting are continuity, permanence, beauty, neighborhood quality, community, family, environmental quality, cooperation, opportunities, and equality. We may want to consider the difference between farming as a business and farming as a way of life.

People can generally agree on three dimensions for defining the family farm: that the farm family provides the majority of the *labor, capital, and management*. Three other dimensions need to be included. The farm family should also live on the farm (*residency*), they should *own* some of the land, and should rely on the farm for a significant portion of the family income (*dependency*).

If we alter these six factors, does the family farm still exist? All kinds of farms get crowded into the definition of family farms. This ambiguity has allowed policy-makers to define a family farm as any unit selling \$1,000 in goods annually.

(Southwest Iowa farmer Ralph Neill) A better word than "dependent" might be

"focused." In his township, only three couples depend on their farm for 100% of their livelihood. He says that most others are focused on off-farm employment. We need to define that focus. How many "focused" farmers does Iowa have? We have urbanized rural Iowa, and those who have a full-time focus somewhere else are no longer rural farm people.

Sustainable farming goes a step further in defining "family farm" by introducing farm size as a factor. Should size be considered? Should there be limits in terms of size? If so, do we use acres or gross sales? A large farm in Iowa would be a small farm in the Western states. A medium Iowa farm would be a large farm in the eastern United States.

The poll revealed the following beliefs surrounding family farms:

1. They are better stewards of the land.
2. They are better neighbors.
3. They contribute to stronger, more vibrant communities.
4. They are productive and efficient.
5. They provide a moral fabric for rural society.
6. They promote close ties between work and family life.
7. They are good places to raise children.
8. They produce cheap, abundant, nutritious food.
9. They contribute to egalitarian society.
10. They ensure a healthy rural society.
11. They are the bedrock of democracy.
12. They provide opportunities for self-improvement.
13. They support local retailers and businesses.
14. Rewards are based on work and effort.
15. They are necessary to feed the world.
16. They have high moral and ethical standards.
17. They provide personal independence.
18. They provide a sense of doing something worthwhile.

## Questions and discussion

The following questions were posed:

- Should farm size be considered in the definition of a family farm?
- What is the difference between a farm and a factory? The process of *industrialization* and *specialization* blurs the distinction. Are large hog operations more like factories than like farms?
- How can we tell a family farm from a non-family farm?
- Should the level of diversification be used as a way to define a family farm?
- What should be done? What should the Leopold Center do to address these issues?
- How do you handle labor requirements if you have a father with one son versus a father with five or six sons?
- What generates the demand for land?

**Participants' comments** (*Except for Ralph Neill, Norman Greystone [Boone County farmer] and John Baker [Farm On Program, Extension] comments are not identified by speaker.*)

(Baker) Older generation farmers seem to recognize what's happening, but they seem unmotivated to do anything to change. If we recognize that the loss of family farms has a major impact, why don't we do something about it? One problem with young people starting to farm is that non-farm heirs don't want a non-family member to eventually own the farm land. Not many people are interested in farming an area for 30 years and then never owning the land.

(Neill) Another problem is fewer children available or interested in farming. And the closing of small businesses is a real threat to farmers because they must drive large distances for services.

(Lasley) The Iowa birth rate was recently reported to be at an all-time low. We

need other models that are good examples of intergenerational transition.

(Neill) I was heartened to see the word "profit" in the title of this conference. "Profit" is not a bad word. A sustainable farm must be profitable. Many farms aren't doing well.

(Lasley) We know that small to medium-sized farms are quite efficient, but they don't make enough money because of the thin profit margin. We need to find ways to widen thin profit margins for sustainable farmers.

(Baker) More acres doesn't mean a wider profit margin. We also need to define what we mean by profits.

(Greystone) A big drawback to farming is that there is a lot of competition between farmers—even between neighbors. The land is expensive, so how can anyone start farming?

People wanting "rural living" are buying land; some are outside investors. We need policies that will keep prices down.

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As a producer you have to have a paycheck day to day. But as long as the data focus on that alone, we miss another whole layer: That political process by which multi-national companies influence the "system" and create conditions where other producers fail and the multi-nationals prosper—or at least they limit opportunities for others.

What can we do to alter this structure?

- Increase network of cooperatives.
- Rural people can "unhook" from the current system.

The poll indicated that 80% of those surveyed have a garden, but they only produce 20% of their food on the farm.

Many rural people buy their food from multi-national companies.

(Greystone) Factory farms have folded up historically; they are short term.

## Conclusions

(Baker) At this point we should be more concerned with the family farm continuing to exist, the kind that supports the rural community and keeps it vital.

In some discussions large hog confinement operations are referred to as protein plants. When we see industrialization, the large-scale specialization begins to blur the distinction. That's why it's hard to distinguish a family farm from a non-family farm.

Maybe it's not the economics or the size but something else. It may be more about the subjective, qualitative dimensions. What are the key beliefs of the family farm? Sustainable agriculture circles talk about the benefits of family farms. The benefits may be some of these qualitative criteria; for example, better stewards of the land, better neighbors (those who own the land are better caretakers and make better neighbors).

Family farms have all these attributes plus others not listed.

When we talk about the future we have to talk about opportunities for young people to get into the market because it appears that a lot of land will be on the market. So maybe we should be asking how we can provide this opportunity.

Every farm could be a family farm with this definitional ambiguity. It may be more useful to understand the relationship between owner/operators and the land in the context of neighborhood and community. This relationship involves commitment to a set of rural values and agrarian values. It may be a relationship between people and the soil, reminiscent of Gandhi's statement about a ratio between eyes and acres being more important in understanding how family farms provide support for rural communities.

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The cultural dimension may help us understand sustainable farms and sustainable communities.

The discussion that has dominated agriculture—farming as a business versus farming as a way of life—is too simplistic. We need to look at *agriculture*, and quit looking at “sustainable” farming and start talking about sustainable agriculture with the emphasis on culture.

If we are to make a difference, we need to foster a new system of agriculture. That new system has to appeal to people beyond those of us who till the soil, and some of the values and beliefs should begin to emphasize the cultural or the human dimension of food production.

Of course family farms exist. But we’ve seen some radical changes. We need to address what those next steps should be.



# Envisioning an Iowa Agriculture More Responsive to Consumer Needs

## Presentations and discussion with the following panelists:

- **Amy Barr**, director, Good Housekeeping Institute (both sessions; see p. 19 for biographical information)
- **Rose Kleyweg Mitchell**, vice president for education and training, HyVee Foods (both sessions).  
Mitchell earned her B.A. degree in English and Speech Communication from Simpson College in 1977. She joined the Hy-Vee headquarters staff in 1979; she has served there as director of training and as assistant vice president. She sits on the Heartland Pantry Board of Directors and the Food Marketing Advisory Board.
- **Naomi Maahs**, President, Iowa Fruit and Vegetable Growers (session 1)  
Maahs grew up on a farm in Whittemore, Iowa. She received her B.S. degree in horticulture from Iowa State University in 1980. She and her family own a 20-acre fruit and vegetable farm east of Adel. Maahs has been on the board of the Iowa Fruit and Vegetable Growers for the past two years. She is a past president of the Iowa Horticultural Society.
- **Denise Chevallier**, purchaser, Blooming Prairie Warehouse (session 2)  
Chevallier earned her B.S. degree in Agricultural Business from Iowa State University. She is serving her third three-year term on the Board of Directors of New Pioneer Cooperative, Iowa City. Prior to working for Blooming Prairie, she was project manager of "Marketing Iowa's Organically Priced Food," a joint project of Iowa State University Extension and Iowa Organic Growers and Buyers Association, funded in part by the Iowa Department of Economic Development.

Facilitated by Ken Prusa, professor of Food Science and Human Nutrition, Iowa State University.

As an agricultural state dominated by corn, soybeans, hogs, and cattle, what might Iowa look like if many of the current incentives to grow and raise these commodities were replaced with more incentives to respond to local consumer needs? In this session, panelists discussed consumer, retailer, farmer, and specialty-market perspectives on how Iowa agriculture can develop closer linkages between producer and consumer.

(Note: the following comments have been summarized and/or paraphrased; while they represent a good-faith effort to reconstruct the content of what was said, none are presented as direct quotations. —Ed.)

**Prusa:** Too often our production-based ag system forgets about the end user—

the consumer. The consumer sends messages back through the system whether vocally (for example, on BST, irradiation) or silently (by choosing not to buy certain products). Those messages can get fuzzy, or they don't reach the producer in time. Slow and painful is the change from production ag system to a market/consumer driven ag system in which the market signal that drives the production of the product comes directly from the consumer.

**Maahs (session 1):** Comparing two horticulture surveys done in 1988 and 1993 by the Ag Diversification Bureau, the Statistics Bureau, and the Iowa Department of Agriculture and Land Stewardship (IDALS), and based on other observations, fresh food production in Iowa today is growing. The figures show that there is growth in production acres of "hort" crops, real estate related to horticulture business, and in the number of farmers' markets in the state.

Fruit and vegetable growers are expanding and finding niche markets that work for them and their location. Nursery, Christmas trees, sod production, and horticulture consulting are all "greenhousing," all finding their spot in the agricultural economy.

Maahs and her family run Country Gardens in Adel. Country Gardens is an on-farm market selling fruits and vegetables. She has learned that support comes from the community where you live. Her family's operation has experienced 15% growth per year since 1983.

Community support is needed for these businesses, and communities *are* supporting them. There were 20 farmers' markets in Iowa the early 1980s (farm crisis years); now there are 120 in Iowa.

Fresh-grown produce is higher in vitamins and minerals than store-bought, in part because the nutritional content declines with time. As it sits in the store it loses nutrition.

There is an increase in people wanting homegrown, Iowa-produced fruits and vegetables for their freshness and nutrition. The trend is to buy local. The attitude is to stay close to the farm. They like the atmosphere and want to stay in touch.

The producer must be able to make a living at it or use it as a second income. Fruit and vegetable production is labor-intensive. Most things must be done by hand. You must compete in the market for good wages. Government regulations require more and more record-keeping and filing of forms, creating a time requirement. Advertising and public relations are needed to inform customers of what you do and who you are.

Incentives could be provided to help have more opportunities to respond to consumer needs. Horticulture production could use more commitment to com-

mercial horticulture from the university in research, education and extension. Only three horticulture extension field specialists cover the entire state of Iowa.

Research is needed in fruit and vegetable cultivars that are well-adapted to Iowa. Iowa needs to target one item that will work for Iowa and market it well (for example, the Vadalina onion, Walla Walla onion, etc.). That's one thing that would really work for Iowa.

Producers need a disaster program from USDA to be in place. The drought of 1988 and the flood of 1993 would have lost many more producers if there had not been disaster assistance from the federal government.

More marketing and promotion activities from IDALS would be helpful. "Iowa-grown" and "-produced" should be emphasized in marketing. There should be more emphasis on this, a higher profile, and more commitment to locally grown produce at farmers' markets. Also needed is more acceptance of Iowa products in grocery-store produce departments, but that is difficult at this time; relationships with produce managers are needed.

There need to be incentives for Iowa-produced, value-added products. Some states have jams and jellies, popcorn, and honey very nicely packaged for gift baskets. There is nothing widespread like that in Iowa. There also needs to be some kind of processing industry for fruit and vegetables in Iowa. Why have we lost the processing industry and what can we do to get it back? We can, and we will have to, respond to consumer needs in order to survive. Needed are incentives to keep people on the farm and help them to be successful business people.

**Kleyweg Mitchell:** Education and training means change, teaching somebody to do something different than they were; that is, changing a behavior.

Long-term, superior performance is created and sustained by taking exceptional care of the customer. A successful enterprise must have superior service and quality, and it must constantly innovate. That's what this discussion is about: creating a sustainable agriculture. How do we become more innovative, how do we create markets, how do we maintain and work toward being superior? "Profits" is the key word for all of us, the farmer, the processor, the retailer—all providing value for the consumer.

We focus on the needs of consumer, meeting consumer needs, and selling what consumers want. What the consumer wants is quality products, safety of supply, and good value. New products need development and research. Will consumers buy it? Do they need it? Will the retailer make a profit as well? It is helpful to track lifestyle changes. People want more ready-to-eat than ever before. This is where value-added, enhanced products are the key. They must be consumer-ready.

The meat industry went from whole carcasses ("swinging beef") to boxed beef (cut up in boxes) in the 1970s. From boneless box beef, by the 1980s the norm was a close-trimmed product. This product was closer to the consumer needs and wants without a lot of work being done at the retailer. Today's norm is the grocer's-case-ready product direct from the processor. "America's cut" was one of the first "branded," consistent products. Consumers recognize the name, know what it is, how to cook it, and that it's the same everywhere. More products are appearing in this way.

It is more efficient for the retailer to create a value-added product such as a "whole meal" concept for the consumer. Retailers are cutting up stir-fry vegetables and meat or putting pre-baked items such as pre-baked potatoes all together in the same place.

Why should the fat and bone go to the retailer? Processors keep those products because they can do something with them. The retailer doesn't need them. It helps take costs out of the system and helps to lower prices to the consumer.

Do Iowans want more locally grown products? Nothing is more effective in the retail store than the sign, "locally grown by a neighboring farmer." This gives the impression that the product was picked today, it's fresher, and prompts the response, "I know the person, I know where it came from, I have confidence in the Iowa market." The consumer wants fresher products from closer to home—that hands-on touch.

Part of the problem in working with individual farmers or growers has to do more with volume and consistent supply. Retailers need specific products, specific volumes, and specific intervals. Consumers want the product when they want it. You can't just grow a few acres of X product, harvest it all at the same time, and dump it on the retailer.

Once consumers try it, they want to come back again and again. They need the volume. Consumers want the fresh products like tomatoes and sweet corn, but they want them year-round. Because of the limited growing season in Iowa, retailers must then go to worldwide markets to find their product.

How can all segments of the food industry respond to these rapid changes in the farm industry?

By *communication*—a shared meaning between two or more people. The retailers need to talk with the farmers to help them understand what they need to meet their consumers' needs. Retailers want to form partnerships with ag processors.

Also necessary are cost cutting, effective marketing, and products that meet

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lifestyle changes and consumer demand (first identifying the demand, then fitting the product to meet that).

How successful will community-supported agriculture products be? The retailer is an untapped source to team up with the farmer to develop new products, to help in cutting down on processing, contracting to send the whole supply, and producing identical products.

In-store promotions, advertising, flyers, recipes, and sampling (educating consumers) also help. We should promote locally grown and produced products when we can and look for ways to communicate directly with the producer, not just the processor.

There are roadblocks; for example, not enough quantity in locally grown products to sell and at the proper intervals. More producers need to work together. Other roadblocks are government regulations and lack of effective marketing and promotion of new products. Products need to be ready for consumption, ready to eat. Consumers need it now, want to take it home, then use it immediately.

The demand has to be created first. The most important thing is to keep the customer in mind. The customer is the ultimate consumer of what is produced on the farm. The retailer is not the true customer. What this discussion is all about today is how to create an unbroken circle of communication between the farm gate and the dinner plate.

**Chevalier (session 2):** What are consumer needs? From my perspective, I see consumers wanting to know more about the food they eat. The questions run the gamut from what's in it, to what's not in it, to environmental and social concerns. What effect did its production have on the land and the people involved? Why are we transporting so much food in, and shipping so much so

far away? Why not grow food to be consumed right here? These are legitimate questions and they become even more important as we begin to recognize the hidden costs of maintaining a monoculture agriculture.

We need to bring farmers and end users closer together. Neither one knows much about the other. In between is a giant mass-production marketing industry that negates any more direct profit sharing through collaboration. So, we must make an effort on both sides to envision a profitable and sustainable agriculture in the future.

Let me share with you how New Pioneer carries out its commitment to buy organically and locally whenever possible and to bring farmers directly into the consumer's world. Our produce manager has been very receptive to working with local farmers. He has discovered what communication is necessary to establish a working relationship with the suppliers. Verbal agreement and written contracts establish what the co-op needs and what the farmer needs for a price. Each year, in the early spring, the manager holds a meeting with the local producers. This is an opportunity to present what his expectations are, and what types of produce he will have a need for in the coming seasons. From there, farmers are encouraged to approach him on a one-to-one basis. As New Pioneer has grown, so have the number of suppliers and the amount of produce that can be sold. Farmers are more sophisticated in the marketing aspect of their business, more attentive to what produce is being sold in the store. Long-term relationships have been established. In the coming years there will be a growing market, and barring bad luck, a supply. New Pioneer has four main suppliers, but will, throughout the year, purchase from up to 20. We purchase both organic and home grown, about 25% of the total. In the produce section are pictures of each local producer. Many products are also

produced locally. We sponsor the Midwest Food Fair that spotlights local products such as breads, tortillas, and jams. Last fall, we sponsored a field trip to one of our local organic producer's farms. At New Pioneer we make an effort to bring suppliers and consumers closer together, with education on both the consumer and producer side. We try to close the circle of food production.

On a regional basis, since 1988, Blooming Prairie has experienced an increase of sales from \$15 to \$29 million. Over the last few years, much of our growth has been in the retail area. Likewise, on a national level, 1993 marks the largest increase in retail sales, with natural product sales exceeding \$6 billion, a \$1 billion increase over 1992. Natural food stores increased sales by 17%, and the mainstream supermarket's natural food sales increased by 14%. A key trend in 1992 was a proliferation of chain natural product stores. The Midwest is targeted as the largest untapped retail market in the country, and there is already rapid growth in sales. Part of the marketing strategy of these stores is to buy locally produced products. Given that the factors of good quality, consistent supply, and competitive pricing exist, regionally produced food is another marketing highlight. I am convinced that there is a strong market for those willing to look at specialized niche products and take on the challenge. This industry began at a grassroots level, over 20 years ago, with consumers who formed cooperatives and buying clubs. Part of the reason that the health food industry is now taking off is that the foundation of manufacturing, processing and distribution that makes product ideas into a reality is beginning to mature.

In my position at Blooming Prairie, I have the opportunity to take the local farmers to another level of potential sales. It's a marketing plus, and a good thing for the local economy. It's not only natural foods, but something that comes

from close to home and is marketed that way has its own impact.

An herb supplier in Norway, Iowa, has been working with growers there to develop a local herb supply. The farmers were looking for alternatives to corn and soybeans, and they were impressed by the number of herbs suited to this region. One farmer began to research the herb market, and began to grow for Seeds of Change as well, a seed company that offers heirloom seeds untouched by hybridization. This is an example of how one farmer's experience with another type of agriculture began to make a change that made sense to him and was exciting as well.

"I'd like you to meet my farmer," said one woman in a Minneapolis restaurant. She was introducing the man who runs the CSA (Community-Supported Agriculture) cooperative in which she is a shareholder.

Community-supported agriculture: What is it? It's a grassroots movement. The concept was born in Japan some years ago and found its way to the United States sometime in the mid-80s. Often referred to as a CSA, there is not one textbook definition. In general, CSAs form a partnership between farmers and consumers to create a fresh food supply, without waste or pollution such as we find throughout much of our food system today. The distance between farmer and consumer is about as short as it can be. The consumer or shareholder pays the producer up front for a season's supply of goods. The farmer raises the crops and livestock and parcels them out to shareholders. Essentially we share the costs as well as the risks of food production. This is not subsidizing, this is supporting. CSAs throughout the Midwest each have their own personality. Some are very economically based, with a bare-bones relationship between the farmer and the shareholders. Others have developed a very close, decision-making rela-

relationship with the shareholders. A community of commonly held beliefs becomes as much a part of the experience as the production of food. Most CSAs encourage shareholders to visit and plan for at least minimal involvement, especially during harvest and distribution times. For the most part, people are amazed and even overwhelmed at the amount of product that one's share buys. Rarely does anything go to waste when there is a system of swapping or redistributing among shareholders.

There are 12 CSAs around the Madison, Wisconsin, area. The Twin Cities area CSAs have over 1,000 household members. Some may believe that CSAs will be viable only around large metropolitan areas. I think that is premature. Wherever there is a commonly felt need for farmers and consumers to work together, to share responsibilities and opportunities, there will be a need for CSAs.

I see a new type of agriculture emerging, a viable future offering many alternatives.

*Discussion in session 2 involved the development of CSAs in Iowa, especially around the Iowa City and Des Moines market. Questions for the panel addressed the status of organic labeling of milk, meat and eggs, and the national certification process once national standards are implemented in January 1995.*

*Comments from participants: "Many times I ask for organically grown food, and the grocers will say, consumers don't care how they're food is grown, they only care about the price." "Educated consumers make good consumers. Consumers have a right to know how their food is grown."*

**Amy Barr:** The Good Housekeeping Institute is the research, service, and editorial area of *Good Housekeeping* magazine. *Good Housekeeping* has 28 million consumers. The values of your customers are the value of my readers. *Good Housekeeping* is Middle America.

The reader/consumer today describes herself as too stressed out: we are in "fast-forward" lifestyles. We are too busy, yet we can be the worst time managers. Yet we just pack more into every minute. Women admit they are stressed, but try to ignore it. For example: "No time to cook, so we are buying the cut-up chicken—call it coping. We want convenience."

When consumers are buying Doritos instead of grinding their own corn, you have a lot of farmers contracting to Frito Lay. We as consumers are demanding packaged products. The more packaged products people buy, the more they forget they came from the farm. We are our own worst enemies; we have become so efficient as farmers that people forget there are farmers and that food comes from somewhere.

People figure out how to use items to fit into their lifestyle so we don't have to cook anymore. Example: We don't have to make coleslaw dressing from scratch anymore. Just buy the bottled dressing and add cut-up cabbage. We are learning how to hardly cook at all, or we have forgotten. Retailers are making it easy to hardly cook at all ("speed scratch").

The pork industry has done the best job, a wonderful job, on marketing convenience. Science has allowed them to breed a leaner product. They have made and bred their product to be healthy and convenient.

Consumers want convenience, but they also want food to be as fresh as it can be. So we have to aim for value-added on products. People are not willing to spend the time at scratch cooking. They don't have the time; they'd rather get to the PTA meeting. It's a trade-off. The art of cooking is not held in the high esteem that it used to be. *Good Housekeeping* went from the 30-minute entree (1982); now consumers want the 30-minute-meal; they'd prefer it be 20 min-

utes. The no-cook cookbook and the five-ingredient cookbook are the highest sellers.

The bread machine has become the highest selling product (for the third Christmas in a row). It allows us to "bake bread"—offering the "fresh" appeal—but we don't have to do anything to it. People aren't into raising the wheat; they want the convenience product.

Consumers are more interested in food, but they don't know that much about where it comes from. Americans' cooking styles have changed. We use 68% more spices than a decade ago because we are into Mexican and other ethnic cooking. Fresh basil use is increasing. Red pepper consumption has risen dramatically.

Restaurants have had a strong influence. They are serving your products, and they are using products from their home states. People like to see that on the menu. Restaurants are where food trends start across the country. That's how people become interested in new foods.

In 1976, nutrition was still teaching "treatment." We've gone from treatment to prevention, and we have figured out what we do with our diets and lifestyles to affect our health. We have the luxury of worrying about that, and we can change in the face of disease. Now we're seeing diseases of excess rather than those of deficiency. Americans have time to worry about additives, preservatives, and pesticides, when most of the world is worrying about where the next meal is coming from or the next cup of water. It is a luxury to be a vegetarian in America, to be able to choose *not* to eat meat when most countries would like to have any. We in America have become very complacent about agriculture. We don't have to worry about it. It is in front of our face, the food is there, we don't have to worry about it. We can

worry about our health. Americans are the only people in the world who feel death is optional!

People feel that the farmers are the worst environmentalists. Most farmers are the first environmentalists. But the further you get from the farm, the more easily you forget this.

The urban audience thinks about "animals" along with their house pets. They feel very sorry for cows and pigs because they consider them as dogs and cats and parakeets. They forget and don't want to be reminded that they are eating something that used to live and breathe and had fur.

There's a "smart/dumb" paradox. Consumers are interested in food and they think they know everything about food, and a little knowledge is sometimes a bit dangerous. They are terribly opinionated. Everyone is an expert on food. The media has put everything in short sentences and made it so easy to explain. But food is not easy to understand or explain.

There is a fat phobia in this country. Advertising is a huge part of the food industry and it is very influential. It can be food terrorism at its worst (for example, movie-theater popcorn and coconut oil—they say popcorn in the movie theater is going to kill you because it's cooked in coconut oil. But what they don't say is that the average American goes to the theater only 10 times per year!).

We have the safest food supply in the world *and* luxury of worrying about it. Most of our food safety problems come from our own homes, but consumers won't blame themselves.

New technology is good in many ways. But people feel that technology is good only if they can see how it helps them. If the consumer can't see what it is doing for them, they don't want it. Technology

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is important only if it helps us manage the complexity in our lives. For example: consumers like good-tasting tomatoes to have on their salads in February.

The view of farming from New York City is to keep the family farm as long as you can. Consumers think farmers are honest. The most credible sources are farmers, mothers, consumer groups, health professionals, and major media. A great spokesperson would be a mother who is a farmer.

The most concerned audience for agriculture to reach is a woman aged 25-55 with some college education and household income above \$30,000. This group is the target for marketing.

Women like technology to be linked to consumer benefits. They are less interested in economic benefits. Men like statistics. They respond well to safeguards overall, but "the promising future" sells

better than "the successful past." Consumers are looking for reassurances about safety, but reassurances about pesticides are resisted aggressively.

Biotechnology "sells" best as a replacement for ag chemicals. A sense of personal control is a crucial factor for reassurance. Acknowledgment of problems helps disarm even the most strident. Too, the delivery process between field and grocer is confusing to consumers.

Consumers' attitudes toward new technology are fluid. Consumers are initially resistant but view technology more favorably when you add benefits on to it. You have to show them a reason why they need it. The word "industry" is very negative. You're farmers, not an ag industry. Food safety remains the most immediate and personal of issues.

*The full text of a paper by Barr appears on p. 19.*



# Leopold Center Listening Post

Jeri Neal, Leopold Center Research Coordinator

Mark Redmond, ISU Department of Speech Communication, Facilitator

*A small but diverse group of participants shared perspectives during the two "listening post" sessions at the conference. The group included Iowa farmers, legislative representatives, private citizens, and representatives from universities, extension, Practical Farmers of Iowa, and Kellogg Foundation associates.*

*While the group didn't represent a "scientific" sample of Iowa agriculture, it did provide an opportunity for the Leopold Center to hear first-hand the views and opinions of interested individuals. The Center hopes to hold other "listening posts" in the future.*

*As an opener for the sessions, held twice in the afternoon, 15 participants spoke briefly about what they liked and what they didn't like about how the Center uses its resources. On the positive side, participants said that the Center's existence helps institutionalize the issues of sustainability in agriculture, and that the Center's overall direction is good because farmers don't particularly like using pesticides and handling chemicals. Participants also liked the concepts of networking to identify projects, the bridge-building between researchers and farmers, and the inclusion of farmers and agribusiness on issue teams. With regard to projects and funding, they liked the agricultural emphasis of the Center and the longer-term funding opportunities.*

*Participants also offered constructive criticism. For example, they asserted that there is a lack of awareness by farmers of the Leopold Center and what it is about: the Center may be misinterpreted as having a policing/regulatory role, possibly as part of the Department of Natural Resources, creating regulations that hamper farmers rather than providing aid in problem-solving. Participants said the Center is perceived as part of the "whole sustainable agriculture movement," which most farmers associate with a decreased emphasis on profitability. Farmers in the listening sessions noted that awareness of the Center is colored by the knowledge that the Center was initiated as part of groundwater legislation—which also taxes fertilizer and chemical sales in the state. They said farmers want to know what they are getting for their money and what the Center is doing with the tax funds.*

It was also observed that:

- ISU is not the only research institution in the state;
- there is over-emphasis on nationally publishable research and under-emphasis on research valuable to specific areas of the state;
- there have been problems at times with the timing of education efforts and a lack of sensitivity in the release of information; and
- inconsistency of research results when applied to specific areas breeds reluctance to change practices.

Following these discussions, participants offered their insights on how/where the Center might better use its resources.

Their perspectives can be loosely organized as follows:

- Improve communication about sustainable agriculture and the Leopold Center among students of agriculture (education), farmers (by radio and through increased participation in programs), and consumers. Extension agents and bankers were also noted as critical links in the communication chain.
- Ideas for future investigation included: alternative crops, organics, nutritional value of organics, windbreaks and perennial buffers, minimizing fossil fuel inputs, farm management, support for programs un-

likely to be funded elsewhere (e.g., wasps); and development of a step-by-step transitional process to help farmers adopt sustainable agriculture practices.

- Sociological and economic dynamics were emphasized as critical elements of sustainability. Commodity support programs should be questioned, participants said. The Center should reward applied researchers for loss of their "publishability" in academic journals and search for additional publishing options in other fields of study. The stability of niche marketing for the individual grower should be examined. New leadership and rewards for team efforts should be provided. Farmer-to-farmer mentoring systems are needed, and the Center should practice and emphasize setting goals holistically.

The Leopold Center appreciates the interest and participation of conference attendees in these sessions. The staff and the advisory board will note these observations as they evaluate Center programs and directions.

### ***Specific participant observations and discussion points***

#### ***1. What is the Leopold Center doing that you like? (What is it doing well, and what should it continue doing?)***

- Center's direction is good because farmers don't particularly like using pesticides and handling chemicals.
- The sponsored research is in line with the agricultural emphasis of the state—that is, production of feed.
- The Center's very existence helps institutionalize the issue of sustainable agriculture which is important for the issue's success. Helps in support of Practical Farmers of Iowa (PFI) and other similar groups.
- Likes Big Springs research project; also liked Blackmer's nitrate project.

- Likes east Iowa manure nutrient programs.
- Good literature and publications on research.
- Likes the concept of a program that funds competitive research and education projects.
- Good attitude. The Center wants to work with farmers.
- Appreciates advisory board, particularly that farmers are on it.
- Likes interdisciplinary issue teams, especially inclusion of farmers and agribusiness.
- Likes long-term research.
- Unbiased funding is good.
- Link with farmers is good, direct.
- Sees a bridge between researchers and farmers.
- Values farmer.
- Focus on networking to identify projects (broad base of issue teams) is good.

#### ***2. What is the Leopold Center doing that you don't like? (What is it spending resources on that you don't think it should?)***

- The Leopold Center is seen as part of the DNR, as a policing agency, not as an aid.
- Problem with how the Center is perceived by farmers.
- Concern that what the farmers are getting by the tax on pesticides is not what they were led to believe they would get.
- Fear that the Center will be helping to create regulations that hamper farmers' effectiveness.
- Problem with communicating what the Center is doing with the tax funds.
- Lack of support for forages.
- Not doing a good job of reaching the public.
- Inconsistency of research results (nitrogen testing).
- ISU is not the only institution in the state with respect to where research can be done.

- Overemphasis on research that is publishable on a national level rather than valuable to a specific area of the state.
  - Problems in the timing of efforts and lack of sensitivity in the release of information as in the case of Atrazine.
  - Most farmers don't know about PFI or the Leopold Center.
  - Perception that the way sustainable agriculture is defined de-emphasizes profitability.
  - Not much awareness in Tama County.
  - ISU doesn't do research on organics.
3. *What would you like to see the Leopold Center doing that it isn't? (What else should it be spending its resources on? What might be increased or modified?)*
- What should the role of the Center be? Should identify and ask good questions, help clarify cloudy issues (e.g. ethanol), and identify issues.
  - Be clear about what we are trying to move toward. Quality of life is often the most common goal. Don't confuse profit with yield or with quality of life goal.
  - There is an issue about the Center's role in entrepreneurial alternatives, e.g., niches. Conflict between what is appropriately public versus private.
  - Concern about niches being started on small private scale and being taken over by larger corporations.
  - Adoption by all farmers in producing manure as alternative fertilizer will eventually cause meat prices to plummet [due to] oversupply.
  - Need economic and sociological support for making changes to sustainable agriculture.
  - What's happening on the sociological level is important and needs to be examined.
  - Government commodities support tends to emphasize traditional crops such as corn and soybeans. System perpetuates conventional practices and creates dependency.
  - Commodity support should be questioned.
  - Educate legislature that good crop management is about management options and flexibility to protect income and environment.
  - Help farmers do what they do better; manage more efficiently.
  - How can the Center get information across to farmers?
  - Need to communicate better what they're doing with tax funds.
  - Soil conservation program and compliance initially disliked but now liked.
  - Farmers are defensive. They want to know why they are being picked on (e.g., watershed).
  - Need to advertise more, use radio in reaching farmers. Most farmers don't know about sustainable agriculture. Most don't go to extension meetings. They listen to co-ops and the agronomists at the co-ops.
  - Concern for the meaning of sustainable agriculture.
  - Farmers need sufficient support to sustain themselves.
  - Farmer needs to be empowered—needs to be able to make informed decisions.
  - Bankers have strong influence on farmers' choices.
  - Need extension agents (experts) talking about sustainable agriculture. Bankers are influenced by the information provided by extension.
  - Can Leopold Center reward applied researchers for loss of publishability? The charge is for the team but the reward is for the individual.
  - Maybe use integrated disciplines such as geography, which could get publications out of narrower research projects.
  - Center should provide new leadership and rewards in the use of team efforts.
  - More involvement of University of Northern Iowa.
  - Need more farmer participation.

- Demonstrate practical application beyond research.
- Need to connect farmers and researchers.
- Develop a monitoring system of sustainable ag practices, e.g., nitrogen, legumes, interseeding, and manure.
- Develop a step-by-step transitional process to help farmers adopt sustainable practices.
- Look at the whole community, not just agricultural, but consumers too.
- Need holistic approach to thinking about farming. [Look at] the goals and values instead of [just] the tools. How people think is relevant to the process.
- Develop mentoring system for farmers to help each other.
- Can Leopold Center help network farmers? Link farmers up with other farmers or organizations with similar interests.
- We should learn from failures.
- Use PFI and Kellogg connections.
- Need to reach agriculture students with information about sustainable agriculture.
- Need to teach urban young about where they get their milk. Need for community interface to get this knowledge. Today's urban young will be affecting tomorrow's agricultural regulations, guidelines, and consumption.
- Support programs that aren't privately, economically appealing but that are appropriate for public support (e.g., wasp and the boll weevils).
- Study of runoff and soil damage in glacial till CRP.
- More studies of native species for rotational grazing.
- Fund how to do organic farming.
- Need research on organic farming.
- Investigate other crops.
- Do research to show nutritional value of organic over conventionally grown crops.
- What's wrong with using synthetic nutrients to replenish soils? They work, and when not applied, yield and profitability fall.
- More research on wind breaks and perennial buffers, perennial crops, and buffer strips.
- Give grants to individuals and for-profit organizations.
- Sustainable agriculture should be the growing, processing and marketing of products without fossil fuel.
- Study more of the social, political and economic issues.
- A large part of sustainable agriculture is learning to not have a perfect crop. Have to cope with peer pressure to have nonperfect looking crop. Center can provide role to educate.
- Sustainable agriculture without economics is probably not sustainable.



The Leopold Center's first listening post was held twice during the afternoon to provide flexibility for conference participants.

# Images of the Conference



Leopold Center education intern Kent Forbes (left) orchestrated bus tours to a tree-grass-shrub streamside buffer-strip research site north of Ames (below) and to the Iowa State University Swine Nutrition and Management Research Center.



Iowa State University President Martin Jischke and Leopold Center Director Dennis Keeney confer (above).



The barbeque lunch was held outdoors (right).



ISU sociologist Paul Lasley shares insights about Iowa's family farms.



Southwest Iowa farmer Ralph Neill says a family farmer must be "focused."



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