Seeds of Change

FOOD AND AGRICULTURE POLICY
FOR OKLAHOMA’S FUTURE

■ ■ ■

Contributing Authors: James E. Horne, Ph.D.
Anita K. Poole, J.D., LL.M.

A project by the
Kerr Center for Sustainable Agriculture
Kerr Center programs include:

- Oklahoma Producer Grants
- The Stewardship Farm
- School of Sustainability
- Communications/Education
- Vero Beach Research Station
- Overstreet-Kerr Historical Farm

Kerr Center staff:

James E. Horne, PhD., President and CEO
Robert Adair, Jr., Executive Director,
    Vero Beach Research Station
Simon Billy, Stewardship Ranch Technician
Barbara Chester, Corporate Secretary
Jim Combs, Development Manager,
    Overstreet-Kerr Historical Farm
Dave Davis, Citrus Horticulturist,
    Vero Beach
Jeremy Henson, Education Manager,
    Overstreet-Kerr Historical Farm
Maura McDermott, Communications Director
Lena Moore, Administrative Assistant
Bev Norquist, Secretary, Vero Beach
Scott Phillips, Stewardship Farm Technician
Anita Poole, Assistant to the President/Legal Counsel
David Redhage, Natural Resources Economist
Liz Speake, Communications Assistant
Carol Vise, Office Coordinator
Alan Ware, Director,
    Producer Grants Program/Stewardship Farm
Ann Ware, Business Manager
# Table of Contents

## Introduction
- The Farm Crisis .................................................. 1
- Sustainable Solutions ........................................... 2

## Guiding Principles of the Kerr Center
- About the Kerr Center ........................................... 5
- The Precautionary Principle ................................... 6
- Accountability of Institutions ................................. 6
- Polluter Pays ...................................................... 7
- Good Neighbor Policy ............................................ 7

## Environmental Issues
- Creating and Conserving Healthy Oklahoma Soils .......... 9
- Conservation and Protection of Oklahoma’s Water .......... 10
- CAFOs and Animal Waste Management ........................ 12
- Plant and Animal Selection and Breeding ...................... 14
- Biodiversity ....................................................... 15
- Pest Management to Minimize Environmental Impact ...... 17
- Energy Conservation ............................................. 19

## Fairness
- Addressing Fairness in Contracting ........................... 21
- Keeping Farmers in Business ................................... 23
- Local Food Systems and Community Food Security ......... 25
- Corporate Control and Concentration in Agriculture ....... 28

## Marketing
- Reversing the Loss of Agricultural Markets .................. 29
- Cooperative Development and Direct Marketing Incentives .. 30
- Food Labeling & Food Safety .................................... 31

## Education & Research
- Improvement of Agricultural Education ....................... 33
- Carbon Sequestration Research ................................ 35

## Rural Development
- Farmland Protection ............................................. 37
- Creating Vibrant Rural Communities ......................... 38

## Resources Used in This Report ............................. 39

## Appendix A
- Core Values of the Kerr Center for Sustainable Agriculture .. 40
VISION

The Kerr Center for Sustainable Agriculture envisions a food and farming system that respects the land and is fair and profitable to those who work it.
Introduction

The Farm Crisis

Agriculture has changed profoundly in the last fifty years, going from a system of largely family-owned and operated productive small farms to a system where a handful of large producers are responsible for producing and processing the bulk of our grain, livestock, fruit, and vegetables. Small to medium-sized family farmers struggle to survive, with fewer than two million remaining in the United States.

The problems these family farmers face are numerous. They have problems accessing short-term and long-term capital and credit. More and more farmers are entering into production contracts with large agribusiness firms who now have a stranglehold on the markets, the technology, and the very seeds that ensure future agricultural production. As a result, the traditional independence that farmers have enjoyed, both in decision-making and marketing, is declining. Farmers also continue to suffer from low market prices.

The effect of the change on rural America has been profound. Rural communities suffer as the number of family farms continues to drop, losing population and an economic base. Although it is true that the lives of rural Americans (like their urban cousins) have improved because of advances in technology and transportation, a great deal of uncertainty and suffering still exists in our rural communities and within agriculture. Hunger still prevails in the “Bread Basket of America.” In the Kerr Center’s 2001 symposium Bringing in the Sheaves, Doug O’Brien of America’s Second Harvest, the nation’s largest food relief organization, explained that food insecurity is actually higher in rural America than in the rest of the country. He noted the irony of a farmer going to a food bank for a box of Corn Flakes while farming in a community surrounded by thousands of acres devoted to growing corn to “feed the world.”

In the United States we have a cheap food policy, realized by consumers at the checkout stand. But this cheap food is, in reality, not so cheap. Consumers pay for the hidden costs in agriculture through their taxes. One example: Our farm bill pays out billions of dollars in our tax money to support prices for agriculture commodities. However, just as in the 1980s farm crisis, many farmers are being forced to file bankruptcy petitions. Our tax dollars also pay for those expenses.

Another hidden cost is that of environmental harm. Environmental costs are often unfairly allocated to farmers rather than to the companies that benefit from the sale of farm products. Taxpayers also pay to clean up agricultural pollution. Our food isn’t really so cheap— we just do not realize the true portion of our total income that goes to purchase our daily intake.
Sustainable Solutions

As we face current challenges, we need to remember the challenges of the past and take this opportunity to ask ourselves difficult questions that seem to be asked only when we face times of uncertainty or difficulty. The most pressing of these is the question of sustainability. How can we meet present needs without jeopardizing future needs? The policies we put in place at the national, state, and local level must be designed to sustain our people, environment, and economy for the long term. Rather than meet only short-term goals of profitability, they should ensure a cleaner environment, a more just workplace, healthier communities, and an economic base that will give us stability into the future.

The Kerr Center’s goal is to encourage the development of viable Oklahoma farms, nutritious Oklahoma food, thriving Oklahoma communities, and ultimately a sustainable future for us all. We can only do that with a clear idea of where we are and with a plan for the future. We envision an agricultural landscape filled with many independent small farms capable of participating actively in business alongside other independent entities.

What are some of the priorities when fashioning new agricultural policy that will take us toward this goal? Key words to keep in mind are fairness, stewardship, opportunity, quality of life, choice, and access. We must ensure that our agricultural producers can get a fair price for their product. We must also ensure that our air, soil, and water improve rather than decline over time. We must encourage and foster opportunities for our young people who want to stay in agriculture by creating a system that will provide opportunities for beginning farmers. We must jealously guard the ability of future generations to have access to the critical means by which agricultural production is furthered.

We must also ensure that the consuming public knows how their food is grown and what they are eating, so that they may make healthy, informed food choices. And last but not least, we must make sure that the abundant food we produce is actually making its way to the people who need it.

Federal farm bills provide the framework for agricultural policy from the federal level. State and local governments are left to implement the federal policy. They must also deal with the gaps created when federal policies fail to address all problematic situations or when federal policies react to stimuli in such a way as to create more local problems than solutions.

State and local governments also have a unique opportunity to take the lead in formulating agricultural policy. Much can be done to actively create sustainable solutions uniquely designed to address local circumstances.

What policy makers need is a framework that guides people and communities towards sustainable approaches rather than short term solutions that may bring "development" to a community, but have many negative consequences both short and long term.
The Next Green Revolution: Essential Steps to a Healthy, Sustainable Agriculture, a recent book by Kerr Center president and CEO Jim Horne and communications director Maura McDermott, provides such a framework. The book outlines eight essential steps to a sustainable agriculture. According to the authors, in order for agriculture to be sustainable, we must:

1. Create and conserve healthy soil
2. Conserve water and protect its quality
3. Manage organic wastes to avoid pollution
4. Select plants and animals adapted to the environment
5. Encourage biodiversity
6. Manage pests with minimal environmental impact
7. Conserve nonrenewable energy resources
8. Increase profitability and reduce risk

In addition to these steps, we must also rebuild our rural communities and ensure food security for all.

Information from the book is used throughout this document, which is intended to both summarize key issues presented in The Next Green Revolution and to add detailed information about the Kerr Center’s stance on other issues.

This report examines the problems with our present food system, and the solutions we recommend. It can be used as a reference, providing succinct summaries of various issues, and recommendations for creative, effective policy initiatives. We hope the report will prove useful as a basis for discussion, persuasion and positive change. The Kerr Center can also provide additional information and resources on these issues to readers if needed.

The Kerr Center challenges local, state, and regional leaders to do their part to create a dynamic and vibrant agricultural and rural economy. The Kerr Center’s focus is on regenerating Oklahoma agriculture. Regeneration implies the re-growth of that which has been injured or shed, a spiritual renewal, bringing something back from a state of decline. We believe our observations and recommendations will, if implemented, assist Oklahomans in regenerating Oklahoma agriculture and Oklahoma rural communities.
Above all, we support policies that will sustain our natural resources, our culture, and our economy.
Guiding Principles of the Kerr Center

About the Kerr Center

The Kerr Center for Sustainable Agriculture is a nonprofit 501(c)(3) educational foundation established in 1985. It’s predecessor, the Agricultural Division of the Kerr Foundation, was founded in 1965. The home office, farm and ranch are located near the southeastern Oklahoma community of Poteau.

The Kerr Center’s mission is to participate in the development of a food system that provides a safe, adequate, and nutritious supply of food produced and distributed in ways that are economically viable, ecologically sound, and equitable to producers and consumers.

The Kerr Center has a long history of providing substantive research, educational activities, and policy guidance to Oklahoma citizens and public leaders. Education is the key to positive change; the Kerr Center reaches out to the public with a variety of educational events and publications that are meant to spark thought, debate, and action on many of the important issues facing our state and nation.

In its role as an educational organization involved in sustainable agriculture, rural development, and farmland preservation, the Kerr Center constantly strives to examine Oklahoma and the nation through the lens of sustainability. Through its many activities, the Kerr Center hopes to encourage the growth of Oklahoma policies guided by common sense, analysis of harms, good faith and fair dealing, and encouragement of responsibility. Above all, we support policies that will sustain our natural resources, our culture, and our economy.

The guideposts that shape our work include the sentiments expressed above and the following four principles: the precautionary principle, the principle of institutional accountability, the principle of polluter pays, and the principle of the good neighbor.
The Precautionary Principle

The Kerr Center advocates incorporation of the precautionary principle into the current dialogue on ways to protect human health and the environment in the face of scientific uncertainty about cause and effect.

Traditionally, the burden of proving a particular activity dangerous has fallen to the public sector. Potentially dangerous activities and products are considered safe until proven harmful, and those individuals or companies involved with the activity or product are entitled to place it into the public stream of commerce until it is proven harmful. A person harmed by the product then has the burden in a court of law of proving the product unsafe. The precautionary principle calls for the shifting of this burden and specifically states:

"When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."

An example of a way to better implement the precautionary principle in an agricultural context is to require that before pesticides are released into the environment, they be subjected to more stringent levels of testing in order to chronicle potential effects on the environment and health effects resulting from their use. Like medical doctors, we must agree to "first, do no harm." The companies profiting from a pesticide product must be held responsible for the safety of that product. All other products must be treated in the same manner, with the profiting company bearing responsibility for product safety.

Shifting burdens of proof to those who create risks, analyzing alternatives to potentially harmful activities, requiring bonds prior to releases of potential harmful substances, and initiating participatory decision-making methods are all methods of incorporating the precautionary principle into our daily lives and our commercial behavior.


Accountability of Institutions

For decades, agricultural research and education have played an integral role in the growth and promotion of Oklahoma agriculture and Oklahoma rural areas. We recognize that universities have faced budget cuts due to decreases in funding from the public sector and ever-increasing operating expenses. As a result, over the years, public research institutions have taken on closer relationships with large, corporate agribusiness concerns. Over time, the interests of those large, corporate concerns have changed the direction of the research and public education mission of our publicly supported educational institutions.

The situation has reached a critical point in Oklahoma and around the country. We are no longer able to guarantee that the very citizens whose public tax dollars are supporting these public institutions are not merely an afterthought in the planning, execution, and delivery of research and education. We can no longer assure ourselves that public research and education functions are for the public good rather than for private financial gain.

To remedy this situation, the Kerr Center supports the creation of the means and methods to ensure the continued public mission of our educational institutions. We support procedures and programs ensuring that stakeholders of all types have a voice in university research
agendas; that these stakeholders represent a broad cross section of the consuming public; that processes are put in place that ensure maximum stakeholder participation in decision-making about university funding; and that institutional spending supports Oklahoma farmers, ranchers, and rural communities.

We also support a full public annual accounting of the specific sources of private research dollars directed toward public institutions. We support careful scrutiny of all patenting activity by publicly supported research institutions so that the securing of patents by these institutions is evaluated with an eye toward public accountability. Finally, we support an increase in public funding for universities and research stations so that those institutions will not be forced to seek outside sources of capital.

**Polluter Pays**

As we support and encourage public institutional accountability, we also strongly support the following principle: Should a private individual or institution set in motion a chain of events that results in polluting activity, that individual or entities will remain within the chain of responsibility for cleaning up the pollution resulting from such activity. Companies within various commercial sectors have been prohibited from contracting away their liability for pollution-causing activities for some time. Not so in agriculture.

The Kerr Center strongly supports the concept that the polluter must pay for polluting activities and encourages the adoption of state and local laws and regulations that prevent companies or individuals from contracting away their liability for polluting behavior.

An example of such a policy at the state or local level would be a requirement that all companies contracting for the raising of livestock within the state be required to post a bond to cover the potential ill effects of their activities. The state, or private individuals, could collect against those funds should polluting activities occur that are directly linked to the company contracting for the activity. Another example would be a requirement that corporate agribusiness enterprises be held jointly liable for their contracting grower’s environmental impacts through co-permitting.

**Good Neighbor Policy**

Communities across the nation, both urban and rural, are constantly searching for ways in which to secure and solidify their economic welfare. Often, economic development activities neither take into account potential impacts that the increase in economic activity will have on the public health and welfare nor consider the potential for environmental damage caused by
these new economic activities. On the other side, corporate citizens often do not recognize that, in addition to providing returns to shareholders, they bear an equally important responsibility to be a good citizen of the communities within which they reside and to remain accountable for decisions they make that affect local communities. Unfortunately, corporations often become bad neighbors because they are too often controlled from outside the communities within which they reside.

Legal tools to increase corporate accountability can take many forms, including zoning regulations, permit requirements, and litigation for damages caused to the local community. But sometimes the best tool to ensure that problems do not arise is encouraging the creation of good community/company relationships at the outset. These relationships would serve to anticipate and prevent problems from occurring and would be formalized through written agreements between the community and its corporate neighbor.

The Kerr Center advocates the institution of good neighbor agreements for future economic activities within the state. These agreements would institutionalize a good neighbor policy when a company moves into an area and incorporate the community’s right to know what the corporation is doing in its neighborhood. They would encourage local discussion groups between the company and its surrounding citizens, open company plants and processes to local citizens, and incorporate multiple stakeholders in corporate decision-making at a local level.

Finally, the Kerr Center advocates that community leaders and the economic development authorities that often encourage and solicit economic development for an area be trained in and incorporate the components of a sustainability analysis before making economic development decisions for a local area or region.
Environmental Issues

Creating and Conserving Healthy Oklahoma Soils

Soil is the foundation of agriculture. Quality soil is soil of good texture and structure, with high amounts of organic matter and active soil life. Agriculture throughout the ages has depended on good soil, but has not always been able to be maintained. Oklahoma’s blowing soil of the 1930s, known as the infamous Dust Bowl, created a mass exodus from our state. In part, the Dust Bowl was brought about by federal policy that encouraged farming land that was too easily eroded and that should never have been converted into cropland. These farming activities were followed by a period of terrible drought.

Without vigilance, soil erosion will continue today. It can be caused by wind or water, a dramatic combination of the two, prolonged use of chemical fertilizer, monoculture activities, and federal programs that have destroyed the financial ability of farmers to use rotations and cover crops. If federal policy is counterproductive to creation and maintenance of healthy Oklahoma soils, Oklahoma lawmakers must protect our interests.

The importance of good topsoil cannot be emphasized enough. Conserving healthy soil by guarding it against wind and water erosion and overuse of chemicals is critical to Oklahoma agriculture’s long-term health. There are many proven activities that create and conserve healthy soil: planting on the contour; adding organic matter with green manure cover crops, composted manures, crop residues, and organic fertilizers; conservation tillage; windbreaks; crop rotations; and rotational grazing.

Soil regeneration and conserving activities can be encouraged by a variety of policy vehicles. These would:

- Increase educational research funding into new and innovative means of creating, conserving, and maintaining healthy soils in all parts of Oklahoma, improving yields wherever possible
- Create tax credits for specific soil conservation techniques put into place on Oklahoma soils
- Ensure that Oklahoma farmers are aware of all soil conservation programs
- As a state, advocate increased funding for federal conservation programs which protect natural resources rather than increase crop surpluses
- Identify gaps in federal programs designed to address soil conservation and put into place state-level programs designed to fill those gaps, such as creating an Oklahoma conservation reserve program or soil conservation program

Good soil conservation practices reduce soil erosion but also can increase the organic matter content of soils, thereby restoring degraded soils. Removing agriculturally marginal land from production and adopting ecologically compatible land uses, such as wildlife habitat, are also practices that can provide the key to unlocking healthier Oklahoma soils. Oklahoma policy must encourage and strengthen these practices.
Conservation and Protection of Oklahoma’s Water

The availability of water to meet present and future needs is of critical importance in many states around the country. Water requirements in the western United States have long been the subject of controversy and debate. Oklahoma’s neighbors are already experiencing water shortages, and in some cases, the aquifers they draw on have very few years of production left.

Every ounce of water is precious, and without it, Oklahoma agriculture will suffer. Agriculture accounts for two of the top three uses of water in the state—irrigation is number one and livestock watering, number three. (Water supply is two.)

Oklahoma appears to the casual observer to be blessed with abundant water. But while Oklahoma has thirty-four major reservoirs with a combined surface area of over half a million acres and storage of more than 13 million acre-feet of water, evaporation and percolation preclude immediate use of approximately 80 percent of it.

Almost 90 percent of all irrigation in Oklahoma instead utilizes ground water. This activity is most prevalent in the western half of the state. The Ogallala (or High Plains) Aquifer, which underlies the Panhandle and extreme northwestern Oklahoma, contains approximately 86.6 million acre-feet of water supply, but we must be careful to protect that resource. During peak irrigation usages, Texas County in the Panhandle uses as much water as New York City in an average day. While the Ogallala Aquifer is a major resource and source of water for the entire High Plains area, it is being drained faster than it is being replenished. Recharge of an aquifer occurs at a significantly slower pace than surface water reservoirs are recharged.

Another threat to ground water resources is pollution. Agriculture in Oklahoma, as well as throughout the High Plains region, has been marked by high levels of agricultural chemical use which pollutes water resources over time. Critical increases in the presence of chemical wastes are being found in the aquifer and in other ground water wells in the state. Therefore, protection of the quantity and quality of the aquifer resources is of concern to farmers, ranchers, and indeed, the general public.

The water quality of many of Oklahoma’s lakes and streams is also threatened by agricultural pollution, often caused by excess nitrogen and phosphorus from animal wastes (for more on this see next section “CAFOS and Animal Waste Management”). These water resources provide drinking water for many towns and cities in Oklahoma. The trauma caused by inadequate or subquality water supplies therefore doesn’t stop with the agricultural community but carries over into the urban population. Oklahomans must continue taking steps to ensure the quality and quantity of present and future drinking water supplies around the state. It isn’t enough for only residents of Tulsa to be concerned about Tulsa’s water supply. Nor is it adequate for the citizens of LeFlore County to have to fend for themselves when confronting the issue of pollution in the water supply for their area. We must all be concerned about water quality and quantity throughout the state.

To that end, we should begin the dialogue necessary to ensure that groundwater and surface water resources will be available in the quantity and quality necessary to provide adequate drinking water to our citizens. It is equally important to protect riparian areas (land
adjacent to water bodies) because they filter pollutants.

Our goal should be to protect water supplies from contamination from improper rural and urban impacts, and protect water supplies from the threat of terrorism.

Improvement in coordination of the various water agencies within Oklahoma must occur immediately and irrevocably. The various agencies with statutory authority over water use, availability, conservation, irrigation, and quality must come together to ensure that the jurisdictional barriers between these agencies do not impact the flow of information across agency boundaries.

These coordination efforts do not always take the form of creating one super-agency. Coordination can just as easily occur through individuals coming together for frequent water summits, preparation and compilation of joint water reports to the legislature and the Oklahoma people, coordination of spending, and planning to protect water resources. The centerpiece of these agencies’ work must be a combination of conservation, protection, enhancement of quality, and ensuring available resources.

The current methods of farming must also be altered in order to conserve water and avoid surface and ground water pollution. We must ensure the safe use of herbicides, other pesticides, fertilizers, and manures that lead to water quality impacts. One way to do this is by switching to alternative management practices, which can have a huge impact on water quantity as well as quality.

There are many ways in which the farming community can aid and assist in the conservation of precious water resources. These include practicing conservation tillage; increasing soil organic matter; cutting chemical use; establishing conservation buffer strips; protecting riparian areas; establishing grass waterways; building ponds to catch sediment; employing rotational grazing and efficient irrigation techniques; and growing crops adapted to the climate, soil type, and topography of an area. Fencing cattle out of waterways and ponds and employing integrated pest management methodology are also important in improving water quality.

Can the state of Oklahoma encourage these activities within the agricultural community? The answer is yes. The state should take a proactive stance that water conservation and protection of water quality are necessary not only environmentally, but are equally as important financially and socially for all Oklahoma producers. Through the implementation of tax and other financial incentives and cost-share programs and through enhanced educational programs directed at these issues, we can achieve much progress.

Finally, the issue of urban activities and their effects on water availability, use, and quality cannot go unmentioned. Lawn fertilizers and other urban discharges can negatively impact water quality. Oklahoma should immediately implement comprehensive water education and control programs which will improve the capacity of urban citizens to understand the issues and to be equal partners in the protection of our most valuable of resources. Protecting the water supply is everyone’s responsibility.

Oklahoma can protect both its surface and ground water supply by:

- Requiring research and studies that are jointly planned and shared by all stakeholder agencies
- Identifying and limiting discharges from point sources and nonpoint sources of pollution
- Implementing tax credits for use of riparian management systems
- Requiring buffer zones and other riparian management systems
CAFOs and Animal Waste Management

The Kerr Center has a history of sponsoring research and examining policy on the impacts of corporate hog farming and contract poultry growing in Oklahoma communities. The Kerr Center hog study, conducted by the North Central Regional Center for Rural Development, culminated in the publication of *Bringing Home the Bacon? The Myth of the Role of Corporate Hog Farming in Rural Revitalization.*

This research involved a multicommunity analysis of the economic development and community impacts following the recruitment of corporate hog farms into western Oklahoma counties. Researchers specifically analyzed the benefits, costs, and outcomes of this economic development activity. In addition, they measured financial indicators such as job creation, income, taxes, nonbusiness activity, banking activity, public assistance, housing, population size and diversity impacts, education impacts, crime rates, civil court cases, and environmental indicators relative to water, air, and soil quality in the area. Of course, this growth of CAFOs could have been avoided entirely if a sustainability analysis to guide economic development decisions had been incorporated in a timely manner.

The incentives provided to the corporate hog community in its relocation and development in western Oklahoma totaled more than $60 million in public grants, tax credits, exemptions from tax, issuance of tax-exempt bonds, and similar economic development tools. The hog study noted:

> The lesson of Texas County... is that public incentives when used wisely can build a community. When used unwisely, they can destroy it. The entrance of the hog industry... has polluted the community... with an odor... with polarization of people who were once friends... with waste byproducts that threaten the soil and the water... with schools that are more crowded... with jobs that appear to cost more to support than they return in wages... 

> And who has benefited from the state, county, and local incentives that lured corporate hog farming to Oklahoma? Certainly not the taxpayers who must fund the rebates given... not the schoolchildren whose schools see no direct benefits from corporate taxes but do feel the pinch of additional students... not the wage earners who moved in to earn a wage that was lower than the average wage in one of Oklahoma’s most fully employed areas... not the law enforcement officers whose jobs suddenly became more dangerous... 

The CAFO issue continues to plague Oklahoma as it does many other states. Although the Environmental Protection Agency (EPA) has taken notable steps in tightening environmental regulation of CAFOs thanks to the proposed changes in the National Pollution Discharge Elimination System program authorized by the Clean Water Act, it often takes steps that are not substantial enough to thwart the impact of these facilities.

Oklahoma has emerged as a leader in addressing the issues of water and air quality that are direct and measurable effects of the proliferation of CAFOs as the predominant means of raising livestock. Oklahoma was the first state to begin scrutiny of the vertically integrated poultry industry and has passed stricter requirements of the hog industry than other states.

CAFOs impact both environmental and public health. The increase in CAFOs is inextricably intertwined with the rapid changes occurring in the structure of American agriculture. The loss of market access to independent producers, and the creation of an unjust and unfair contract
system accompanies the growth of concentrated and vertically integrated systems of agricultural production.

There are many ways in which the reader can become acquainted with the intricacies of the CAFO discussion, and this report will not revisit that multitude of documents, studies, and regulatory frameworks. The Kerr Center offers recommendations for policies to address the ongoing and complex problems raised by CAFOs in our state. These include:

- Increase staffing for the Oklahoma Department of Agriculture and other appropriate state agencies to monitor Oklahoma CAFOs
- Consider the statutory definition of an "agricultural operation" to exclude industrial CAFO operations, specifically identifying within the legislation the type of agricultural model preferred in the state
- Adopt co-permitting requirements for all Oklahoma CAFOs whereby the Clean Water Act’s National Pollution Discharge Elimination System permit of a CAFO facility within the state is held jointly by the operator and the contracting company
- Immediately establish a poultry litter bank in order to address the critical watershed pollution issues occurring in the Eucha/Spavinaw watershed and the Lake Wister water supply, the litter bank serving to begin movement of poultry litter out of these watersheds
- Provide state funds to establish a contract grower-owned cooperative that will add value to poultry litter and establish markets for this litter either within or outside the state
- Ensure that public funds will support the establishment of a poultry litter bank and value-added or alternative energy projects for eastern Oklahoma for as long as is necessary to address the impacts to the area’s water quality by intensive CAFO poultry growing activities
- Ensure that measures are adopted by which the corporate owners of CAFOs are held liable for environmental cleanups. Measures should be comprehensive so that liability cannot be avoided, and should ensure proper clean up.
- Continue environmental and human health studies concerning the short and long-term impacts of continued CAFO operations (hog and poultry) in the state
- Encourage alternative approaches to raising poultry and hogs
- Incorporate a sustainability analysis for guiding economic development decisions

CAFOs impact both environmental and public health. The increase in CAFOs is inextricably intertwined with the rapid changes occurring in the structure of American agriculture. The loss of market access to independent producers, and the creation of an unjust and unfair contract system accompanies the growth of concentrated and vertically integrated systems of agricultural production.
Plant and Animal Selection & Breeding

Traditional public institution-sponsored plant and animal breeding programs are dwindling. Substantial amounts of public and private funds instead are pouring into the biotechnology field and thus sponsoring research utilizing gene-splicing, cross-species genetic research, and other nontraditional breeding and selection research. Research focused on environmental hardiness and adaptation to climatic change is not as popular as high-technology research. Because universities are able to benefit from research results that can be patented, a conflict of interest now exists in how breeding programs should proceed.

Because there is no way to be certain what germ plasm will benefit society in the future, protecting all germ plasm must be a priority. Seed banking is an essential way to ensure that germ plasm is available for selection and breeding in the future. All varieties of seeds must be stored and kept viable in perpetuity. In order to ensure seed viability, seeds must be planted, grown, and harvested under favorable conditions at our universities, research stations, and nonprofits. Seeds must be kept available in the public domain rather than being entrusted in the care of only a few corporations. Heritage and rare animal breeds must also be maintained for their genetics and diversity to ensure that even commercially undesirable traits are preserved for their potential future uses.

The Kerr Center urges state leaders not to abandon these more traditional breeding and selection techniques in favor of newer technology. This country has a wealth of research—though largely ignored—conducted since World War II that explored plants bred to respond to local environments. We must not forget the importance of such research and must not abandon it in favor of a research agenda dedicated to high technology. Research institutions are placing too much emphasis on genetic modification to make crops "Round-Up Ready." We must strive to mix current technology with older technology and encourage research programs focusing on the natural environment as opposed to currently popular controlled environments. Let us not abandon proven selection and breeding techniques that have been time honored and proven.

Oklahoma farmers and ranchers should "think local" when deciding what plants and animals to raise. To ensure profitability, both plants and animals should be adaptive to the environment in which they are grown. For example, using native grasses for forage will usually lower the amount of fertilizer and irrigation a field needs to produce sufficient nutrients. Gullible farmers are sometimes drawn to advertisements that tout seeds that claim to grow a foot overnight. Unfortunately, they often learn that after an initial good performance, those plants are soon killed off by an Oklahoma winter. The same is true for livestock breeds, because some either do not reproduce in certain weather conditions or fail to gain because their energy requirements are high for maintenance rather than growth. Using adaptive crops and animals lowers the risk of loss by a natural disaster, such as drought, which in turn eases the burden on taxpayers who are footing the bill under federal farm programs. In addition, adaptive crops and animals make Oklahoma more food secure by providing a more steady supply of products less subject to fail under harsh weather conditions. Therefore, it makes sense to raise crops and livestock adapted to the local environment.
Biodiversity

In the Kerr Center publication *Mourning the Increasing Loss of Biodiversity*, we outline the increasingly rapid rate at which we are losing diversity among plant and animal species in this country and throughout the world. Monoculture is the continuous planting of the same crop year after year. The prevalence of monoculture in animal agriculture, such as in confined animal feeding operations and the proliferation of intellectual property rights protections, which further encourage monoculture crops, are but two of the drivers of the loss of biodiversity.

By pushing our agricultural production systems into monoculture activities, we have lost much in the way of diversity and the use of animal and plant systems adapted to the local environment. A strain on one component of a biologically diverse system sends ripple effects throughout. Biodiversity is not a part of the industrial agricultural equation. It emphasizes production levels and pushes use of every square inch of ground or barn to maximum levels within a context that does not incorporate genetic diversity. In fact, industrial agriculture depends on genetic uniformity.

Oklahomans can respond to loss of biodiversity by ensuring that as a state, we encourage polyculture agriculture. We must ensure the existence of vital germ plasm for future Oklahoma food needs by first conducting a germ plasm inventory. We need to know:

- What germ plasm we have available
- Whether germ plasm is accessible by the public
- Who holds our germ plasm inventory
- Whether the germ plasm exists to ensure an agricultural safety net for our future needs.

The list of our responsibilities in this area is long: We need to protect traditional varieties of seed crops from the drift of genetically modified crops, which causes contamination and potential harm. We must protect organic growers from the contamination of their growing fields by genetically modified crops.

We should also have a functional seed bank in Oklahoma. Instead of applying and reapplying chemical agents to our fields, we must encourage additional research and education into identifying companion plants that can be utilized to enhance major plantings within the state and their capacity to fight disease and pests. We must move beyond traditional Integrated Pest
Management (IPM) models and go to a model that incorporates ecological and biological controls. The Kerr Center encourages the adoption of public policy and educational programs that help agricultural producers and urban dwellers know the plant life in their area, the climate, rainfall patterns, and soil. Perhaps this can best be achieved by creating highly accessible and user-friendly websites for distinct regions of the state. We can require the frequent testing of soil and provide on-farm test plots so that individual farmers and ranchers can be encouraged to "think outside the box." Future Farmers of America and 4-H groups can become more engaged in protection of biodiversity across the state. Sustainable agriculture research and extension programs should receive state funding and meaningful support. Finally, we should identify the livestock best suited for the varying climates of Oklahoma, and which do not require expensive inputs and are adapted to the terrains and conditions.

Policymakers should encourage biodiversity by creating tax incentives, grant programs, and educational opportunities to:

- Bolster and encourage biodiversity on the farm through rotational plantings
- Use vegetation strips
- Diminish the use of pesticides and fertilizers
- Use cover crops, intercropping, and strip-cropping
- Raise heritage breeds
- Implement conservation tillage
- Take marginal land out of production and place it within wildlife corridors
- Fence riparian areas
- Research biological controls for pests
Pest Management to Minimize Environmental Impact

While pests can sometimes prove to be formidable foes in a farmer’s life, the successful and sustainable management of pests of all varieties can be his greatest accomplishment. Today, more than 250 pesticides are available for use on raw agricultural crops, and the rate of usage doesn’t appear to be diminishing over time. More than 500 insect pests, 270 weed species, and 150 plant diseases are now resistant to one or more pesticides.

At first, pesticides were used occasionally to prevent catastrophic losses to a crop, but the use of pesticides has now become routine. Breaking a cycle of pesticide use can be a daunting idea, conjuring fears that farmers may not be able to handle the supposed deluge of pests headed for the field. However, as many farmers who have successfully moved to a less chemically intensive production methodology will tell you, there are many advantages to kicking the pesticide habit. The first and most obvious is the decline in input expenses for chemicals whose costs continue to rise over time. The second is the improvement in soil health and fertility which result when pesticide use is limited. The third and sometimes hidden improvement is to human health, particularly the health of those whose jobs or daily lives occur around such chemicals.

Instituting integrated pest management (IPM) on the farm is the first step towards securing these advantages on the farm level. Kicking the pesticide habit is not easy and will be financially difficult for farmers until there is a better arsenal of biological controls and management techniques including allelopathic crops and other cover crops.

The medical community is publicly acknowledging the human health risks associated with prolonged exposure to pesticides. Farmers exposed to herbicides more than twenty days per year have shown increased risks of cancers of the primary central nervous system, lung, and lymph nodes. Current medical studies report the effect of pesticides on the immune system and increased risks of infectious disease and cancer. These effects are exacerbated by widespread antibiotic use in conventional CAFO livestock production to enhance growth and prevent animal diseases in confined spaces. The routine use of antibiotics at low dosages is controversial because it encourages the emergence of antibiotic resistant microbes and because several important antibiotics prescribed to humans are also widely used in the animal industry. Antibiotic resistance among the animal-product consuming public is now of great concern to the medical community and the Centers for Disease Control.
Many tools can be used to achieve even initial goals of decreased chemical use:

- Encourage crop rotation to prevent soil exhaustion and interrupt pest life cycles with the planting of trap and smother crops and the use of cover crops
- Promote the use of integrated ecological pest management techniques
- Encourage increased education on the characteristics of weed and insect species in Oklahoma and how they fit into the agroecosystem of a particular location
- Increase the research resources at Oklahoma educational and research institutions targeted to alternative pest management, integrated pest management, and sustainable biological approaches to pest management instead of merely developing new chemical pesticides
- Encourage public health officials to study the human health issues associated with pesticide usage and antibiotic usage in the food production systems
- Implement a comprehensive pesticide reduction program, pesticide risk reduction program, and pesticide use reporting program
- Encourage plantings, particularly in urban areas, native to the area and well adapted to Oklahoma climate and soil, thus cutting down on disease and pest problems while discouraging the importation of plants that can become invasive or carry harmful pests or disease
- Discourage the use of lawn chemical systems within urban areas while encouraging education and alternative, nonchemical solutions for common household pest problems
- Educate consumers that produce doesn’t have to look perfect to be healthy and good for you
- Educate consumers that buying locally grown produce or produce bought directly from the farm on which it is grown will encourage the entire local food system to lower its use of chemicals, some of which are applied post-harvest to prolong the life of the product.

Finally, when chemical controls are used to manage pests in Oklahoma, we should decide, as a matter of state policy, that the least amount of chemical is the best amount of chemical. We should develop policies and educational opportunities that require the use of narrow-spectrum, least-toxic herbicides, properly calibrated sprayers, and application methods that minimize the amount of chemical used. We should appropriately address the pesticide drift issues and the amount of farmer and farm worker contact with those chemicals. We should not merely remove chemicals from use but do the research and education necessary to provide alternative methods of pest control and management.

These changes in our approaches to pest management will lead to less cost to producers for inputs, greater health benefits to farmers and consumers, and long-term benefits to the environment, air and water quality, and soil health.
Energy Conservation

Oklahoma has benefited from the oil, gas, and coal reserves that lie beneath its soil. Much of the history of Oklahoma surrounds its wealth of fossil fuels and the creation of economic wealth associated with the production, transportation, and consumption of those fuels. Farming and fossil fuels go hand in hand, with many operations around the state seeming to grow oil or gas wells as easily as they grow wheat.

Alarming rises in energy use per person coupled with increases in world population are leaving us in a circumstance in which, like water, every little drop of oil will count. The United States consumes about 25 percent of the world’s energy and produces about 20 percent. The amounts of energy that may still be mined or “farmed” from the earth is in a state of decline, and foreign reserves are subject to volatile world politics.

What does this mean for agriculture? One of the hallmarks of agricultural industrialization is the necessity for fossil fuels to power machinery. The human and animal power provided in early agriculture has been replaced by mechanical power fueled by petroleum energy. Energy costs continue to consume a large part of each farm’s budget. Farm use of energy around the country amounts to about 23 percent of the nation’s energy.

How can farmers conserve nonrenewable energy resources? There are a number of ways, including:

- Reducing the number of tillage operations, thus reducing compaction and the higher energy costs of plowing
- Using ridge tillage, which allows for better soil conditioning with fewer trips across the field
- Cutting the use of chemicals and fertilizers (which are generally petroleum-based)
- Developing production methods that reduce horsepower needs
- Recycling used oil
- Using crop rotation to add nitrogen
- Using solar and wind power whenever possible
- Using renewable, farm-produced fuels such as ethanol, fuel oils from oil seed crops, and methane from manures and crop wastes

Oklahoma, as it has been a leader in oil, gas, and coal exploration and production, can also be a leader in developing the research and technological infrastructure for solar and wind power and renewable fuels such as ethanol. Many areas of the state are optimal for wind power production, and these opportunities must be acted upon. Our elected officials must pass legislation to both promote wind power and to protect landowners seeking to farm the wind. Our educational institutions should be assigned the task of developing affordable, efficient, and effective means to adopt solar, wind, and biomass fuels and cut farm energy consumption. On-farm demonstration projects should be incorporated into all research and educational efforts regarding energy conservation. Tax incentives and cost-share programs should be implemented to further encourage conversion to energy conservation practices.
Recent hunger studies show that many of the same farmers who are producing our nation's cheap food supply can qualify for food stamps or have families who are food insecure.
Fairness Issues

Addressing Fairness in Contracting

One of the most critical concerns of those engaged in the burgeoning agricultural contracting system is the unfairness and inequity in the contracts at the center of that system. Several attempts to pass grower rights legislation have begun to shed light on these issues. We must take the next step and demand that Oklahoma citizens be treated with fairness, respect, and dignity regardless of the financial strength of their contracting position.

Through concentration and mergers, market power has tilted toward vertically-integrated corporate agribusiness. Along with this also has come a shift in bargaining power. Producers are totally overpowered in the equation. With the increased loss of alternative market outlets for farmers, many view contract agriculture as the only means for staying in production agriculture and on the land.

The problems with the contract system are many. Companies write contracts with no producer input or bargaining for terms. Producers receive compensation under the contract but bear the significant risks of weather, environmental regulation, and food safety regulation on the farm. Companies can cancel contracts due to market conditions or on a whim. Farmers may be penalized or imprisoned for environmental circumstances placed in motion by the companies and have less and less control over the day-to-day decisions on the farm. Producers lose the capacity to pledge product as loan security and are unable to sell the product anywhere else. In some areas, these relationships lead to negative impacts on rural communities and rural infrastructure and net loss of local jobs instead of gain. In addition, current environmental permit systems do not allocate risk appropriately.
However, there are several ways to remedy the current scenario. Contract growers’ negotiating power must be improved and grower protection legislation passed. Growers should be entitled to minimum periods of prenotification before contract cancellation, particularly if the producer has capital investments over $100,000, and should be allowed time to correct alleged breaches in their agreements. Parent companies should share environmental liability with growers. Implied promises of good faith and fair dealing should be standard within contracts, and the attorney general should be given clear enforcement authority and resources to address problems within the contracting framework. Full information should be provided to the producer before and during the entire contracting period. Producers should be given lien protection to secure payment of amounts due and reduce the probabilities of economic retaliation in producer-processor contractual relationships. They should also have the right to review contracts before signing and be offered a period of cancellation before the contracts take effect. Confidentiality clauses should be prohibited as a matter of state law. Retaliation against producers who participate in producer organizations must not be tolerated; prompt payment should be required; unfair and deceptive practices should not be tolerated; and all companies should be required to disclose production contracts.

The state must also continue to support its agricultural mediation program, expanding its reach into all realms of conflicts, but should do so without making those programs so expensive as to deter participation by the very people they were designed to assist. Further, the state government should do everything possible to ensure that federal agencies mandated to participate in agriculture mediation do so.

The Kerr Center strongly supports all efforts to ensure just and dignified conditions for all farm workers. Finally, the Kerr Center strongly supports all efforts, based either in litigation or in correction of administrative requirements, that will improve conditions for minority farmers.
Keeping Farmers in Business

American agriculture has been rapidly losing farmers since World War II. We now have fewer than two million farms left in the United States. As those numbers continue to fall, the average age of the typical American farmer is approaching sixty. Some might say this is the normal response to a more efficient food production system. Others might say that as long as we are able to grow enough food to satisfy basic American food needs, we do not need additional farmers.

These arguments ignore the fact that even those farmers who have been able to survive financially are struggling. Recent hunger studies show that many of the same farmers who are producing our nation’s cheap food supply can qualify for food stamps or have families who are food insecure. It is unconscionable that in our society, farmers have been encouraged to feed the world but cannot feed themselves.

At the same time, we are experiencing a decline in the numbers of young people financially able to enter farming, either on their own or through taking over family enterprises. As a result, the enrollment in traditional agricultural production educational programs has also been on a steady decline. Young people are deciding either to leave farming altogether or to enter a highly competitive agribusiness complex.

Is this the picture of agriculture Oklahomans want? If the answer is no, then Oklahoma policymakers, working in concert with agricultural communities and others, must become more aggressive in order to address the economic problems within the system.

First, there is an issue of access to credit or to credit at reasonable terms. As the banking system continues to merge and consolidate, we are losing the agricultural banking expertise necessary to analyze applications and service credit for agricultural enterprises. This negatively impacts the farmer’s access to credit. Furthermore, the federal government continues to remove itself from direct loan-making activities for agricultural enterprises, leaving us with a credit system that either does not support agricultural operations, finding them too risky, or is inadequately educated in the intricacies of agriculture. Credit has become more difficult for most farmers to access.
A second concern is the rising age of the average farmer/rancher and the decline in numbers of young people entering the farming/ranching arena. Often, young people want to return to the farm but cannot afford to do so. If Oklahoma decides that keeping young people in its rural communities and in farming is important, then policy must follow. Oklahoma must immediately and aggressively adopt a comprehensive program designed to keep young people in farming and designed to bring new or beginning farmers to the table.

Sometimes these prospective farmers aren’t young; perhaps they seek early retirement from a different economic sector or are moving from cities into farming in search of a better quality of life for their families. Whatever the motivation, the state should promote this activity through a farmer bridge program which would link retiring farmers to new farmers through unique and innovative land lease/purchase arrangements with tax incentives for both parties or through educational and training programs. Through such pairing and mentoring programs years of experience can be more easily transferred to the new generation.

The third element is assistance to farmer/ranchers who have fallen on hard financial times. The state of Oklahoma should continue to press for the permanent adoption of Chapter 12 into the U.S. Bankruptcy Code. This chapter of the federal bankruptcy code was specifically created for the peculiarities of farming. Were it not to exist, farmers and ranchers would be forced to exercise the other available chapters governing bankruptcy, such as liquidation and restructuring methods designed for corporations, which are not appropriate for farming. Without Chapter 12 protection, more and more farmers and ranchers will be lost.

The highly effective Oklahoma Agriculture Mediation Program must continue to receive support from Oklahoma policymakers, both in terms of addressing its funding needs and ensuring that it moves in the proper direction. Expansion of the authority for mediation of rural-based and agriculture-based problems is forthcoming. In order to foster continued growth in this vital program, we must ensure that staffing needs are addressed and that the program continues to provide low or no-cost mediation services to farmers, ranchers, and those in rural communities. In settling disputes, we must provide adequate protections for mediators who volunteer their time to assist farmers who cannot afford to litigate. We must also immediately take to task those federal agencies that are required by law to participate in mediation but fail to do so or fail to do so in good faith.

While these measures will strengthen the credit picture for Oklahoma farmers and ranchers, we must also address the rise in corporately controlled markets in order to have an appreciable impact on the number of farmers and ranchers leaving the system. Without proper legal and regulatory analysis of the market loss phenomenon, we will continue to lose farmers and ranchers.

Finally, establishment of an Oklahoma Small Farms Fund, designed to serve as a granting program for small farms and to assist farmers in testing new ideas, developing new markets, funding new technologies, and increasing their own personal knowledge base, is called for because of the rapidly changing agricultural sector. This fund would assist farmers in diversifying and could help many farmers stay in business.
Local Food Systems and Community Food Security

Community food security has many broad goals. It is a comprehensive strategy to address problems in our communities and within our environment arising from unsustainable food systems. Community food security focuses policymakers on food distribution and marketing, food needs of those with low incomes, city supermarket practices, loss of farms and farmland, loss of rural communities, increases in air and water pollution from unsustainable food production, and bioterrorism.

Community food security programs strive to:

• Reduce hunger, especially among our youth and elderly populations
• Improve the nutrition levels of all citizens
• Support family farmers in staying in business and on the farm
• Ensure the future of a more just, democratic, and sustainable food system
• Bring youth, both rural and urban, into some form of food production
• Increase community-supported agricultural models, community gardens, and urban agriculture programs– the foundation of working community food security projects
• Incorporate access to markets
• Ensure decent compensation for the fruits of farmers’ labor
• Encourage protecting farmland from the growing threat of encroachment by urban sprawl

Hunger in the United States and in Oklahoma exists and can be an insidious foe, whether in times of economic crisis or strength. Due to poverty, millions of children have substandard intakes of important major nutrients: folate, iron, calcium, magnesium, thiamin, and many of the major vitamins. Intake of appropriate levels of nutrients is critical to health and development, particularly among children, affecting their rates and capacities of growth and future health. It has been shown that food stamp recipients allocate greater shares of their total household expenditures to food, while low-income households— those who do not receive food stamps but who may be generally classified as the “working poor”— generally do not. The working poor in our country often do not have enough to eat. Oklahoma must take special care to ensure that its working poor, jobless, and those eligible for and receiving food assistance are able to purchase food with the highest nutrient values and that children in families that have fallen on hard times and the elderly do not suffer from lack of food. We believe that creating a strong local food system is the key to accomplishing these goals.

One of the most critical conditions facing Oklahomans is our low level of individual nutrition. We are a fast-paced consumer society that craves
fast and easy meal solutions. As a result, society has created a health-compromised public through convenient food and overeating. In addition, many of our population are so addicted to convenience that they now lack the necessary skills to properly prepare nutritious meals, thus further compromising nutrition levels (and increasing the incidences of food contamination and food-borne illnesses).

Various policies and programs can enhance local food systems and community food security. Local farmers can be specifically linked to local school lunch programs in "farm to school" efforts. Food and nutrition programs for the elderly can be implemented. Consumer education about the food system and nutrition can be linked to local food production. Local purchasing programs can be required of institutions receiving public funding, such as hospitals and nursing homes.

Producer cooperatives and consumer food cooperatives; marketing training for producers; increased numbers of food banks; identification of the hungry and the causes of their hunger; improvement of childhood nutrition; increases in the number of agriculture and hunger-related educational programs in the schools— all of these efforts can enhance community food security and foster a comprehensive Oklahoma food policy. Many such efforts do not require intensive capitalization.

One way to consider the support and encouragement of local projects is in the creation of a "Community Food Security Fund" which can capture monies from a variety of public and private sources for use as "mini-grants." These mini-grants can go into communities on a competitive basis to serve as start-up funds or funds used to leverage other local funds for community food projects. This program can follow the highly successful USDA Sustainable Agriculture Research and Education Producer Grant program, the model for the Kerr Center Producer Grant program. Grant funds can be used to encourage innovative efforts at the local level to improve community food security.

Oklahoma Commissioner of Agriculture, Dennis Howard, recently took the first step toward galvanizing efforts to address Oklahoma food security and food policy when he created Oklahoma’s Food Policy Council, a multistakeholder group that will examine these broad-spectrum issues and report periodically to the public, the commissioner, and the Oklahoma legislature with recommendations on how to enhance Oklahoma’s food policies. The council has already developed a survey of state institutions designed to benchmark purchases of local foods by institutions. If this body receives adequate funding and support, Oklahoma will be among a handful of states breaking new ground to ensure healthy citizens and a healthy agricultural system.

Educating consumers, both urban and rural, on the importance agriculture plays in their lives is an important key to farm survival and addressing the issues of hunger and nutrition. We need to create a means by which the average consumer can better understand the complex policy issues and decisions relevant to their food supply and how they individually can play a role in their own community food security.

This education best begins in the K-12 years, but adult education is important as well. We can create comprehensive food policy educational programs to reward and publicize innovative
approaches to educational tools. Children and youth in the K-12 school systems must be exposed to agricultural issues by visiting local or regional farms and understanding firsthand the issues faced by rural citizens and farming communities. The Oklahoma Department of Agriculture, Food, and Forestry currently has an "Ag in the Classroom” program that should be implemented in all Oklahoma classrooms.

Finally, Oklahoma State University and Langston University, the state’s leading land-grant institutions, should dedicate staff and funds to the creation of classroom research, and outreach opportunities to further the principles of community food security. At the land-grant and extension level, experts must create critical technical expertise on community food security and develop programs which further local food systems. That technical expertise will ensure that ongoing resources are devoted to the support of individuals and communities working to make a difference in these issues.

A few of the specific programs which can be enhanced or created within Oklahoma to address the needs of community food security and improved consumer education include:

- Increasing funding and research regarding the broad spectrum of food policy issues
- Creating farmers’ markets in those communities where none exist
- Ensuring that farmers’ market programs around the state incorporate high levels of WIC and food voucher programs for the elderly
- Creating a Farm to School program designed after the Food & Nutrition Service/Agricultural Marketing Service pilot programs in Florida and North Carolina, which link local farmers directly to school districts for school lunch programs
- Creating Farm to Hospital programs designed with the same characteristics as the Farm to School programs
- Creating innovative programs in Oklahoma to train Oklahoma youth in food production
- Improving K-12 food and food system education
- Creating community garden projects in low-income communities, both urban and rural
- Creating urban agriculture projects, particularly among those who are food insecure

Most important to the efforts of creating community food security and a comprehensive food policy for Oklahoma is adequate funding and support for the efforts of the Food Policy Council and cooperation from all state agencies.
Corporate Control and Concentration in Agriculture

Nationwide, concentration within the agricultural sector, as demonstrated through mergers and consolidations, has reached epic proportions. This is true for food production and food retailing.

Nineteen percent of food retail sales in 1992 were controlled by five retail stores, and by 1998, the five largest chains controlled 33 percent, with the figure expected to reach 60 percent by 2004. Mergers within the retail food industry are contagious, but the disease does not confine itself to the retail sector. Food giant Tyson Foods, the largest poultry processor in the US, recently acquired IBP, the nation’s largest beef processor and second-largest pork processor. Now Tyson is the largest meat company in the United States, already possessing 25 percent of the chicken market. Four firms now slaughter 81 percent of all steer and heifers; one firm, IBP, slaughtered more than 32 percent of all steers and heifers in 2000.

What have these mergers and consolidations done to the cost of food at the retail level and at the farm gate? From 1984 to 1998, consumer food prices increased 3 percent, while prices paid to farmers dropped 36 percent. Retail beef prices increased 14 percent from February 2000 to February 2001, while prices paid to farmers remained generally stagnant.

Along with the issues of higher production and consumption costs, there are other concerns stemming from the continuing reckless abandon with which mergers and consolidations are taking place. Ownership of germ plasm by agricultural companies is being concentrated in fewer and fewer hands. Fewer firms now control the process by which genetic manipulation occurs. The owner of germ plasm has the ability to obtain patents, and if that owner is also the largest or one of only a few players in the industry, a monopoly position is created with regard to the very essence of life, genetics. To demonstrate this point: Two firms now control 69 percent of the North American seed corn market and 47 percent of the soybean seed market. One firm, Monsanto, in a recent year’s reports, sold 88 percent of the genetically engineered seed in the United States.

The critical issue of concentration must necessarily be tied to the issues discussed previously, the role of public research and educational institutions. We must take steps to increase the amount of germ plasm in the public domain. We must provide public support to traditional crop breeding programs at land-grant universities and other organizations so that hybrids and varieties can be made available to the public and not just to proprietary groups.

If corporate control and concentration is allowed to continue, farmers will never be able to obtain a fair market price, and food prices will be at the mercy of a few giant corporations whose only goals are profit-related. The Kerr Center suggests that Oklahoma pass legislation that will shine a bright light on these mergers and create heightened public knowledge of their effects. Improving the flow of price information and forbidding restrictive contract terms is also key. Finally, the state should arm the attorney general with the means to exercise antitrust oversight in order to prevent undue concentration of power.

However, perhaps the most important action state policymakers can take is to pass proactive measures to ensure new market creation and development.
Marketing Issues

Reversing the Loss of Agricultural Markets

One of the Kerr Center’s goals is to promote policies that work for small, moderate-sized, and diversified family farming operations and to help farmers move toward more sustainable practices. We believe in fair competition and support investigation into the continuing concentration in the agricultural sector and its implications for food security. Agricultural research and extension programs that promote the creation of new markets and promote sustainable family farming systems are the least we can expect from our publicly supported institutions.

Oklahoma must clearly and unequivocally adopt an agricultural policy that explicitly supports small, diversified farms. We must focus resources, research, technical assistance, credit, and other state funding and policy tools toward supporting diversified, sustainable farms and the businesses that support those farms.

The Kerr Center supports state enforcement and investigation of packers and stockyards and adoption of comprehensive price discrimination legislation. Along with the adoption of comprehensive agricultural contract protections for producers, we need state policy tools that proactively support creation of new agricultural markets. The Oklahoma Department of Agriculture, Food, and Forestry’s granting program for farmers’ markets is an excellent example.

We must also promote alternative marketing channels and new agricultural marketing cooperatives. Oklahoma already has put in place the tools for promoting new agricultural value-added products, but we must ensure that those programs continue to be focused on those they were designed to assist. We must continue assisting farmers’ markets and help develop and promote new direct marketing efforts for producers. Lawmakers should become vocal supporters of Oklahoma farms and farm products and lead by example. State institutions and agencies should be encouraged or required to support the state’s economy by purchasing Oklahoma products first.

Finally, we must address the fact that smaller producers and direct marketers are at a market disadvantage. We must carefully analyze all Oklahoma statutes with an eye toward their impact on these producers. Public forums should be conducted around the state to solicit recommendations for improving market access and to new market opportunities. We must pass initiatives to bolster the family farm, protect niche and cooperative marketing efforts, and provide incentives to move away from corporately controlled marketplaces on the farm and in the retail sector. Existing markets must be transparent in price reporting and volume so that all producers will be able to determine the value of their products, thus ensuring fair pricing for all.
Cooperative Development & Direct Marketing Incentives

Cooperative marketing education is vital to enhancing new agricultural markets. Farmers should be educated on the proper methods and means for associating with other producers, creating a cooperative, structuring the cooperative for maximum efficiency and fairness, marketing new products, and properly managing cooperatives. We must also strengthen the infrastructure, education needs, and management of farmers’ markets.

Cooperative marketing allows farmers and ranchers to band together with their neighbors to accomplish together what none could do alone. For example, groups of farmers could form a farmers’ market to display and sell their produce. A group of wheat farmers could form a cooperative to mill their own wheat, adding value to their crops by make a product that would be sold at a higher price than the individual farmers would have earned if they had simply sold their wheat at a grain elevator. The possibilities are endless. However, there are laws that govern how a cooperative acts as a business and its formation. Most farmers and ranchers do not know how to begin such a process.

The Kerr Center strongly supports the creation of a new educational training initiative to create an entrepreneurial training program for farmers and ranchers. While success stories are told around the nation of farmers and ranchers creating new value-added products and markets, thereby increasing the income and viability of their farming and ranching enterprises, in Oklahoma much could still be done to provide support, technical expertise, and infrastructure development to these efforts.

Oklahoma has a program stemming from the Oklahoma Agriculture Enhancement and Diversification Act, which assists farmers in forming cooperatives and provides some loans as seed money. The Kerr Center would not only like to see that program continue but be expanded. Furthermore, we urge all interested farmers to utilize the assistance currently available.

A comprehensive entrepreneurial training program will empower farmers and ranchers to retain control of their products for longer periods of time, improve their access to consumers, and thereby increase their share of food system profit.
Food Labeling & Food Safety

While issues of soil and water quality, access to credit, and creation of markets are vitally important, we cannot overlook food safety and the related issue of food labeling in a discussion of agricultural policy. American consumers generally enjoy a relatively safe, abundant, and varied food supply at a very low relative cost. Over time, and to address problems related to food nutritional content and food-borne illnesses, this country has developed a complex, multi-level system for food labeling and food safety. Numerous agencies of the federal government have jurisdiction over food safety and labeling. Many states have incorporated similar food laws into their statutes. The goals of these various federal and state food laws are:

- To ensure a pure and wholesome food product
- To ensure that food products are safe to eat
- To ensure that food products are processed and produced under sanitary conditions
- To ensure that all labeling and packaging is truthful and informative, not deceptive
- To ensure that the consumer has sufficient information concerning the nutrition and content of food products

There are, however, problems within the food labeling and food safety regulatory system. Uneven enforcement of existing laws, inadequate numbers of inspectors, and insufficient information on required labels, are but a few of the familiar complaints. We must continue to address these problems and refine the system.

When examining food safety issues, we should take special care to ensure that in striving to create a safe food supply, we do not adopt policy measures that will further destroy the capacity of small to medium-sized producers and processors to participate in the marketplace. We must continually examine and reexamine the effect of our food safety policies on smaller producers and diligently support their capacity to exist, particularly as those producers relate to a coordinated response to food security issues.

Among the most pressing of concerns is the lack of requirements that, within the U.S. food regulatory system, genetically engineered foods be clearly labeled as such. The use of genetically modified crops has grown rapidly within the United States. Consumers from around the world are rejecting our exports due to our reluctance to regulate in this area. Consumers within the United States are becoming equally concerned, and there is a rise in the call for enhanced regulations concerning genetically engineered foods, both in labeling requirements and research initiatives.

While the bulk of labeling regulation is driven at the federal level, Oklahoma can take steps to ensure that labeling of genetically modified food and country of origin labeling are incorporated into state policy wherever possible. Indeed, the Oklahoma Food Policy Council issued a resolution calling for country of origin labeling, which was later included in the 2002 federal farm bill. State policymakers must assume responsibility for directing research at our public institutions. Our state legislature should require our public institutions to address the research voids in this arena from a public viewpoint. The potential
risks and benefits to the public of this technology, as opposed to private interest, profit-driven research, must be the cornerstone.

Policies at the state and local level can support the restriction of food purchases to nongenetically modified food products. The legislature should pass laws requiring that all biotechnology firms doing business within the state be held strictly liable for any harms their products may cause and that such firms carry appropriate levels of insurance if they do business within the state.

We can also reexamine state laws concerning gene flow, pollen drift, allergen testing, and damages for crop failures to ensure that such statutes will adequately address potential risks and harms of the use of biotechnological crops. In addition, we can require growers of biotech crops to institute buffer zones to protect their neighbors from contamination, an excellent use of the “good neighbor policy” defined earlier in this document.

Organic labeling allows producers of organic foods to receive higher premiums for their products. Niche markets have been developed for consumers who wish to buy food not grown with commercial fertilizers or pesticides. We must insist that large corporations interested in capturing a part of the organic market be held to the same standards as smaller producers.

Finally, in order to assure a continued safe food supply in the wake of terrorist threats to the United States, each state must seriously examine its capacity to provide locally produced food to its citizens if our food system is attacked. To that end, food policy within Oklahoma should be examined with that special emphasis in mind.
Improvement of Agricultural Education

Agricultural research and extension have played an important role in building the agricultural system we have today. Oklahoma can be proud of the role its land-grant institutions have played in this process.

Historically, the USDA research land-grant systems were begun for the purpose of providing publicly funded agricultural research and education with a clear commitment to serving farmers and rural citizens. When created, neither Congress nor the state legislatures could have imagined the industrialized agricultural structure we have today. The educational system has lost its way, providing education and research fueled by private agribusiness needs while marginalizing or ignoring the family farmer. Independent farming enterprises rely less and less on the current research and education system to provide products relevant to their lives and farming enterprises.

For political and economic reasons, public universities have redirected their research efforts to address the commercial interests of large agribusinesses. A large portion of funding for public universities comes from large businesses, which finance research and retain control over the release of results. Presidents and other high-ranking university personnel regularly sit on the boards of large corporations with an interest in the research done by the universities. The boards of public universities are often composed of executives of large corporations, and those boards ultimately determine the focus of research and class offerings. In addition, public universities and their corporate partners often co-own intellectual property and patents resulting from research completed at the institution. These relationships are incestuous and at the very least indicate conflicts of interest that must be disclosed to the public. When an institution receives public funds, it has a duty to the public, and currently, the public’s interests are not the top priority.

We must fight to bring relevance and responsiveness back into the public research and education system for all producers, not just commodity producers. Our public institutions must provide research and education on new market opportunities; provide meaningful and comprehensive stakeholder input; and incorporate the multidisciplinary research design model. Public
institutions must meet the needs of a growing community of people interested in sustainable agriculture.

We must better educate professional agricultural support personnel such as lawyers and accountants so that these important advisors serve as partners with the farming and ranching enterprise. Oklahoma research and education institutions must increase funding for programs designed to meet the needs of minority farmers and increase the support for rural and cooperative development and outreach to nontraditional farm client groups.

Agricultural research policy should benefit as many as possible. Research results must be freely available and unlimited by any sort of proprietary rights. Diverse groups of stakeholders must be involved in determining policies and strategic directions of all university research. And universities must fully disclose all sources of funding to eliminate conflicts of interest and lend validity to research results. With these changes, the public should be willing to support our land-grant universities and trust their findings and recommendations.
Carbon Sequestration Research

Increased concentrations of carbon dioxide (CO2) from carbon emissions to the atmosphere (primarily because of expanding use of fossil fuels for energy) have already occurred and are expected to increase in the future. In the past sixty years, levels of 280 parts per million of carbon dioxide in the atmosphere have risen to present levels of 365 parts per million. If concentrations of carbon dioxide are allowed to increase, we will have more global warming. In order to stabilize and ultimately reduce concentrations of this greenhouse gas, it will be necessary to employ a variety of techniques.

Ways to decrease carbon dioxide release include the following:

• Managing carbon by using energy more efficiently, thus reducing the need for major energy and carbon sources
• Increasing use of low-carbon and carbon-free fuels and technologies (renewable sources such as solar energy and wind power)
• Utilizing carbon sequestration (Carbon sequestration is any process that lowers the atmospheric concentration of greenhouse gases by reducing the emission of those gases into the atmosphere or by storing them in terrestrial, oceanic, or freshwater ecosystems.)

The President’s Committee of Advisors on Science and Technology underscored the importance of carbon sequestration in its report, Federal Energy Research and Development for the Challenges of the 21st Century, recommended increasing the U.S. Department of Energy (DOE) research and development funds for carbon sequestration as a major tool for managing carbon emissions. Techniques and practices for sequestering carbon must be effective and cost-competitive; provide stable, long-term storage; and be environmentally benign.

Research groups will continue to study the sequestration of carbon in underground geologic repositories and the ways in which the natural terrestrial cycle can enhance sequestration. One of the simplest techniques of capturing excess carbon is through the planting of natural vegetation such as native grasses. The link between soil conservation and soil carbon sequestration is clear.

The long-term conversion of grassland and forestland to cropland and grazing lands has resulted in historic losses of soil carbon worldwide. Major potential exists for increasing soil carbon through restoration of degraded soils and widespread adoption of soil conservation practices.
The long-term conversion of grassland and forestland to cropland and grazing lands has resulted in historic losses of soil carbon worldwide. Major potential exists for increasing soil carbon through restoration of degraded soils and widespread adoption of soil conservation practices.

USDA programs such as the Conservation Reserve Program, the Wetland Reserve Program, the Stewardship Incentive Program, the Forestry Incentives Program, and conservation buffer strip initiatives all help increase soil organic carbon. Also important are conservation tillage, management of crop residue and application of organic materials and manures; soil fertility optimization through site-specific management; elimination of summer bare fallow; and use of winter cover crops and rotations.

The Department of Energy estimates these activities can sequester 154 million metric tons of carbon per year. More studies, however, are needed in the following areas: quantifying the capacity for agricultural activities as carbon sequestration methods, strengthening the soil carbon database, obtaining better data on soil processes that affect carbon, and increasing knowledge about the carbon effects of land conversion and soil management.

Oklahoma can influence research and thereby promote policy changes concerning carbon sequestration by:

- Providing additional funding for carbon sequestration research on the farm
- Enhancing the natural terrestrial cycling of carbon by encouraging or requiring cover crops on Oklahoma farms
- Paying farmers to put in cover crops, proper tillage techniques, and creation of shelter breaks as low-cost and efficient means of carbon sequestration
- Offering tax credits, cost-share, or other financial incentives to encourage the adoption of carbon sequestration activities
- Developing a market for carbon credits whereby carbon generators would purchase credits from farmers to implement carbon sequestration activities

Muskogee farmer Doug Walton and his son Charley examine a cover crop trial funded by the Kerr Center’s producer grant program.
Rural Development Issues

Farmland Protection

Prime farmland throughout the South is under threat of development. In Oklahoma, we must recognize that healthy and productive farmland must be protected from the challenges of encroaching development. Within the past decade, population increases in the Midwest and mid-South were the norm. Ten to fifteen years ago, Oklahoma had no reason to suspect that urban sprawl and loss of prime farmland were lurking dangers. Now, public education efforts about farmland preservation are needed.

Recent statistics indicate that Oklahoma has several areas of high-quality farmland under threat from development. Two of the largest contiguous areas are those immediately south, north, and west of Oklahoma City and immediately south and east of Tulsa. High residential and commercial development is occurring in those areas. Virtually the entire state of Oklahoma is contained within a threatened major land resource area. The state is thought of as rural in nature, and Oklahomans still do not consider the loss of farmland an issue. However, these attitudes are dangerous to the future of the state’s agricultural economy.

Now is the time to accomplish essential public education on the issues of farmland protection and to pass legislation dedicating funds to protection efforts. Several within the state have begun the process of public and private education for an effective and successful farmland preservation and protection program. The Trust for Public Lands (TPL) has been involved in such efforts, and the Kerr Center has joined them. The Kerr Center’s Public Policy Institute, in concert with TPL and American Farmland Trust (AFT), conducted a training program in May 2002 designed to begin developing leadership and knowledge within the state on farmland protection issues.

In 2002, the Kerr Center was awarded a grant by the USDA’s Sustainable Agriculture Research and Education program to conduct professional development training across the South to increase knowledge of farmland protection issues among agricultural education personnel. Voluntary federal farmland protection programs help farmers keep their land in agricultural production instead of converting it to other uses. We are also working to assist other Oklahoma agricultural organizations in their own endeavors to develop land trusts to hold conservation easements as farmland protection measures.

Building on these beginning steps, Oklahoma policymakers should engage with willing participants to cosponsor educational efforts and to create a statewide council to provide advisory guidance to the Oklahoma Department of Agriculture, Food, and Forestry and the Oklahoma legislature on the types of comprehensive legislation and training programs most suited to Oklahoma land tenure and culture and to prepare a short and long-range plan for Oklahoma farmland protection. The state should determine which comprehensive farmland protection policy tools are appropriate for Oklahoma, including purchase of development rights programs, conservation easement legislation, land trust legislation, and creation of agricultural areas protected from development.
Creating Vibrant Rural Communities

Oklahoma has long struggled to provide support and encouragement to its rural areas. Job development and the pursuit of nonagricultural enterprises have long been the major thrust of rural development efforts. Oklahoma must acknowledge the critical role agriculture plays in the economic health and well-being of our rural communities.

A strong rural economic development policy must incorporate a strong agricultural development policy. The state legislature can promote greater access to funding for grants and lending programs to small-scale producers. Trained agricultural personnel should be incorporated into all state and regional economic development agencies and offices, and federally funded offices such as the Small Business Administration should be encouraged to take similar steps.

Pockets of poverty exist within Oklahoma farming and rural communities. Groups traditionally underserved by the agricultural credit and educational system, such as Native American, African American, women, and Hispanic farmers, are often located within those pockets of poverty. Special efforts and programs need to be directed to these populations and areas.

Economic development teams in rural communities must be educated about what information they should request from businesses interested in moving into their communities. Teams should use checklists to help them determine if an enterprise will actually benefit a community. These checklists would make clear both the positive and negative impacts those businesses could have on their communities, including infrastructure needs and potential effects on the area tax base. Teams should ask questions like the following: Will the jobs created be mostly low-paying, attracting a new work force to the area and thereby necessitating more community assets for schools, police, fire departments, and other community services? Will the profits from the enterprise stay in the community or be exported to an out-of-state company? Economic development teams must consider these and other factors to ensure the long-term health of rural communities.

Most of all, Oklahomans must understand that community matters, because if rural communities diminish, our quality of life also diminishes. The value of a rural community is not measured by the per capita income of its citizens. As the population of our rural landscape decreases, we must develop policies that encourage a new generation to join the agricultural force that powers our nation. Other states have implemented programs designed to bring new farmers back to the land and production. In Nebraska, the state offers tax credits and forgives student loans as incentives for its citizens to choose the profession of farming. We must study effective measures used by other states and then adopt the measures suitable to Oklahoma so that we can develop rural policy to ensure the stability of our state.
Resources


Maura McDermott, "Agriculture and Drug-Resistant Bacteria: Is There a Link?" *Field Notes: Kerr Center for Sustainable Agriculture Newsletter*, v. 27, #4, winter 2001, pgs. 16-19


Most publications listed above are available from the Kerr Center. Visit our website at www.kerrcenter.com or call 918.647.9123.
Appendix A  Core Values of the Kerr Center for Sustainable Agriculture

The Family Farm Structure of Agriculture
- We value the family farm system of production and believe it is cost effective, profitable, and resource conserving when operated under the principles of sustainability
- We value the quality of life that sustainable farms provide, including: being a good place to raise children; giving people the opportunity to connect with nature; and providing a clean environment
- We value policies that provide support for family farmers to diversify with alternative production and marketing practices
- We value information and education drawn from farmers’ experiences

A Fair Playing Field
- We value a secure future and a fair playing field for independent farmers and ranchers
- We believe that the cost of food does not currently reflect the costs associated with its production. These costs include natural resource degradation, loss of land, out-migration, and an increasing concentration of power within the food system
- We value open and fair competitive markets free of monopolistic power
- We value policies that are scale/size neutral
- We value an agriculture that does not exploit land or people
- We value policies that allow farmers to pass their land and knowledge down to new farmers at affordable prices

Public Research for the Public Domain
- We value public research at universities which is freely available in a timely manner to the public
- We value the utilization of broad stakeholders’ input in developing research agendas
- We value annual financial disclosures by university funding sources and transparency in university administrations regarding potential conflicts of interest
- We value the development of affordable, realistic technologies and cultural practices that benefit the entire farming community

The Enhancement and Protection of Natural Resources
- We value farming methods that are ecologically sound, regenerative, and resource conserving
- We value protecting farmland from development pressures
- We value economic support of farmers for protection of natural resources as opposed to support for overproduction of agriculture commodities
- We value having a series of biologically diverse farms rather than large farms that are primarily monocultures
- We value research and subsidies designed to enhance proven technologies and better model natural systems

Respect for Nature
- We value the humane and ethical treatment of animals
- We value the indigenous wisdom of people from all parts of the world
- We value basing an agricultural system on natural cycles where waste is nonexistent
- We value collaborating with nature and the free services that nature provides as a way to restore natural systems rather than dominating nature

Local Food Systems and Better Communities
- We value ensuring food security through regional/local food systems which support local economies and provide fresh produce for entire communities
- We value capturing a greater share of food market dollars for farmers
- We believe that society benefits from communities that are self-sufficient.
- We believe that our country needs a comprehensive vision for shaping rural areas