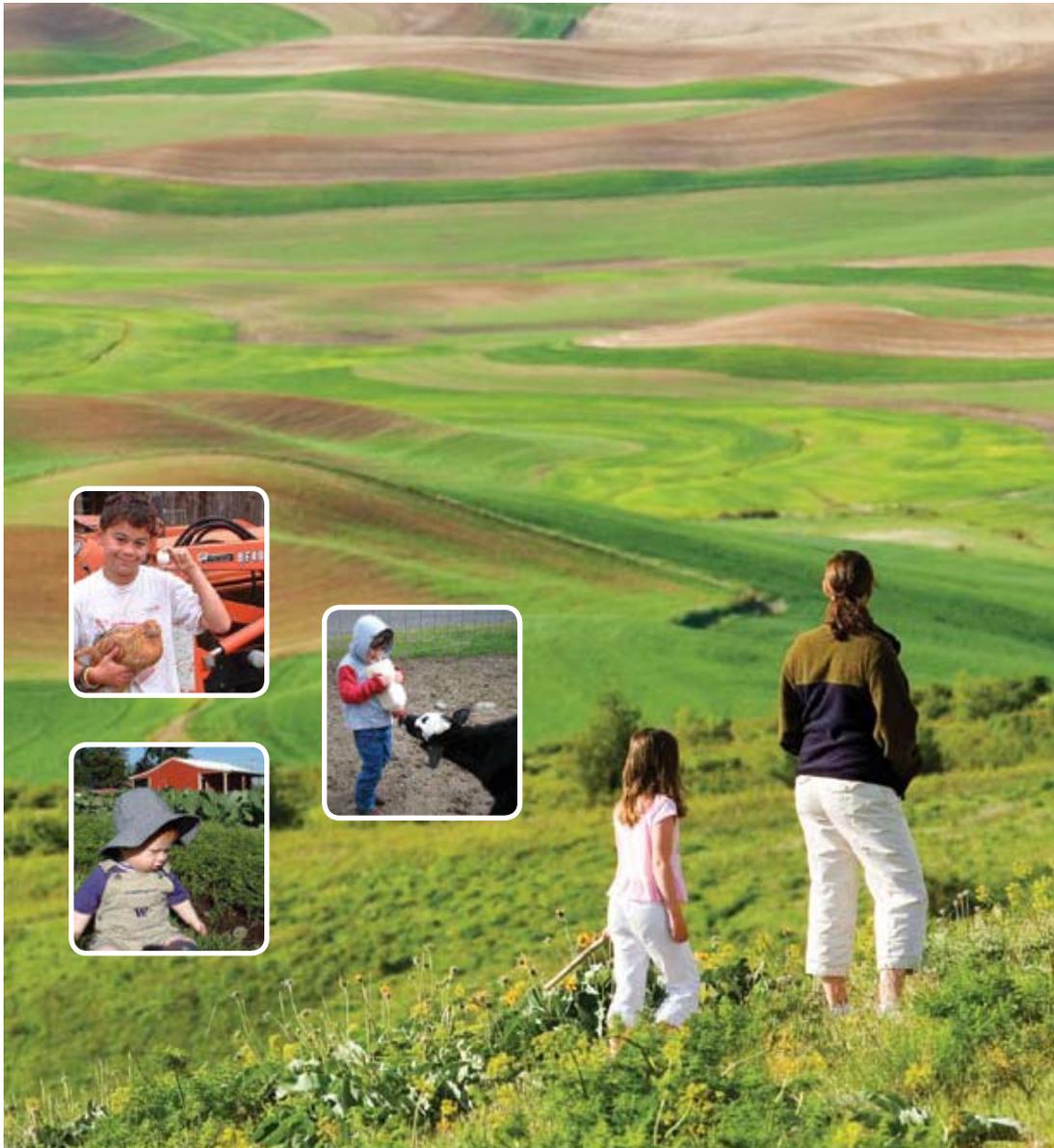


WASHINGTON Agriculture

Strategic Plan
2020 and BEYOND





Agriculture is the cornerstone of Washington's economy in both rural communities and metropolitan areas. Agriculture is woven into the fabric of Washington State's heritage and has been an important cultural institution in Washington since the earliest days of territorial settlement. Farmers and ranchers provide environmental stewardship to 15 million acres of the state's lands. *The Future of Farming: Strategic Plan for Washington Agriculture 2020 and Beyond* is intended to ensure that agriculture remains vibrant and prosperous for generations to come.

The Washington State Department of Agriculture developed this strategic plan from the experience, expertise and diverse opinions of hundreds of study participants. The Future of Farming project did not seek to achieve consensus, rather, it documents the input of producers, processors and other industry specialists. On behalf of WSDA, I would like to acknowledge the contributions of Jennifer Harte, Carrie Coineandubh, Dr. Desmond O'Rourke and the Future of Farming Steering Committee, as well as the hundreds of others who participated in the study.

This report does not offer prescriptive solutions for securing the future of agriculture, but provides a road map by which to navigate. Now we must focus on developing the public policies that respond to the needs. Although this plan was written at the direction of the Washington State Legislature, the recommendations can and should be leveraged by advocates for agriculture, private and public, at every opportunity.

Washington agriculture is fortified by the depth of our farming roots and the innovation of our industry. By making agriculture a priority, policy makers can ensure that the farmers and ranchers of tomorrow will remain competitive in the global marketplace and preserve the proud heritage that is Washington State agriculture.

Sincerely,

A handwritten signature in blue ink, appearing to read "Robert W. Gore". The signature is fluid and cursive.

Robert W. Gore
Acting Director

[Executive Summary]

WASHINGTON Agriculture

Strategic Plan 2020 and BEYOND

Categorized Areas of Recommendation

Category #1 Make Agriculture a Priority

– *critical to socio-economic vitality*

- Business environment conducive to success
- Assemble agency and industry leadership
- Economic development program

Category #2 Eliminate Regulatory Barriers

– *promote competitiveness*

- Blue Ribbon Panel to evaluate the impact of regulations
- Agencies provide outreach and meet to improve consistency
- Construct a model Agricultural Impact Statement

Category #3 Protect Resources

– *availability and access*

- Land
- Water
- Labor
- Energy
- Capital and credit

Category #4 Strengthen Supportive Services

– *assure competitiveness*

- Education
- Transportation
- Science, technology, research and development
- Processing and preparation
- Marketing services
- Information, communication, and outreach
- Producer associations and formal commissions

Category #5 Harness Emerging Opportunities

– *identify, monitor and respond*

- Organic, sustainable and local
- Multi-year farm bills
- Food safety and food security
- Climate change
- Risk management

Strategies for the future:

Analyze, Respond, Allocate and Improve



Current Importance of Agriculture to Washington

Agriculture contributes extensively to Washington's economy and society. It generates a rich diversity of food, fiber, forage, and fuel for the state, nation, and the world. It generates income and employment on 33,000 farms in all 39 counties. It underpins a large food processing industry and supports many supply and marketing services in machinery, transportation, packaging, and more. Agriculture is the pillar of many rural communities, generating tax revenues for roads, schools and other services; injecting new technologies; and providing leadership in organizations. The quality and safety of Washington's agricultural products continues to raise the state's reputation around the world. Farmers are stewards of the state's private lands, protecting streams, lakes, birds, and wildlife, and maintaining the aesthetic appearance that casual observers enjoy.

"The quality and safety of Washington's agricultural products continues to raise the state's reputation around the world."

The economic impact of agriculture in Washington is considerable. Cash receipts at the farm level in 2007 were a record \$8.4 billion. Each dollar of farm cash receipts multiplies itself throughout the state's economy. Overall, agriculture boosted state economic activity by approximately \$21 billion in 2007.

There is a strong symbiotic relationship between agriculture, the many ancillary business activities it stimulates, and the social effects it generates. In 2007, the food processing industry had 937 establishments employing 34,000 workers and grossed \$9.1 billion. Agriculture also drives extensive activities for cleaning, packing, and preparation of fruits, vegetables, grains, legumes, and other specialty products. The rural communities that supply the land, water, and people of agriculture could not flourish without farming. That is why the Future of Farming project is so vital to the stability of Washington's socio-economic health.



Genesis of the Future of Farming Project

Washington agriculture went through a difficult decade between 1995 and 2005. Prices and profitability were weak and many producers left the industry. Competition intensified in both domestic and international markets and competition for resources such as land, water, and labor also rose. Proliferating regulations and non-governmental requirements added many new costs.

In response to widespread concern about the future of Washington agriculture, the 2007 Legislature directed the Washington State Department of Agriculture (WSDA) to conduct an industry-guided evaluation of the strengths, weaknesses, opportunities, and threats to agriculture. The project sought input on the present conditions and future challenges of Washington agriculture from as many industry segments as possible. It was one of the most inclusive efforts ever conducted in any state. Agriculture is a geographically encompassing and product-diverse industry, so the priorities that emerged do not apply equally to all segments.

This study reports the agriculture community's recommendations to the 2009 Legislature that will keep farming strong for years to come. The plan is not the official policy or position of the WSDA, but rather represents a compilation of input from about 2000 participants. The working papers and other appendix materials represent the viewpoints and expertise of their authors. Their inclusion does not constitute approval by the WSDA or by all the project participants.

“This study reports the agriculture community's recommendations to the 2009 Legislature that will keep farming strong for years to come.”

Need for a Globally Competitive Washington Agriculture

To survive in agriculture, farmers and agribusinesses must be globally competitive. Consumers are increasingly discriminating, and retail buyers more demanding. Products must meet many new government and non-government standards. Some countries can deliver products to U.S. customers more cheaply than can Washington.

All products compete in a constantly evolving social, economic, and politically driven global market system. The future of farming in Washington will be heavily influenced by the various factors that either enhance or reduce competitiveness. These factors fall into three main categories; the burden of regulation, the availability of resources, and the vitality of support services.



Regulatory Barriers to Competitiveness

Future of Farming participants reported regulations as their biggest obstacle. These add costs and divert resources that are urgently needed to improve quality, enhance value, and boost productivity. While most individual laws have a sound rationale, the increasing number of local, state, federal, and non-governmental regulations affects almost every aspect of farm operations and has a damaging, cumulative effect on business. In complying with laws and regulations, farmers report direct costs to alter established farm practices and additional indirect costs from overlapping or inconsistent applications, multiple permit requirements, uneven enforcement, and difficulty in accessing agency guidance. Smaller operators face special disadvantages due to regulatory complexity. Many farmers explained that regulatory burdens discouraged their children from taking over the farm, discouraged investment in value-added opportunities, and discouraged new entrants from establishing farms.



Resource Constraints on the Competitiveness of Washington Agriculture

The Future of Farming participants identified five resources critical to the competitiveness of Washington agriculture: land, agricultural water, energy, labor, and capital and credit.

The rapid growth of urban populations increases competition for the available land and water. Loss of farmland is greatest around urban centers. Demand for both land and water has boomed and the battle over water rights is likely to intensify. Often, non-farm users can outbid farmers for water rights and pay more for land. Participants in the Future of Farming project expressed a need for an updated inventory of the availability, needs, concerns, and opportunities for land and water in the state.

Labor availability for agriculture is under threat. Concerns about labor shortages are most acute among intensive crop farmers in Central Washington, but shortages of suitable labor are a worry in every region. Stricter immigration controls and more costly worker laws make farmers reluctant to expand production of high-value fruits and vegetables, and have led many processors and agribusinesses to replace labor with machinery or to exit the state or industry.

Energy availability was a past advantage of farmers and agribusinesses in Washington and drew many food processing businesses to the state. However, the advantage of low cost electrical power from hydroelectric dams is being eroded, and the fluctuations in 2008 fuel prices were costly in many sectors.

The fifth noteworthy resource to protect is long-term capital for investment in perennial plantings, facilities and equipment, and short-term credit for operations. These needs have been adequately met in recent years for existing operators, but less so for new or alternative farm operations, especially during periods of economic downswing.

Need to Enhance Support Services

Future of Farming participants recognized the importance of fostering support services including: (1) education, (2) transportation, (3) science, technology, research and development, (4) processing and preparation, (5) marketing services, (6) information, communications, and outreach, and (7) producer associations and formal commissions. Participants believed that since many major competitors are making large advances in similar agricultural support services, Washington would need to make comparable advances to hold its own in local, national, and global markets.

All sectors of the state's economy share a concern about the ability of the state's education system to adequately prepare children for the demands of modern society. The current educational system needs more programs designed to prepare young people for careers in agriculture.

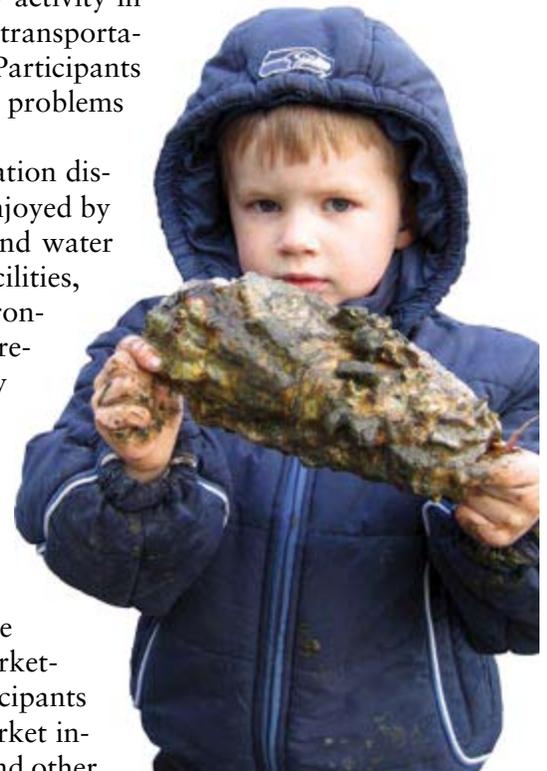
The cost and availability of transportation underpins every activity in the supply and marketing chain. Agriculture needs an efficient transportation system with adequate capacity and free of bottlenecks. Participants were concerned that without targeted actions, transportation problems will worsen as the state population grows.

Science and technology and the state's research and information dissemination system will be critical in offsetting the advantages enjoyed by competing suppliers, especially those with lower land, labor, and water costs. Scientific advances have been handicapped by aging facilities, declining budgets, and the increasing complexity and cost of frontier research. Additional funding and expert personnel will be required to strengthen research and outreach activities and identify and adapt new technologies.

The symbiotic relationship between farming and processing and preparation has been discussed above. Many processors are now part of multinational organizations with many alternative raw product sources, and will continue to locate in Washington only as long as it makes business sense to do so.

Whether products are marketed next door or around the world, Washington farmers need the help of a wide array of marketing services to meet the needs of retailers and consumers. Participants agreed that more federal and state assistance was needed in market information and analysis, product development and promotion, and other marketing services to counteract well-funded competitors.

“The current educational system needs more programs designed to prepare young people for careers in agriculture.”



Emerging Factors

Because the Future of Farming project was charged with looking to 2020 and beyond, it tried to take into account issues and challenges that were not reported by respondents as critical but that are likely to affect the future of farming. Five items most prominent include food safety and security, risk management, multi-year farm bills, climate change, and meeting consumer demand for “alternative” or niche products (organic, local, and so forth).

Food safety continues to be a major concern in the international food system and has led to more intense surveillance of all food products. The cost must generally be borne by producers, squeezing already tight profit margins.

Multi-year farm bills have traditionally provided support for program crops such as wheat and barley and, since 2002, peas and lentils. The 2008 Farm Bill was the first bill to fund research and marketing for specialty crops (such as fruits and vegetables), which are very important to Washington. It also simplifies existing programs and creates new ones to address high-priority areas.

The phrase “climate change” has become a lightning rod for debate. While many in agriculture question the climate change forecasts, new state and federal policies aimed at reducing greenhouse gases are on the way. Agriculture could be strongly impacted and needs to be active in discussions and prepared to work with potential consequences, both positive and negative.

The Future of Farming project highlighted the many risks that agriculture has traditionally faced from weather, swings in production or prices, disease, and so on. However, farmers now face newer risks as a result of global competition, evolving regulations, access to resources, and other changes. The industry needs to develop risk management skills and tools that are relevant to the future and specific conditions in Washington.

Organic, local, sustainable, free-range, grass-fed, and many other alternative or traditionally non-conventional types of production and certifications are demand-led and increasing. Producers need to be aware of this growing sector and prepared to meet the demand.



Key Recommendations

There is widespread belief among participants in the Future of Farming project that the importance of the agricultural industry to Washington's economy and society has been underappreciated, and that many of the decisions made over the years to serve or protect other interests did not fully consider the impacts on agriculture. As a result, agriculture's competitiveness and future survival is under threat. The agriculture community's main recommendations, listed below, focus on increasing understanding among state policymakers and call for proactive policies to reinforce agriculture's socio-economic role:

1. **Make agriculture a priority.** This will require widespread acceptance of agriculture's importance to the state, and greater emphasis on agriculture's needs in future policymaking.
2. **Eliminate regulatory barriers.** The accumulation of complex local, state, and federal regulations has become a major threat to agriculture's competitiveness and to the retention of the state's food processing industry. It is a serious deterrent to current producers and to the entry of next generation farmers and agribusinesses and must be improved.
3. **Protect resources.** The land, water, labor, and energy resources crucial to agriculture's survival are under threat. Agriculture needs assured access.
4. **Strengthen support services.** Global markets have become intensely competitive and demanding. To compete effectively, Washington agriculture needs additional assistance in advanced research and applied technology and in other services such as transportation, processing infrastructure, education, and marketing.
5. **Harness emerging opportunities.** Agriculture must acknowledge, recognize, monitor, and tap into emerging factors in a timely manner.

Detailed justifications for these and other major recommendations, and proposals for specific future actions, are included in the full report of the Future of Farming project.

*February
2009*

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*The Future of
Farming – Strategic
Plan for Washington
Agriculture 2020 and
Beyond is published
by the Washington
State Department of
Agriculture (WSDA) on
behalf of the Washington
State Legislature.
This report, Working
Papers and other
publications of the
project are available
electronically at
<http://agr.wa.gov/fof>*



WASHINGTON Agriculture

Strategic Plan 2020 and BEYOND



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WSDA would like to acknowledge the contributions of Jennifer Harte, Carrie Coineandubh, Dr. Desmond O'Rourke and the Future of Farming Steering Committee, as well as the hundreds of others who participated in the study.



“Our mission is to promote agricultural viability while protecting public health and the environment.”



I. Mission of the Future of Farming Project

1.1

Legislative Mandate

In the spring of 2007, the Washington Legislature directed the Washington State Department of Agriculture to identify the strengths, weaknesses, opportunities and threats (SWOT) to agriculture, and to make recommendations to the 2009 Legislature that will keep farming in Washington competitive, sustainable and profitable. This assessment and development of a strategic plan for agriculture is known as the Future of Farming (FOF) project. The assignment was interpreted as a mandate to obtain the views of producers of all sizes, types of production, and from all corners of the state. The methodology used reflects this mandate. As one might expect in such a diverse industry, there was not always agreement on assessments of the current situation or on the best way forward for the industry. However, there is wide agreement on key priorities.

1.2

Current Importance of Agriculture to Washington

Agriculture contributes immensely to Washington’s society and economy in obvious ways and in many ways that are less obvious. Agriculture generates a rich diversity of food, fiber, feed, forage, and fuel for citizens of the state and for consumers around the globe. It generates income and employment on the state’s 33,000 farms in all 39 counties. It is the basis for a large food processing industry, and supports a wide range of supply and marketing services in machinery, equipment, banking, transportation, advertising, packaging, and so on. Agriculture is still the main support of many rural communities in generating tax revenues for roads, schools and other services, in bringing new technologies to rural areas, providing leadership in political and civic organizations, and providing a strong bond between rural residents and their compatriots in towns and cities in Washington and throughout the world. Washington agricultural products carry the good name of the state around the world. Farmers are also the dominant stewards of the state’s private lands; both in protecting streams, lakes, birds, and wildlife, and in maintaining the aesthetic appearance that casual observers enjoy.

Perhaps agriculture’s most vital role is to provide a broad state-wide stabilizing pillar for Washington’s economy. The National Agricultural Statistics Service (NASS) figures for Washington are impressive. Cash receipts at the farm gate in 2007 were about \$8.4 billion. Of these receipts, farmers spent about \$1.1 billion on employee compensation and \$3.6 billion on the purchase of goods and services to

enhance production. Of these expenditures, 29 percent went for manufactured goods; 22 percent for inputs from other farms; 23 percent for marketing, storage, and transportation services; and 28 percent on miscellaneous goods and services. Farmers also paid \$230 million in property taxes. For the 2007 season, Washington farmers earned a net income of \$2.8 billion: a new record. Each dollar of farm gate receipts has a multiplier effect of 2 to 3 times throughout the state's economy. Therefore, the \$8.4 billion farm gate receipts, spread across the entire state, boosted state income by about \$21 billion.

Washington agriculture is characterized both by the great diversity of products produced and by the importance of these commodities in the national picture. Sixteen of the top 50 commodities in the state were ranked first or second in farm gate value of sales among all U.S. states.

1.3 Project results - Preferred Future of Farming 2020 and Beyond

The vision, opportunities, and challenges identified in this report are not intended to be inclusive, nor did the comprehensive six-month on-the-ground methodology seek consensus. Rather, the global recommendations represent the diverse opinions of hundreds of producers, processors, industry leaders, and specialists. Throughout the main document, readers will find references to the online appendix where they can delve into industry topics. The materials herein reflect the vision and opinion of FOF participants and their analyses of the current situation, opportunities, and systemic challenges. The producer Steering Committee, committed to remain unbiased and to reflect views of all types of agriculture from all parts of Washington, reviewed the compiled materials. From this information, they distilled the general recommendations most important to profitable agriculture over the next 20 years. This producer-based report is a starting point from which to expand discussion, debate, and detailed timely actions.

Section II provides readers with the background and methodology of the Future of Farming project. Section III provides historic and current information describing the 2008 situation of agriculture in Washington.

Section IV describes categories, factors, and recommendations of the Future of Farming project. The baseline input of more than 800 producers and producer service providers led to the description of factors affecting profitability. Within this framework, many other producers, specialists, and industry leaders provided working papers and participated in detailed discussions. Thus, the strategic plan has been condensed into five categories impacting the future of profitable agriculture. Each category contains recommendations to keep farming in Washington profitable and enduring into the future.



The associated recommendations of each category were prioritized by the Steering Committee to take Washington agriculture from the current situation towards the future. By necessity, the plan remains at the general or umbrella height of 300 miles, the altitude at which the entire state is within vision.

There was widespread belief among participants in the Future of Farming project that the importance of the agricultural industry to Washington State's economy and society is poorly understood, resulting in decades of decisions that threaten both its competitiveness and its survival. Their main recommendations focus on altering attitudes among state decision-makers and called for proactive policies to restore agriculture's competitiveness. Due to the participative approach to the FOF work, recommendations are multi-level. Strategic actions recommended may be appropriate for implementation at the producer organization level, agency level, appropriate for legislative work, or even action by the Governor. Section IV provides readers with detailed justifications for these and other major recommendations, and proposals for specific future actions. Summarized in the most austere terms, recommendations include:

1. **Make agriculture a priority.** This will require more widespread acceptance of agriculture's importance to the state, and greater emphasis in future policymaking on agriculture's needs.
2. **Eliminate regulatory barriers.** The accumulation of complex local, state, and federal regulations has become a major threat to agriculture's competitiveness and to the retention of the state's food processing industry. It has become a serious deterrent to entry of the next generation of farmers and agribusinesses.
3. **Protect key resources in agriculture.** The land, water, labor, and energy resources that are crucial to agriculture's survival are under threat. Agriculture's access to those resources needs to be protected.
4. **Strengthen key support services.** Global markets have become intensely competitive and demanding. To compete effectively, Washington agriculture needs major assistance in advanced research and applied technology and in other marketing services such as transportation and processing.
5. **Harness emerging opportunities.** Agriculture must recognize, monitor, and tap into emerging factors in a timely manner.

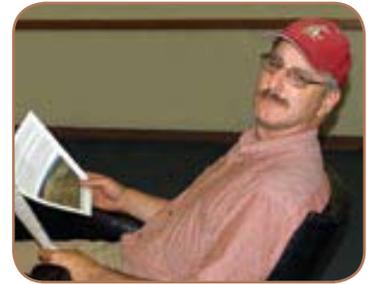
The next two sections provide background of the FOF process and knowledge about the situation and structure of Washington's agricultural industry. This basic information is essential to appropriate decision-making for a better future for agriculture.

II. Background to the Future of Farming Project

2.1

Industry Concerns

Washington agriculture (dictionary definition¹) went through a very difficult decade between 1995 and 2005 when prices for many products were depressed, profitability fell, and hundreds of farm operators and their supply and marketing firms left the industry. While prices began to recover in 2006 and 2007, the industry faces unprecedented pressure from competition for the land and water needed for its operations. Industry emphasized concerns about the increasing shortage and insecurity of labor, the diminished supply, processing, and marketing options, an expanding web of government regulations and retailer requirements, sophistication of international competition, and increasingly volatile input costs. Producers of a wide variety of commodities are concerned about their ability to survive in the industry. In addition, the future of farming in Washington will be impacted by the national and global debate about the security of food supplies for a growing world population, the looming implications of climate change and measures to address it, and the increasing volatility and risk in the business environment in which farmers now operate.



2.2

Legislative Discussion

Many of the above concerns were raised in the legislative discussion prior to approval of the Future of Farming project. In addition, the unique role of agriculture in society was noted. Agriculture does not merely provide jobs, incomes, and products. It supplies food and fiber, two of the basic human needs. Maintaining the ability of the state, region, and nation to grow much of its own food is important to national security and independence. For worldwide food security, Washington commodities help to even out global yield fluctuations. Agriculture is a major contributor to the national balance of payments. Through its stewardship of the state's natural resources, agriculture provides many social and environmental benefits to the state that are not paid for in the marketplace. For many reasons, agriculture merits the special support of state and national governments.

According to Jay Gordon, Executive Director of the Washington State Dairy Federation, the project should be “something more than an economic study. The Future of Farming process must be for all





stakeholders. There have been numerous, appreciated efforts by the legislature over the past several years to assist farmers as they struggle with the changes caused by globalization. However, the assistance has been tactical and not as strategic as it could be. This study is needed to provide the data necessary to understand what strategic changes need to be made to help our state short term and long term. Decision makers in the public and private sector have been reacting instead of getting proactive. This is a first step.”

In announcing the launch of the Future of Farming project, then Director of Agriculture Valoria Loveland noted that it had been over 20 years since the last strategic plan for Washington agriculture. Loveland’s vision was that the Future of Farming project “will develop a strategic plan to guide decision makers as they work to support the continued economic viability of the state’s food and agriculture industry. The goal of the project is to pass on a vibrant economy to the next generation of Washington producers.”

2.3 Overview of Project Work and Methodology

WSDA hired an agricultural economist to organize the input of hundreds of participants and write and edit the plan. The department’s first project action was to review the last strategic plan for Washington agriculture written in 1988, AG 2000. Early during the 2008 project period, steering committee representatives from many segments of agriculture were selected by peer associations and organizations in order to develop a framework for prioritizing project work. Members contributed position papers on their respective sectors of agriculture. During the spring of 2008, agricultural producers from around the state provided input through surveys, listening groups, and discussions. Survey responses were obtained from approximately 400 producers and 395 consumers. The project focused on the views of producers so the consumer responses were separated for potential future analysis. The focus groups and listening sessions hosted well over 300 additional producer representatives and support service providers at 20 locations around the state. Spot opportunities to interview and survey for state-of-the-state information in specialized areas such as domestic and international marketing, processing, agricultural communications, and vocational agriculture education were successfully undertaken. For example, 100 agriculture educators responded to an online survey conducted during the FOF process. Altogether, at least 900 current producer representatives were directly involved in describing the agricultural industry’s needs in order for it to stay viable into the foreseeable future.

As themes began to develop from the producer input, detailed information was solicited from public and private economists, agronomists, resource specialists, and other technical experts. A cross sec-

tion of well over 100 industry leaders participated in this phase. The findings were summarized in terms of the strengths, weaknesses, opportunities, and threats to the state’s agriculture. The Steering Committee reviewed these findings and assisted in identifying those prominent recommendations that will help create a durable industry. The Future of Farming Project Appendix² contains many of the working materials generated during the life of the project, and is considered by some leaders to be one of the most comprehensive, detailed, and inclusive assessments of the state’s agriculture ever conducted.

The Future of Farming study underwent external peer review³ by Dr. Steven Buccola, recent President of the American Agricultural Economics Association (now the Agricultural & Applied Economics Association) and award winning writer and editor. In a summary letter to FOF’s managing agricultural economist Dr. Buccola said, “Overall, I find this document to be a balanced survey of the present state and future prospects of Washington agriculture, of the problems it faces, and of possible approaches toward alleviating the problems. In many ways, it is a blueprint of the agricultural resource policy situations around the country, and could well be taken as a model of a Strategic Plan in other states.” The full review can be found here.

2.3.1 Steering Committee Formation Methodology

The Future of Farming Project Steering Committee members were appointed by the Director of Agriculture as authoritative industry representatives. Each member committed to help the Director develop a strategy to keep farms profitable and producing, and keep the state’s agricultural industry sustainable and competitive. The members of the steering committee were as follows:

Steve Bloomfield, Aquaculture Shelton	Brian Isaak, Wheat Coulee City
Jay Gordon, Dairy Elma	Les Wentworth, Hay Ephrata
Steve Hallstrom, Organic Oakville	Chris Voigt, Potatoes Moses Lake
Robert Hart, Nursery/Greenhouse Mount Vernon	Keith Mathews, Apples Yakima
Jim Wegner, Food Processing Seattle	Jeff Gordon, Wine Pasco
Andrew Stout, Small Farms/Direct Marketing Carnation	Maury Balcom, Irrigated Agriculture Pasco
George Irwin, Breeder Cattle Enumclaw	Larry Gady, Seed Rockford
Jean Berney, Range Cattle Okanogan	Daniel J. Bernardo, Washington State University Pullman



2.3.2

Producer Meetings

Twenty producer meetings were conducted in every part of the state. Extension agents, commissions, associations, organizations, agencies, industry advocates, and nonprofits responded to the FOF mission, and helped with the recruitment of knowledgeable, diverse, and representative producer participants. FOF's goal was to keep respondents focused on the long view. Participants were asked specifically what actions would be needed to keep agriculture prosperous through 2020 and beyond. Many hours of intense discussion were spent with this set of respondents and participants of the FOF project. The listening sessions demonstrated that the opportunities and challenges faced by producers are similar across the state. Except for certain region-specific issues (such as local water management opportunities and challenges, and some crop and scale nuances), farmers and ranchers in every part of the state expressed the same hopes and concerns for the future. These hopes and concerns were mirrored by the survey responses, which were combined with listening session feedback to become the base of Steering Committee discussions and all subsequent specialist group meetings and working paper development.



2.3.3

Surveys

The Future of Farming survey was available on the Future of Farming website and distributed through the network of Steering Committee members, commissions, associations, industry advocates, and other public and private stakeholders. Other survey responses were obtained through rack cards, newsletters, electronic mail, radio spots, and by word of mouth. The project cast a wide net to ensure that the views of producers from every geographic location, farm size, and product type could be heard. The survey was fully completed by 800 respondents, including approximately 400 bona fide producers representing every size and type of farm. The summary of producer survey results is online⁴. A second survey was distributed to vocational agriculture education programs. The response rate was 35 percent. The educators' unified response is discussed later in this report, and a synopsis can be found online.⁵

2.3.4

Specialist Group Discussions

The surveys, focus and listening groups, input from the Steering Committee, comments from interested industry representatives, and interviews with participants from the precedent 1988 strategic plan covered a wide array of topics. As described in 2.4 below, a few factors emerged as having the potential to significantly affect the future of Washington agriculture. For many of these topics, the

project commissioned expert analyses or working papers.⁶ Finally, groups of specialists were convened by topic for in-depth discussions. The specialists were recommended by industry participants for their varied aspects of knowledge about the topics under discussion. The specialists were provided with producer quotes specific to the topic, as well as working papers from the FOF files. Subsequently, the specialists helped identify potential actions for the legislature to consider. The results from these meetings were compiled for the review of the FOF staff and Steering Committee members.

2.4

Organization of Findings

Participants at every level were asked for their vision for the future of farming. Clearly, some future developments cannot be controlled, but this question set a tone of looking forward into the foreseeable future. A unified vision emerged: Make agriculture a priority, with all its economic, social, and environmental benefits, in order to keep farms profitable, innovative, producing, and competitive both locally and globally into the foreseeable future. So, focused on this vision, the FOF project moved to identify opportunities, challenges, and a unified message that will help retain current production capacity and provide economic motivation for family farm succession and new entrants.

Important to the reading of this document, the colored text heading section IV Categories 1 through 5 contain statements and recommendations developed from the breadth of FOF participants. The recommendations are compiled in the table at the end of this document.

In the appendix,² readers and researchers will find current and forward-looking examinations of sectors and factors affecting viability written by industry members participating in the FOF process:

- Sector position papers exemplifying strengths, weaknesses, and priorities unique to specific commodities and areas of production
- Summarized findings from the producer survey, focus groups, and listening sessions
- Working papers and situation reports written by specialists and their associates, some commissioned for discussion background and others donated by industry representatives

“We agree that we need food safety, environmental and many other regulations, but we need to identify conflicting or unintended results, track our progress, and then evaluate this action 10 years from now.”



III. Situation of Agriculture in Washington State

3.1

AG 2000 Project Review

A strategic planning exercise similar to the Future of Farming project, called the AG 2000 Project, was conducted in Washington two decades ago.⁷ *Review of the AG 2000 Project: Implications for the Future of Farming Project*⁸ is a written evaluation of the earlier plan.

“AG 2000 diagnosed the strengths, weaknesses, challenges and opportunities facing Washington agriculture. Among the strengths were the diversity of growing conditions, products produced, and markets served.”

AG 2000 was initiated in 1986 after Washington agriculture had gone through difficult times similar to those of 1998-2004. Its main goal was to develop long-term coordinated economic strategies for Washington agriculture to the year 2000. Spearheaded by then WSDA Director Dr. Alan Pettibone, it employed the services of senior economist Dr. James Cornelius, on leave from Oregon State University, to coordinate the effort. It involved contributions over a two-year period from the Washington State Department of Agriculture, the Washington State Department of Trade and Economic Development, the Agricultural Market Development Advisory Committee, Washington State University, and the input of selected farmers, ranchers, processors, merchandisers, commodity commissions, grower and industry organizations, agribusiness firms, and related interests. Its final report was issued in June 1988. Despite substantive changes in the structure of Washington’s production and processing system, readers can consider that few of the core factors impacting the profitability of agriculture have changed over time, although the structure of the industry system evolved.

AG 2000 diagnosed the strengths, weaknesses, challenges and opportunities facing Washington agriculture. Among the strengths were the diversity of growing conditions, products produced, and markets served. At that time, approximately 75 percent of the state’s agricultural production was sold outside Washington, 25 percent of which was sold outside the United States. The industry had adapted rapidly to changed conditions so that it was “a technologically advanced, economically viable but inherently volatile industry, with a relatively volatile structure that most consumers take for granted.” One of the major weaknesses was that most producers were price-takers because they were individually too small to influence the market. Many had suffered financial stress prior to 1988.

As a basis for its recommendations, the AG 2000 project sought agreement from all participants on a preferred future for Washington agriculture. The preferred future had seven major elements:

1. Become a market-driven economic community with reduced dependence on government policy
2. Develop a broad base of marketable commodities and appropriate markets
3. Increase the opportunity for profitability in the agricultural industry
4. Enhance the economic growth and improve the business environment of Washington's agricultural sector
5. Achieve an efficient use of Washington's resource base: land, water, capital, and management
6. Obtain ready and efficient access to markets for agricultural inputs and products
7. Achieve a more stable level of prices, production, sales, and net returns to individual firms

Based on that preferred future, the AG 2000 project outlined five major economic strategies that needed emphasis. These were:

1. Domestic and international marketing, including expanded market information, target market analyses, product development, promotion, and enhanced marketing support programs and services
2. Commercializing science and technology through new discoveries, technology development, and commercialization
3. Value-added processing through improving the business climate and encouraging or recruiting selected processing activities. Processing can add value through a single technology, such as freezing or canning; through blending of ingredients, as in cranapple juice; or through development of more sophisticated prepared meals or microwavable products
4. Building infrastructure, especially in education, finance, and transportation
5. Natural resource management through multi-interest coalitions, increased efficiency in natural resource use, and increased education of the public and industry about agriculture and the environment



3.2 Changes in Washington's Agricultural Industry since AG 2000

The Washington agricultural industry has made spotty progress in attaining the AG 2000 preferred future. Many elements of the preferred future, and the proposed strategic emphasis outlined by the AG 2000 project, remain pertinent today. This is partly due to inconsistent efforts in implementation of the plan, and partly due to dramatic changes in the environment in which agriculture operates. For example, since 1988, a series of financial crises have racked major Washington markets including Mexico, Brazil, and East Asia. In the same period, China emerged as a major competitor. Increased concerns about homeland security have affected international trade, travel, and labor access. However, although the Future of Farming project has conclusions in common with AG 2000, the FOF methodology was led by substantial producer input and is therefore less “top down” and more comprehensive of the factors likely to affect current and future industry profitability across the range and types of production.

The structure of agriculture, the food system, and the consuming public have changed significantly. Even the vocabulary has changed. For example, since 1988, the word “organic” has become defined by USDA certification criteria. Other new vocabulary remains more ambiguous. Certain terms, such as “climate change” and “sustainable,” are still being debated, and definitions vary by the user or document. As an example, for the purpose of this writing, the term “food system” refers to the whole range of food production and consumption including the production inputs, farming, processing, distribution, marketing, retailing, and ultimate purchase or consumption. As a term of common use, “food systems” vary in size from local to global. In a local “food system,” production, processing, and consumption may all take place within one town or described radius. In a regional “food system,” the range of processes from production to consumption may take place within multiple cities, counties, states, or even countries. Increasingly, the agricultural system of all countries and regions in the world are becoming integrated into one global “food system.”

A significant change in structure is that non-food discount retailers such as Walmart and Costco have become major players in the food system, contributing to intensified consolidation among the traditional grocery chains. This structural change has spread internationally. Many large retailers now source product globally, increasing competition among suppliers. The buying of food is in fewer and fewer hands. Suppliers have been forced to consolidate and to integrate vertically. The dominance of spot transactions is gradually being usurped by contract sales between large buyers and large sellers. Much of Washington agriculture has been affected by consolidation and vertical integration.

Consumers have also changed significantly. In the developed world, people have become older, on average, and more affluent. They have become accustomed to an increasing diversity of food products. Suppliers have been forced to offer innovative varieties, grades, pack-types, etc. In



recent years, the environmental impacts of food growing and biotechnology both resonate importantly with 36 percent of consumers, according to a survey by the United Fresh Produce Association, published in their recent “ISSUE SCAN 2008.” Some consumers have begun to demand more extrinsic attributes in their purchases, such as origin, warranties on chemical use, labor practices, and animal welfare. As discussed in section 3.6.2 Sustainable Farming, some of Washington’s major crop producers are now required to audit for such extrinsic factors. About half of all food spending is now done away from home. The market for food products has become increasingly fractionated. The universal use of the internet and the proliferation of alternative media have made consumers even more difficult to reach.

Between 1988 and 2008, the influence of the federal government on agricultural markets was first reduced by the 1996 Freedom to Farm Bill, but largely restored in subsequent major farm bills in 2002 and 2008. Government’s role in regulating soil, air, water, and overall business has grown steadily, and affected the business environment for Washington agriculture [see Regulation (pg 46), Land (pg 50) and Water (pg 55)]. The commercialization of science and technology, and the expansion of value-added processing, has not proceeded as AG 2000 would have preferred [see Processing (pg 76), Science and Technology (pg 74)]. The transportation system remains strong, but faces challenges from increasing needs and an aging infrastructure [see Transportation (pg 70)]. The education infrastructure of the state struggles to keep up with the many demands placed on it to meet social and performance needs, and to train future workers in agriculture and other industries [see Education (pg 67)].

The reviewers of the AG 2000 project agreed that it did an excellent job of defining the preferred goals of agriculture and of outlining relevant future strategies. Some of the same goals and strategies are pertinent to the current Future of Farming project. For example, domestic and global competitiveness has intensified. Access to and application of global and regional research and application must continue to guide the 300-crop landscape of Washington agriculture. Building infrastructure, from education to water systems, remains critical to serving future productivity needs. Both the Future of Farming and the AG 2000 projects, each using a different methodology and time



frame, demonstrated that at a sufficient degree of generality, Washington agriculture could agree on future challenges, opportunities, and strategies.

However, Washington agriculture did not reap the full benefit of the AG 2000 project, because the next step of implementing recommendations was not accomplished. Many of the key leaders of the AG 2000 project rotated out of their leadership positions. As circumstances changed, the new leadership moved on to more pressing and current issues, and the long-term focus was lost. Turnover is expected in any institution. However, the greater decentralization of voices in the FOF Project will help diminish the effects of turnover.

LESSONS LEARNED FROM AG 2000

Support and commitment from across the agricultural industry will be critical to implementation of the recommendations of the current Future of Farming project. It is for this reason that the vision and factors framing the plan grew directly from the farmers. Many sectors, associations, and other agents will focus on their specialized areas of knowledge to the benefit of implementation. Successful implementation will require knowledgeable leadership with strong ties across a diverse industry that produces more than 300 crops. Leadership must understand the needs of farmers both large and small, and respect the varied nature of production advantages from conventional to niche. Further, this leadership must be able to liaise positively with diverse administration participants as well as the legislature.

The political and social environment is likely to be more receptive to action today, compared to the period after 1988. The recent widely-reported world food shortage, agri-business system volatility, and heightened awareness of agriculture's unique role as a steward of the world's natural resources brought broad recognition that the future of farming is central to the future of society. The leadership that takes the future of farming forward is vital for defining and taking action based on right socio-economic and political timing. Industry and the legislature are positioned to make decisions about appropriate agents and funding mechanisms, using the information in this plan.

3.3 Statistical Snapshot of Washington State Agriculture

FARM STRUCTURE, CURRENT AND EVOLVING

Washington agriculture has evolved in response to changing market opportunities and the capabilities of the diverse ecosystems in the state. There are major differences in the productive potential of the marine coastal climate of Western Washington, the irrigated deserts of Central Washington, the dryland (rain-fed) agriculture of Eastern Washington, and the rangelands of varying elevations throughout the state. The diverse demands from in-state, U.S., and foreign markets also continue to change. Current producers often view themselves as suppliers, sometimes "price takers," juggling scientific and technological advancements, regula-

tory requirements, labor inconsistencies, and other volatile factors affecting overall input costs.

Table 3.3.1, prepared by the Washington Field Office of the U.S. Department of Agriculture National Agricultural Statistics Service (NASS), indicates the level of product diversity, and how the mix has changed over time. Data are shown for two five-year periods: 1982-1986, before the AG 2000 project began; and 2003-2007, before the current Future of Farming project began. The table shows the average value of the top 50 agricultural commodities in those two periods, and Washington's rank among all U.S. states in those commodities in 2006. Data are shown in current dollar terms. Between 1982-86 and 2003-07, the consumer price index for all commodities rose by about 88 percent. Thus, growth in real value occurred only for those commodities whose value grew more than 88 percent.

The top six commodities, apples, milk, wheat, cattle and calves, potatoes, and hay, were the same in 2003-07 as in 1982-86, although in a different order, with apples and wheat exchanging first and third place. Nursery and Greenhouse products moved up one place to seventh in 2003-07. Barley fell from seventh to twenty-third place while hops fell from ninth to fourteenth place. In contrast, cherries rose from thirteenth to eighth place and pears moved up one position to ninth place. Eggs and corn for grain almost tied pears for tenth place in 1982-86, but had fallen to eighteenth and nineteenth place in 2003-07.

Animal products, including aquaculture, account for approximately 25 percent of the total value of Washington production. Nationally, crop and livestock products are each about 50 percent of the value of production, so Washington agriculture is more crop-oriented than the U.S. in general. As the third-largest producer in the nation of specialty crops, Washington successfully overcomes the associated unique production and marketing challenges. This emphasis on crop production is also reflected in Washington's rank among states (column 5). Among the 31 commodities numerically ranked, Washington was first or second in 16 crop products.

Column 4 shows the percentage change in value of each commodity between 1982-86 and 2003-07. Total value of production grew by 115 percent in current dollar terms, with livestock products growing by 78 percent and crop products by 131 percent. Value of production grew more than 200 percent for 10 of the 50 categories: apples, nursery and greenhouse products, cherries, grapes, onions, aquaculture, red raspberries, blueberries, other grass seeds, and wrinkled seed peas. Value of production at least doubled for eight other categories: potatoes, pears, broilers, sweet corn, corn for silage, mint, Kentucky bluegrass seed, and mushrooms. On the other hand, value of production fell in current dollar terms for nine categories: barley, asparagus, green peas, lentils, dry edible peas, carrots, mink, hogs and pigs, and prunes and plums, and in real terms for 12 categories; milk, wheat, cattle and calves, hops, eggs, corn for grain, dry edible beans, alfalfa seed, peaches, strawberries, cranberries, and sheep and lambs.



Table 3.3.1
**Top 50
 Agricultural
 Commodities
 Washington**

Commodity	1982-86	2003-07	Change	2006
	Avg. Value of Prod. (\$1,000)	Avg. Value of Prod. (\$1,000)	Avg. Value of Prod. (Percent)	National Rank (#)
Apples	353,185	1,221,038	+ 246	1
Milk ⁴	466,061	824,491	+ 77	10
Wheat	497,274	621,216	+ 25	4
Cattle and Calves	318,801	544,158	+ 71	29
Potatoes	241,383	531,814	+ 120	1
Hay	207,408	398,571	+ 92	20
Nursery and Greenhouse ¹	96,800	309,945	+ 220	N/A
Cherries	46,043	271,327	+ 489	1
Pears	59,657	147,324	+ 147	1
Misc. Fresh Vegetables	N/A	145,434	N/A	N/A
Grapes	28,841	145,058	+ 403	2
Forest Products, Farm ²	N/A	133,800	N/A	N/A
Onions	17,424	105,986	+ 508	N/A
Aquaculture ⁵	16,075	88,752	+ 452	N/A
Hops	79,073	87,328	+ 10	1
Broilers ³	33,520	83,460	+ 149	N/A
Sweet corn	26,611	73,836	+ 177	2
Eggs	59,369	70,899	+ 19	18
Corn for Grain	59,680	64,531	+ 8	N/A
Corn for Silage	27,836	59,686	+ 114	N/A
Christmas Trees	N/A	53,400	N/A	N/A
Mint	21,758	48,527	+ 123	1
Barley	115,712	40,477	- 65	4
Red Raspberries	9,473	34,041	+ 259	1
Asparagus	37,562	25,544	-32	2
Haylage	N/A	25,414	N/A	9
Blueberries	3,358	25,405	+ 657	6
Kentucky Bluegrass Seed	10,882	24,285	+ 123	N/A
Dry Edible Beans	10,894	19,017	+ 75	8
Green Peas	23,294	18,031	- 23	2
Mushrooms	5,568	16,344	+ 194	N/A
Lentils	17,546	15,545	- 11	1
Alfalfa Seed	12,332	13,111	+ 6	N/A
Other Grass Seeds	3,320	11,512	+ 247	N/A
Dry Edible Peas	16,911	11,400	- 33	1
Misc. Processing Vegetables	N/A	10,027	N/A	N/A
Peaches	7,522	9,869	+ 31	5
Carrots	10,155	9,762	- 4	N/A
Wrinkled Seed Peas	2,498	7,753	+ 210	1
Strawberries	6,949	7,679	+ 11	5
Nectarines	N/A	7,350	N/A	N/A
Cranberries	5,023	6,614	+ 32	N/A
Apricots	N/A	6,136	N/A	2
Mink	6,867	5,151	- 25	7
Hogs and Pigs	8,526	5,075	- 40	32
Sheep and Lambs	2,976	4,186	+ 41	28
Sugarbeets	N/A	4,085	N/A	11
Honey ⁶	1,726	3,355	+ 94	N/A
Misc. Berries	N/A	2,973	N/A	N/A
Prunes and Plums	2,823	1,684	-40	2

FOOTNOTES:

1 Includes floriculture. 2 Value of forest products sold from operations meeting the USDA farm definition. 3 Washington Fryer Commission total weight multiplied by USDA average bird liveweight price per pound. 4 Value at average returns per 100 pounds of milk in combined marketings of milk and cream plus value of milk used for home consumption and milk fed to calves. 5 Excludes value of distributed fish. 6 1982-1986 average is 1986. N/A = Not Available. For definitions of statistical terms see the NASS website.⁹

A casual analysis of the data on farm structure in Washington would suggest little change over time.¹⁰ For example, between 1988 and 2007, total area in farms fell about 5.5 percent to 15.1 million acres, and farm numbers fell 13.2 percent to 33,000 farms, while the average size of a farm rose less than one half percent per year to 458 acres in 2007. However, the number of smaller, part-time farms has increased, while large farm operations own increased acreage of land and are trending toward vertical integration. According to industry representatives and producers of Washington’s highest rank and value commodities, apples for example, production has come to be dominated by large, well-capitalized operations. They have been able to achieve economies of scale and introduce the new technologies needed to ride out the difficult conditions of the years between 1998 and 2004.

The farm sector is part of the much larger, more complex agricultural system that is described in more detail in the special paper prepared by Chase Economics for the Future of Farming project, entitled, “Graphically Speaking! Washington State Agriculture: A Systems Flow Perspective”.¹¹ Chase shows how inputs of goods and services from in-state, out-of state, and foreign sources flow to Washington farms and ranches. Farms and ranches generate products for other farms, ranches, processors, and non-ag industries such as bio-fuels. They, in turn, provide final products for consumers in-state, in

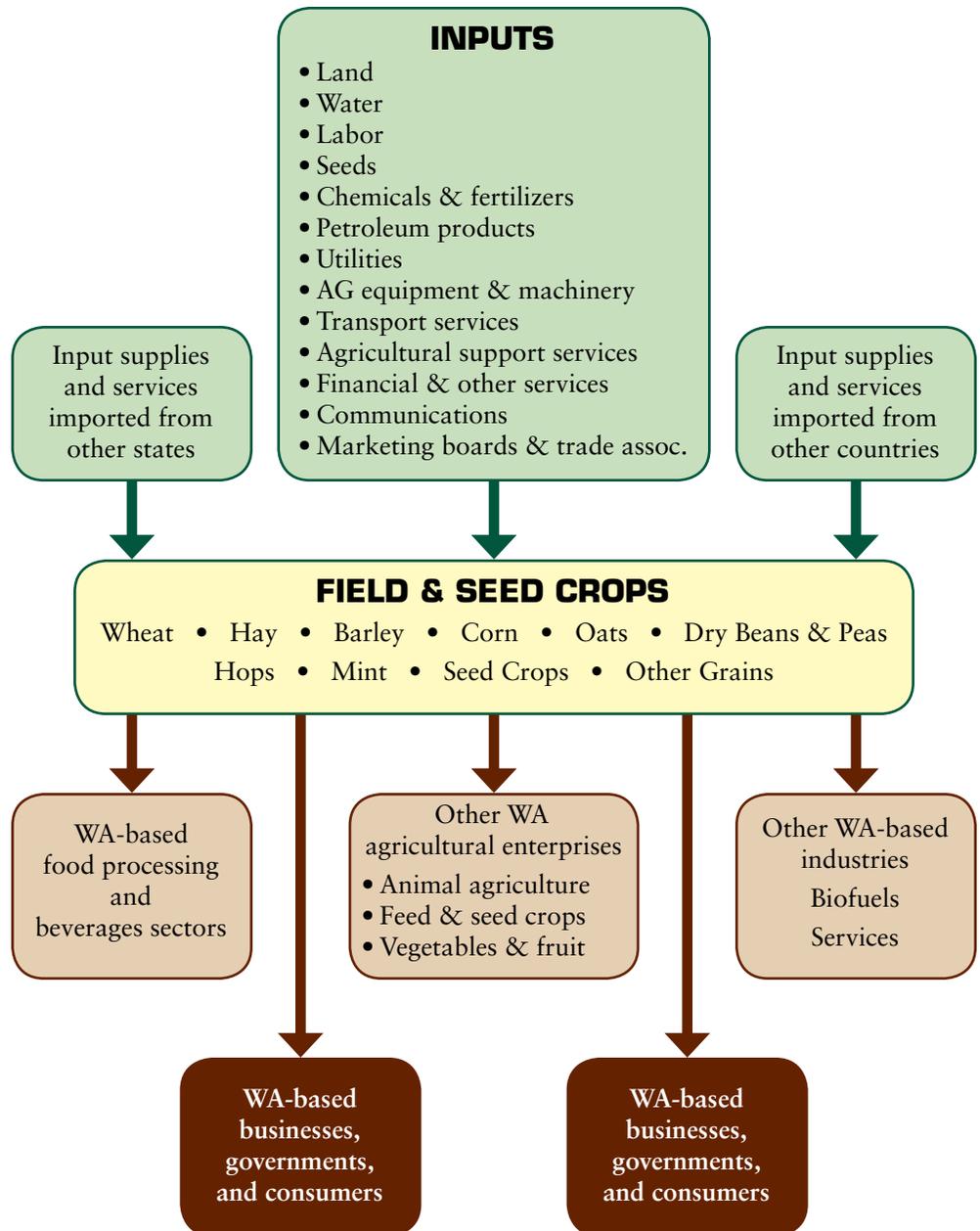
the rest of the United States, and in foreign markets. An example for field crops shows the diverse array of goods and services, such as seeds, fertilizers, equipment, transportation, finance, etc., that is required to maintain the modern agricultural system:



[My vision for the future is] “growing and raising what we need here in our own country where wars and international politics can’t prevent us from feeding ourselves.”



Figure 3.3.1
Field And
Seed
Crops in
Washington



The Chase chart shows the major vertical flows in agriculture. However, less well documented but equally important are the horizontal flows of both inputs and final products. For example, canola meal and soybean meal from out of state or out of country compete with Washington hay and barley in animal rations in Washington dairies and feedlots. Meat, patties, lettuce, cheese, and other ingredients from out of state compete with those from Washington farmers and processors in providing the hamburgers eaten in Washington restaurants. Fresh and processed products from Washington suppliers compete for shelf space in Washington grocery stores. The structure of the food system will continue to be affected by global competition within these vertical and horizontal flows.

3.4 Trends in Sales, Exports, Prices and Profits

Data on sales, exports, prices, and profits are useful indicators of the changing situation in Washington agriculture over time. Figure 3.4.1 shows the value of sales of Washington farms and the net farm income, including government payments, between 1988 and 2006. The value of farm sales rose rapidly between 1988 and 1995, but remained flat in current dollars for almost a decade, meaning that real revenue declined substantially. According to statistics (NASS 2008 annual bulletin¹²), net income averaged about \$1.1 billion between 1988 and 1998, except for a major increase to \$1.7 billion in 1996. However, between 1999 and 2002, net income averaged less than \$0.9 billion per year. During those years, almost one third of net income came from government payments, primarily to grain producers. After two better years in 2003 and 2004, net income again fell below \$0.9 billion in 2006.

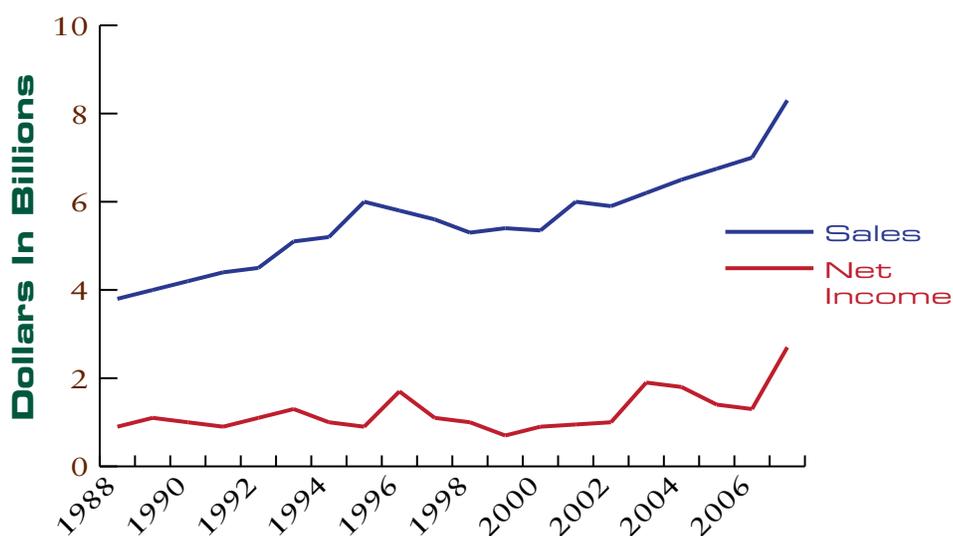


Figure 3.4.1

Washington State:

Value of Farm Sales and Net Income, 1988-2007 (\$ billion)

The two major reasons for the depressed net income of Washington agriculture since 1996 were weak export demand and low product prices. The value of Washington agricultural exports rose from \$1.4 billion in 1993 to \$2.2 billion in 1996. Washington producers and agribusinesses invested in increased capacity to serve the expected export growth. However, export demand for many products was hit by a decade of stagnation in Japan, the Mexican peso crisis of 1994, the Asian financial crisis that began in 1997, economic setbacks in Russia and Eastern Europe beginning in 1998, and a series of crises in Latin America in the early 2000s. Exports in current dollar terms did not surpass \$2.2 billion again until 2006. As prices fell, many producers and agribusinesses were forced into a painful shrinkage of their capacity.

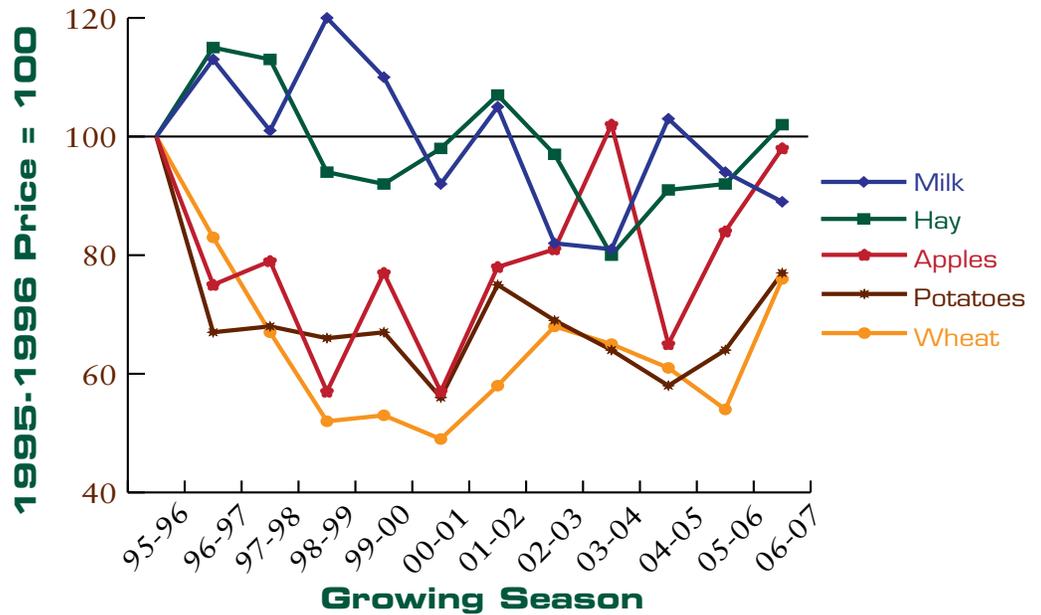


Figure 3.4.2 shows the trend in real prices of the top five major Washington agricultural commodities, relative to prices in 1995-96, which was a season of adequate profits for agriculture. Real (deflated) prices for each product and each season are compared to the price for that product in 1995-96 (1995-96 price equals 100). The figure shows that the prices for wheat, apples, and potatoes, the products traded most heavily internationally, plunged after 1995-96. They generally reached their lowest point, close to half the 1995-96 real price, in the 2000-01 season. There was a modest recovery thereafter for prices of wheat and potatoes, and a strong recovery for apples. However, prices again plunged in 2004-05 and 2005-06. Only the price of apples exceeded the 1995-96 level in the next decade, and then only for one season, 2004-05. These similar price trends are notable because the wheat, potato, and apple markets are relatively independent of each other. Price trends were more favorable for hay and milk, two products and markets more closely related because dairy cattle are a major consumer of Washington hay. However, overall prices did not significantly exceed the 1995-96 base until the 2007-08 season.

Figure 3.4.2

Washington State:

Trends in Real Grower Prices of Major Commodities, 1995-96 to 2006-07
 (Base. 1995-96 = 100)



DETAILED DISCUSSIONS OF SPECIFIC COMMODITIES

The above general discussion focuses on the situation in major Washington commodities. More detailed analyses of the situation in specific commodities were provided by industry representatives. These submissions are available.¹³

3.5 Top Five Commodity Groups

While Washington agriculture produces multiple products, five commodity groups, tree fruit, grains, milk, potatoes, and cattle, are of special importance. They typically account for about 70 percent of the value of state production. Their rank order in the 200708 season, in terms of farm value and share of the state total, was as follows:

1. Tree Fruit ¹⁴	\$2,274,238,000	27.3%
2. Grains ¹⁵	\$1,157,756,000	13.9%
3. Milk ¹⁶	\$1,061,952,000	12.8%
4. Potatoes ¹⁷	\$685,063,000	8.2%
5. Cattle ¹⁸	\$580,947,000	7.0%

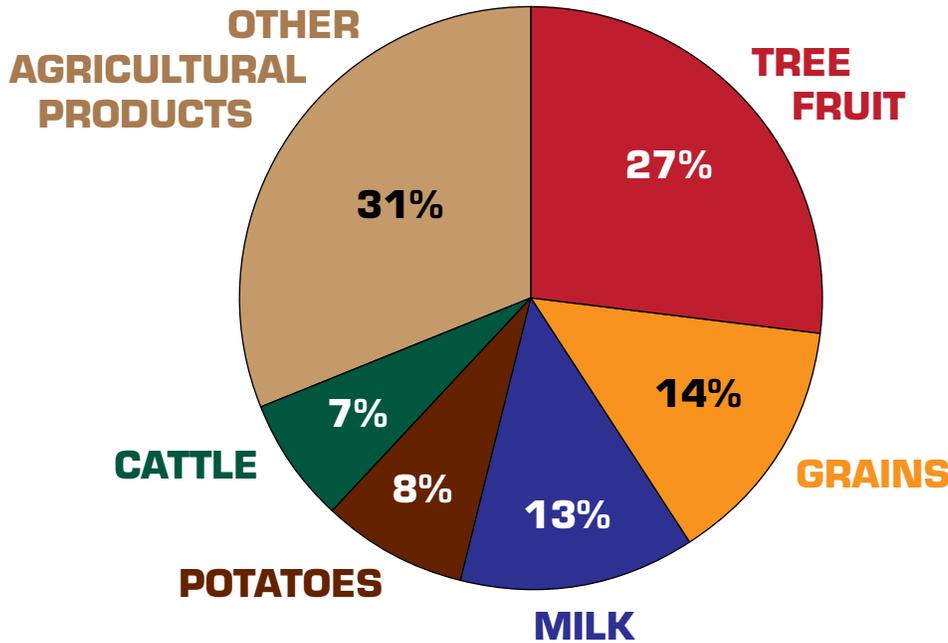


Figure 3.5.1
Top Five:

Washington
Commodities
by 2007-2008
Farm Gate Value

Selected areas in Washington are among the best in the world for production of each of the five commodity groups because of their unique combination of natural and human resources. They provide the base for businesses, jobs, and incomes in value-added activities in many counties, and are critical to the health of many rural and urban economies. The global competitiveness of all five is heavily impacted by state policies on land, water, power, labor, taxation, transportation, research and education, and regulation. It is also affected by the increasing consolidation of processing and marketing in the hands



of large companies headquartered outside the state. Because of their exceptional productivity, the tree fruit, grain, and potato sectors are major exporters and must compete in national and international markets for sales. Although cattle and milk products are sold primarily in the state or region, both are also susceptible to fluctuations in domestic and world trade. They source much of their feed from the crop sector. The specialized operators involved in each stage of cattle and beef production are impacted by the spread between prices at each stage and the changing cost of feed. All five major commodity groups are under constant pressure to adapt to economic, social, and technical changes in global markets. For example, the milk industry is seeking to generate energy from dairy waste, the fruit industry is among the leaders in using electronics and computers to enhance quality, and the grain industry has adopted no-till practices to control erosion and sequester carbon. The best prospects for growth are through expanded exports. To stay ahead of global competitors, they will need more sophisticated management, a highly-trained workforce, a supportive regulatory environment that keeps major commodity processors – as well as their supplier producers - in the state, and help in applying science and technology to emerging opportunities and challenges. Maintaining the vitality of these five major commodity groups will be especially critical to the continuing progress of Washington agriculture.

3.6 Special Sectors, not Commodity Specific

A number of special sectors of Washington agriculture are not linked to specific commodities. However, agriculture service providers and others interested in the state’s complex system want to understand these special and relatively small system parts. Several sectors that came up during the months of FOF data collection are the certified organic farm sector, the “sustainable” and local farming movement, Native American farmers, and immigrant farmers.



3.6.1 Organic Farming

Pioneering producers have been farming organically in Washington for over three decades. Washington was one of the first states to have its own organic certification program. Since federal organic standards became effective in 2002, the Washington program acts as a certification agency for the federal standards. In May 2008, Washington State University issued a study by Elizabeth Kirby and David Granatstein, “Profile of organic crops in Washington State – 2007,” which estimated that there were 81,472 certified organic acres in Washington in 2007, up 86 percent from 2004. An additional 13,183 acres were in transition, suggesting that organic acreages would reach about 94,500 acres by 2010. Of total organic

acreage in 2007, 32 percent was in forage, 24.6 percent in vegetable crops, 13.5 percent in tree fruit, and 3.7 percent in small fruit. Thus, in 2007, organic acreage accounted for about 1.7 percent of harvested cropland in the state. The tree fruit organic percentage was considerably higher at about 5 percent. In addition, most of the transitional acreage in 2007 was in tree fruit, so organic tree fruit acreage was on target to exceed 20,000 acres, about 9 percent of total tree fruit acreage, by 2010. There was no transition acreage devoted to vegetables recorded.

The establishment of national organic standards in 2002 paved the way for large farmers to expand their acreage of organic crops, and gave major processors the security of supply to introduce many new organic consumer packs. However, it has widened a philosophical rift within the organic industry. One vision of organic farming treasures its small-farm roots, emphasis on self-sufficiency, and community bonds forged from direct sales, farmers' markets, and Community Supported Agriculture (CSAs).¹⁹ Another vision sees organic products as alternatives to conventional products, but as equally amenable to large injections of capital, economies of scale, mass marketing, and international commerce. Both visions are acceptable under current laws and practices.

3.6.2

Sustainable Farming

A small but increasingly visible fraction of production falls into a category called “sustainable.” Almost daily, newspapers contain articles about sourcing or cooking “sustainably grown,” local foods, and other niche categories. Many producers and consumers use this vocabulary regularly and in highly diverse contexts. This section and the following, 3.6.3 Local, of the FOF strategic plan are included to help clarify these fractions of the state’s industry that are highly visible yet commonly misunderstood and loosely defined.

The definition of “Sustainable Agriculture” found in US Code Title 7, Section 3103²⁰ is “an integrated system of plant and animal production practices having a site-specific application that will, over the long-term, satisfy human food and fiber needs; enhance environmental quality [...]; make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and society as a whole.” Consumers seeking sustainably produced products usually define it as some combination of practices that are ecologically sound, economically viable, socially just, and humane to animals. This is not to imply that conventional production does not fulfill any element of this definition, but rather assumes a level of consumer demand for these extrinsic attribute guarantees, not unlike what led to the development of the organic certification program.





As the agriculture industry works to convert “sustainable” into a set of standards, major commodity organizations for wheat, feed grains, and cotton, and major agribusinesses such as Cargill and Monsanto, are working to keep sustainable agriculture practices open to new technologies as defined in the 1990 Farm Bill. Like the philosophical divide over organic farming, the divide over sustainable agriculture remains wide. The outcome of the sustainable agriculture debate is likely to be decided at a national or global level.

Supplying food products from undefined categories is complicated. Smaller scale producers are commonly able to leverage the term with their buyers. However, large retailers marketing to the broader public are often requiring producers to assure “sustainable” attributes based on varying definitions. This, along with the many other retailer-led bio-certifications or marketing schemes, creates a new set of auditing and compliance requirements, commonly called non-governmental regulations, at the producer level. For example, 90 percent of Washington’s potato producers are currently performing “sustainability audits” as defined and required by buyers. So, while not among the top factors influencing purchase decisions in the marketplace, the United Fresh Produce Association recently reported that “...environmental and social concerns are increasingly important to some consumers”.²¹ Since one of the challenges suppliers face is to serve multiple major retailers, each using a different definition of “sustainable” to gain short-term market advantage, it might be preferable to end this confusion before it imposes more costs or puts farm survival at risk.

The topic of Sustainable Farming is assessed by state leaders in this area of specialty. Their discussion and opinions are found in the Organic and Local Foods²² paper.

3.6.3

Local Farming

For some consumers, the desire to connect with their food source, lower their carbon footprint, and reduce the chemicals in their diet has led to the “local food movement” often discussed in the media.

A challenge for local food movement producers and consumers is the highly varied ways in which local is defined. For some, it’s a backyard garden or nearby farmers market. Some define local as food

grown within 15 to 20 miles from the home; food grown beyond that distance is defined by some as “regional.” A currently promoted definition of local is food raised and grown within a 100 mile radius. Still others would consider local food anything within 500 or 600 miles, a day’s drive, thereby allowing a Yakima, Washington eater to enjoy the full bounty grown within the state. The commonality between these definitions is that local is a concept of boundaries of place – city, county, state, or group of states. During 2008 when long-distance distribution and fuel use were in consumer focus, the World Apple Report cited, “...many former advocates of organic foods have begun to express a preference for local non-organic foods over long-distance organic foods.”

Not surprisingly, demand for local foods is greatest in urban areas. Consequently, growers from across the state bring their products to the Seattle area to meet Puget Sound consumer demand, and specialty foods from western Washington find their way to restaurants and retailers in the Spokane area. So, while individual consumers may define local differently, in Washington it is safe to say that demand for ‘local’ product is, in fact, regional in nature. It is such vagueness in the definition that makes it difficult to fully comprehend the local food movement and understand its place within the agriculture industry.

3.6.4

Native American Farmers

Observing the map of Washington, Native Americans have a large footprint on Washington lands, but they have a much smaller impact on Washington agriculture. For example, the Confederated Colville Tribes control 1.4 million acres and the Yakama Indians 1.2 million acres of land in the state. However, much of the productive farmland is leased and farmed by non-Native Americans. The Yakama Nation, the only native apple farmers in the state, farms an estimated 2,500 acres.

Native Americans including Alaska native farm operators account for only about two percent of Washington farmers. The Yakama nation is involved in various ways with successful agribusinesses, but other tribes report that they would like to utilize their natural resources more effectively by expanding the number of their members engaged in farming, and increasing the amount of income generated from farming.

It may be noteworthy that in interviews with tribal representatives focused on agriculture, it was found that like many other current and potential farmers in the state, they would like closer working relationships with various state agencies including those regulating water, and providing education, technical assistance, extension services and marketing assistance.



A small but growing number of farmers in the state are immigrants. The fastest growing group is Latino farmers. Many of these came to Washington as farm workers, honed their farming skills and built up their capital as farm workers, and have become farm owners by purchasing farms from their former employers. Another important group of immigrants are the Hmong farmers from Southeast Asia. Many immigrant farmers have suffered financially or lost their farms during the prolonged slump in Washington agriculture discussed earlier. However, their numbers are expected to increase as the Latino population in the state increases.

Although only a fraction of the total of Washington producers, the FOF project received calls and survey responses from committed first and second generation immigrant farmer leaders voicing the passion and vision of this sometimes misunderstood but growing farmer profile. These producers do not stand outside of the functional factors impacting Washington's agricultural industry as identified in this plan, nor do they all feel that they fit the conventional model. Immigrant farmers face the same problems as other farmers in terms of difficult markets, rising costs, weather hazards, access to water, and shortage of labor at crucial times. In addition, many are undercapitalized. They need a larger set of skills to run their own farms than they did as employees, such as expertise in English, management, finance, marketing, technology, knowledge of regulatory requirements, and human resources skills. Their access to government assistance and extension and education programs is hindered both by their lack of knowledge on how to tap into these programs and by the programs' lack of awareness of their special needs. In this, they share a common problem with Native American farmers.

Market conditions determine the revenue that farmers can get for their products. Farmers have little control over these conditions. However, farm profitability depends on understanding current market conditions; accurately forecasting future developments; managing input costs; and more precisely attuning farm investments, operations, and products to market demands. Farm products are sold in a global market. Even in commodities such as wheat and milk, where government programs are in operation, global forces can alter returns dramatically.

INFLUENCE OF GENERAL ECONOMIC FACTORS

The demand side of markets are dominated by two forces: the number of people and their level of income. The largest markets are those such as the United States, Japan, and Germany that have large

populations and high per capita incomes. However, in those markets, populations are either stagnant or growing slowly. Per capita incomes are at such a level that further income increases induce minimal increases in per capita consumption of food products (note that such limitations do not apply to agricultural products such as flowers or nursery plants that are not used for food). The markets that offer the greatest opportunities for growth are those where populations are rising and per capita incomes are growing rapidly from a relatively low base so that demand is growing for increased volume and variety of food products. Many developing countries such as China, India, Mexico, Russia and its former satellite countries, and Brazil have those characteristics. Thus, general economic conditions in developing countries can significantly affect the demand for the agricultural products of Washington.

The supply side of markets is dominated by the cost and availability of resources and by the application of technology. For example, Chile has used its plentiful lands, abundant supply of water, cheap labor, and advanced quality control techniques in production, storage and marketing to become a major supplier of fruits and vegetables. Because of these developments, Chile has become a serious competitor to Washington in U.S. East Coast and world markets. Higher prices of inputs such as oil, fertilizer, and labor affect the profitability of agriculture in the short run. If they persist, they may force farmers out of business and reduce supply. Changes in the cost, efficiency, or ease of global transportation systems also affect supply. For example, improved technology permits perishable products to be transported great distances, but higher fuel costs reduce the distance that a product can be shipped profitably. The presence or absence of war in a region also affects the ease and cost of transportation.

Supply is more easily adjusted for intensive crops produced under irrigation than for extensive crops that are grown on large dryland (rainfed) areas. One reason for the downward pressure on world prices of fruits and vegetables after 1996 was that world supplies from irrigated acreage grew faster than demand. However, world supplies of grain also outpaced demand in that period as lands in Russia and its former satellite countries, previously under state control, responded to market signals by increasing production and exports. Adverse weather in these countries in 2006 and 2007 combined with severe drought in Australia to temporarily reduce world grain supplies, driving up prices received by Washington's grain growers.

The interactions of global supply and demand determine the price received by the farmer in Washington at any time. The price of apples can be simultaneously influenced by technology in Chile, the price of Saudi crude oil, the soundness of economic policies in China, and the birth rate in Mexico.

“The supply side of markets is dominated by the cost and availability of resources and by the application of technology.”



CONSUMER PREFERENCES

When consumers have purchasing power, their preferences have a major influence on whether or not they will buy Washington products and how much they are willing to pay. Consumer preferences are influenced by age, spendable income, household size, education, lifestyles, housing and shopping patterns, tradition, peer groups, fads and fashions, and many other factors. These consumer attributes change over time as children are born, teenagers mature, young couples begin families, older workers retire, and the oldest generation dies off. They change at different rates in developed countries than in developing countries where birth rates, infant mortality, marriage rates and life spans differ. They change qualitatively in countries open to immigration compared to those not open to immigration. Depending on the product, consumer reaction in urban and rural areas of Washington, in other states, or in other nations, may be quite similar, or quite different.

The structure of the media in any country affects consumer preferences greatly. After World War II, consumers in most countries were exposed to a limited selection of television channels. If well capitalized, it was relatively easy to build a mass market following for a few leading food brands such as Campbell's soups, Kellogg's corn flakes, Sunkist oranges or Washington Red Delicious apples. Today, consumers have a choice of multiple television channels from networks, cable or satellite. They have alternative video sources of news and entertainment from the internet, VCRs, iPods, and mobile telephones. The number of variations of each product has multiplied to meet the increasingly diverse preferences of consumers. Marketers have been forced to continually innovate to capture and retain a large enough market segment to sustain their operations. On the positive side of the current complexity of communication modes, small-capital operations can buy targeted advertising space more easily than in the past because there are more niche spots (e.g. through one's own website) in which to advertise.

Understanding changing consumer preferences has become crucial for survival. However, by necessity many producers are focused on day-to-day business operations and unable to prioritize investments in ongoing market research. Farmers typically make production decisions based on the price trends for various products, their expertise, and available labor, capital, and support infrastructure. The challenge is most acute for those commodities, such as wheat or livestock, which undergo substantial transformation before they reach the final consumer. It is also challenging for other major commodities such as apples and potatoes because of the diversity of national and world markets they serve and the cost of maintaining an adequate global market intelligence system. In fixed crops like tree fruit, production changes can take years. An example can be drawn from the current organic apple market which demonstrated an ability to cover the additional costs through higher net return, encourag-

ing more orchards to transition to organic. In the 20082009 season, waning of the organic premium may cause the amount of organic acreage to decrease. Commodity commissions can partly fill the market research void and help to mitigate risk, but their funding base has been under pressure.

RETAILER PREFERENCES

In section 3.2, we noted the dramatic changes that have taken place in food retailing, not only in the United States but around the world. An increasing share of food sales in restaurants and in grocery stores are made by a limited number of large retail chains such as McDonald's, Burger King, Walmart, and Kroger. In the fast food market, product quality is standardized, costs are kept low through scale and efficiency, and chains differentiate themselves through promotional devices such as free toys and games, contests, and tie-ins with major movies. The agricultural suppliers that can deliver the desired quality at the lowest cost win the business. Suppliers of fast food chains tend to be very large agribusinesses. In turn, the farmers selected to supply those agribusinesses with raw product must deliver the desired quality at the lowest cost. In the grocery business, there is room for more product diversity, but low prices are still a key driver for many consumers. This is particularly true during any economic downturns. As a result, major grocery retailers, in an effort to reduce costs from their respective supply chains, now contract for much of their product and favor larger suppliers. The "Buy Local" movement has caused some major retailers to rethink their established supply chain strategies, but there are many obstacles to replacing the current large-scale suppliers with unconsolidated local suppliers.

One change in retailer preferences of relevance to farmers is an increasing demand for certifications on food safety, social, environmental, and labor issues. The larger a retailer becomes, the more vulnerable is its reputation to criticism. Many activist groups have turned this to their advantage. If they can demonstrate to the media that particular operations or farming practices are socially undesirable, they can request that retailers use their influence with farmers or suppliers to end such practices or risk losing the retailer's business. If the retailer is unwilling to act, it can be accused of condoning socially undesirable behavior by its suppliers. This tactic has proved to be very effective in getting retailers to change their buying criteria. As a result, some retailers now require certifications from their suppliers that farm practices do not pollute the soil, air, or water, hurt wildlife, injure peasant farmers, or endanger food safety in specified ways. To reuse a previous example, according the FOF Steering Committee potato representative, 90 percent of Washington's potato growers are now required to undergo a "sustainability audit" by their principal buyer. Recently, concern about farmer or marketer behavior in other countries has led to the requirement (included in the 2008 Farm Bill) that all perishable products sold in large retail stores carry coun-



try of origin labels. In addition, the spotlight has been turned on the carbon footprint of different food suppliers; that is, the nonrenewable energy used or pollution emitted per unit of product. Certifications with respect to the carbon footprint of each product may soon be more in demand. Other activist groups are competing to add additional criteria to the current roster of retailer demands. Due to the lack of standardized crop-specific food safety certification processes, many growers and agricultural food handling facilities are forced to adopt several costly third party food safety certification processes at their own expense.

In many cases, the additional costs to farmers and their marketing agents cannot be recovered from either the consumer or the retailer. To survive, farmers and suppliers must try to find a more efficient way to meet increasing new demands, or compensate by cutting costs in other parts of their business.

COMPETITORS, CURRENT AND EMERGING

After World War II, Washington enjoyed rapid growth in the competitiveness of many products such as apples, potatoes, hops, mint, onions, vegetable seeds, etc. New irrigated areas with virgin land and relatively high productivity were gradually being opened up. Farmers were honored for making the deserts bloom. Water, energy, and labor were plentiful and affordable. The completion of the federal interstate highway system made national markets more accessible, and the development of the ports of Seattle, Tacoma, Portland, and Vancouver, B.C. dramatically improved access to growing Asian markets.

In the last two decades, some of those advantages have been whittled away. Many other countries, from Chile to Turkey to China to Iran, invested in massive irrigation schemes. They provided their farmers with land, water, energy, and various subsidies and incentives to increase production in the national interest. In the meantime, farmers in Washington have faced increasing criticism of the social and environmental costs of making the desert bloom. Across the state, regulatory restrictions on land use added to the “natural resource shrinkage.” The costs of water, labor, and energy soared and became volatile. The availability of labor is compromised. Yield increases have become more elusive. Traffic growth is stretching the capacity of the transportation system, and more choke points are emerging. Many competitors have caught up with Washington in international markets.

Almost every major Washington commodity is facing increasing international competition. Some examples are the re-emergence of Russia and other parts of the Former Soviet Union as wheat exporters, the explosion of China’s exports of fresh apples, fresh pears, and concentrated apple juice, the expansion of asparagus production in Peru, and the increased sweet cherry exports from Turkey and Iran. Countries like Chile, Brazil, Peru, and China, with relatively plentiful less-regulated resources, can deliver many of their products to U.S. customers more cheaply than can Washington.

Increased costs of transportation have also changed the competitive relationship between Washington producers and producers in the central and eastern states located nearer to the two-thirds of the U.S. population that lives east of the Mississippi. For example, apple growers in New York and Michigan have a larger transportation advantage in serving retailers in their state, and also can benefit from being able to claim the title of “local” suppliers to the large urban populations in their states.

3.8 Competitive Advantages of Washington Agriculture in World, National and Local Markets

There are many ways in which a farmer or farm-product marketer can gain a competitive advantage in different markets. The five most important are price, intrinsic qualities (like color), service attributes (e.g. continuity of supply), other factors contributing to reputation (such as tradition or branding), and extrinsic qualities (such as eggs certified as organic or “free range”). One or a combination of these factors may be used to gain or retain a competitive advantage. Competitive advantage is not a steady state, but changes as retailer and consumer demands change and as competitors alter their product offerings.

Sources of competitive advantage for Washington agriculture tend to vary by commodity. However, there are many common sources including:

1. location relative to potential global markets (Notably Asian)
2. natural resources (land, soil, climate, water, energy)
3. human resources (entrepreneurs, managers, workers)
4. internal efficiencies of farms or agribusinesses (technological innovation, economies of scale)
5. support from related industry organizations (commissions, associations, etc.)
6. infrastructure (farm roads, rail, highway, ports, transportation services, food processors, warehouses, packing facilities, irrigation systems, supporting industry, etc.)
7. science, technology, research, and the related outreach capabilities (including dedicated USDA and WSU resources)
8. system efficiencies (supply, marketing, finance, etc.)
9. the local, state, and federal regulatory structure impacting production and processing businesses in Washington (both governmental regulations and non-governmental requirements)



A more detailed discussion is included in the paper, *Competitive Advantages of Washington Agriculture – Current and Future*.²³

For sales within Washington, location near large population centers can be an advantage for farmers wishing to market directly to customers. However, that advantage may be offset by urban competition for scarce land and water resources and by farming limitations imposed by nonfarm neighbors. In general, Washington's location is a disadvantage to be overcome in selling to customers in the rest of the United States. However, Washington's location gives it an advantage over most of its U.S. competitors in selling to the lucrative markets of East Asia.

Washington has a rich combination of natural resources of land, soil, climate, water, and energy, and has enhanced them intelligently so that it can achieve high yields of quality products in many different growing areas. In the past, enhancement of agricultural production was viewed as a major economic development tool both for rural areas and for the entire state economy. The result was a system that helped to keep unit costs of production low and offset some of Washington's disadvantage in location. As the agricultural industry grew, Washington was able to attract top-caliber entrepreneurs, farmers, managers, and workers from other states and countries. In addition, many of its leading agricultural firms have been home-grown, developed by a number of generations of the same farm family. Washington agriculture has been among the leaders in improving the internal efficiencies of its farms and agribusinesses; it has built up system efficiencies in supporting supply, marketing and financial networks; and



farmers have set up and financed industry organizations such as state commissions, commodity associations, and general farm organizations to advance agriculture's needs. Its competitiveness has also been enhanced by federal and state public expenditure on infrastructure such as highways and ports, and on science and technology through the activities of USDA research facilities and the research extension and teaching programs of Washington State University.

There are numerous threats to the continuation of the competitive advantages of different parts of Washington agriculture. Access to, and cost to farmers of, key resources such as land, water, legal labor, and energy, is making it more difficult for farmers to control unit costs [see LandStats,²⁴ Energy,²⁵ LaborOverview,²⁶ FarmCredit²⁷]. In a state that boasts world-leading organizations such as Boeing, Microsoft, Costco, and Starbucks, agriculture faces increasing competition for entrepreneurs, managers, and skilled workers. Changes in immigration laws and enforcement, as evidenced by increased deportation sweeps, tighter border control, social security matching requirements, etc., and labor laws affecting farmer provision of worker housing, health care, transportation, and so forth, threaten the supply of workforce needed to meet peak labor requirements, especially at harvest. Public funding for infrastructure, educational outreach, and for science and technology (see WSU position paper²⁸) has not kept up with increased demands, rising costs, and the need to renew aging facilities (see Transportation²⁹). Science and technology is vital to increasing productivity and reducing unit costs, and to helping farmers meet the increasing regulatory demands and the new certifications now demanded by some retailers. Declining numbers of farmers decreases the membership and funding bases for farm support organizations that provide marketing services and represent agriculture's interests in the legislative, administrative, and judicial systems.

As noted in the previous section, the erosion of many of the factors that gave Washington a competitive advantage is occurring at the same time that those same factors are receiving enhanced societal support among a wide range of competitors such as Chile, Peru, China, and Turkey. In these countries, increased agricultural productivity and expanding agricultural exports are still highly prized as key tools in both rural development and in national economic growth. All of these countries recognize that intensive crops such as apples, asparagus, grapes, or potatoes can generate dramatically higher revenue per acre to farmers than can grains, and can also be the basis for a network of local economic activity in packing, storage, processing, packaging, wineries, agro-tourism, etc. These and other developing countries are seeking to expand production of intensive crops. As a result, competition for Washington agricultural products in U.S. and foreign markets is likely to become even more challenging in the next few years. Washington urgently needs to review the present status of its competitive advantages and prepare a strategy to regain and enhance its advantages.



“Communicate.
Educate.
Facilitate.
Do no harm.”

IV. Categories, Factors, and Recommendations for the Future of Farming

According to the producers, processors, service providers, and many specialists who worked on the identification of factors and subsequent educational and analytical aspects of the FOF SWOT strategic planning process, five categories capture the factors that contribute to maintain, regain, and enhance Washington’s agricultural industry competitive advantages. Each is discussed in depth within this report and substantiated in the FOF appendix materials.

1. **Make Agriculture a Priority**
2. **Eliminate Regulatory Barriers**
3. **Protect Agricultural Resources**
 - a. Land
 - b. Water
 - c. Labor
 - d. Energy
 - e. Capital and credit
4. **Strengthen Support Services**
 - a. Education
 - b. Transportation
 - c. Science, technology, research and development
 - d. Processing and preparation
 - e. Marketing services
 - f. Information, communication and outreach
 - g. Producer associations and formal commissions
5. **Harness Emerging Opportunities**
 - a. Organic, sustainable and local
 - b. Influences of federal Farm Bills
 - c. Changes in food safety and food security
 - d. Climate change
 - e. Risk management



Without doubt some of the factors are easier to work with than others, and over time it is the responsibility of all agriculturalists, associations, agencies, and advocates to detail right-time right-action tasks that match Washington's political and socio-economic evolution.

NOTE: Throughout the five categories of findings, colored text represents the recommendations prioritized by industry to keep agriculture competitive into the foreseeable future. The full set of actions in table format is found at the end of this document.

CATEGORY 1 - Make Agriculture a Priority

Participants in the Future of Farming process easily agreed on the necessity to make agriculture a priority proportionate to its importance in the state economy and with respect to the other benefits it provides. Consumers who responded to the FOF survey emphasized a desire to reconnect with and protect the base of their food chain.

Farming needs to be given the priority it merits by the citizens and lawmakers of Washington. Farmers are stewards of much of the state's land and of the esthetic values of the countryside, provide food for the citizens of Washington and many other people around the world, and are a major contributor to the state's economy.

- Provide an environment conducive for Washington's agricultural producers, agribusinesses, and new agricultural products and services
- Annually assemble agency and industry leadership to discuss topics such as: regulatory framework, land, water, labor, transportation, research, education, energy, and public sector's role in enhancing the business environment
- Create and financially support a strategic and tactical agricultural economic development program carried out in partnership with the agriculture industry focusing on the findings of the Future of Farming strategic plan
 - Evaluate other states' agricultural coalition strategies to determine which have been most productive. Identify a Washington implementation agent or existing group that may be appropriate for coalition leadership and strategy development
 - Direct state funded entities impacting agriculture to consider impacts on the agriculture industry as a unified system
 - Foster creative solutions and innovation from within agriculture, within the state or from other states and countries



Category 2 - Eliminate Regulatory Barriers

Assess and reform the accumulated and complex regulations impacting agriculture to promote the competitiveness of farming in Washington:

- Establish a Blue Ribbon Panel to evaluate the impact of regulations on agricultural production, processing, profitability, and competitiveness, to mitigate duplication, contradiction, unintended consequences and other factors burdening the system
 - Assure reasoned decisions that do not disadvantage the competitiveness of Washington agriculture
- Direct regulatory agencies to provide outreach and educate producers and processors about rule and regulation requirements. Increase efficiencies through providing concise, accurate summaries of applicable rules in writing
- Direct regulatory agencies that have overlapping authority to meet annually to discuss industry compliance issues, share their educational outreach presentations, and to ensure the rules and interpretation of the rules are consistent
- Construct a model Agricultural Impact Statement that can be used to assess and document the effect of state agency actions prior to their implementation
- Implement streamlined application and reporting processes to minimize redundant paperwork and simplify applications for licenses and permits

GROWING REGULATORY ENVIRONMENT

Over time, many laws and regulations impacting agriculture have been introduced, each for legitimate purposes. However, it has been noted in previous sections of this document that many different government agencies at the federal, state, and local level have an influence on agricultural production, processing, and marketing. Through laws and regulations, they have the ability to frame what farmers and agribusinesses cannot do, or what they must do, to be in compliance with the law. They have the ability either to directly penalize businesses that fall out of compliance or to take legal action against them in the appropriate court of law. The main concern of the producers and producer representatives is not about specifically cited regulations, but rather about the cumulative burden of all the regulations that they must follow. Almost universally, agricultural producers are price takers. That means that the price they receive for their products is determined by what their customers are willing to pay. In the short run, they have limited ability to increase the revenues they receive. Any increase in costs reduces the profitability of their operations. The cumulative number and complexity of regulations drives up farm



costs: costs that cannot be passed on to their customers. Many farmers believe that the regulatory burden in Washington (from federal, state, and local laws) is either threatening to drive them out of business or could force them to move their operations to other states or countries where the combined regulatory burden is lighter. Prioritized by producers as the most critical constraint to the vibrancy of Washington agriculture, some current farmers report that their children do not want to farm due to the amount of time and stress attributable to regulation compliance. The need for assessment and reform of the regulatory burden is urgent.

Regulations cover a wide array of farming and agribusiness activities. Among the most intrusive are laws dealing with the environment and not always controlled by the state. A few examples cited were wetland and riparian protection, the Clean Water Act and others; labor laws, such as those dealing with occupational safety and health issues; and laws on food safety, worker housing, chemical use, growth management, zoning, etc. Increasingly, regulatory agencies require farmers and agribusinesses to keep detailed records of farm operations to demonstrate that they are obeying the law when regulatory inspectors are not present. Large-scale farmers or agribusinesses can afford to have a specialist employee or unit that keeps records in a timely and appropriate format. However, small family enterprises cannot afford to hire such a specialist, but must find time out of all their other chores to maintain all the records required.

There is no easy solution to what has become known as “regulatory burden;” the continuing proliferation of regulations. Individuals or activist groups that identify a perceived societal problem can call for a new law or regulation that targets a group, such as farmers, but that will not impose any direct cost on those requesting the law. Legislatures can show their concern for societal welfare by passing one more new law, but most of their constituents will not have to pay any direct cost for the introduction of that law (they will, of course, pay indirectly in terms of additional taxes to support the regulatory agency and in higher prices for those few goods whose suppliers can pass on added costs to consumers). In turn, there is a producer perception that government agencies have an incentive to support new laws in their area of responsibility because it broadens their mandate and helps support their organization. In many cases, the normal checks and balances that should moderate the flow of new regulations do not operate effectively. There have been a number of federal and state initiatives to reduce the regulatory burden. However, participants in our surveys reported experiencing little relief from regulations. One broad example of regulatory complexity is found in the shellfish farming sector. Shellfish farmers begin by planting baby oysters, clams, or

“As far as farm size, to the state complying with rules and regulations, the large enterprises can spread it over 10,000 acres. Next person has 30 acres and has to do exactly the same thing. When it all gets put together it is infeasible. The rules and regulations and complying is huge. . . . chemical, food quality, labor . . .”





“Reduce food safety regulations to allow small batch, or micro, production of value-added products from family farms (“micro processing”).”

mussels (‘seed’), watch over their crops during grow-out, and rotate crops to produce shellfish year-round. As explained by the FOF Steering Committee member representing the shellfish industry, “Some of our biggest problems are generated by our overlapping interdepartmental jurisdictions. Permits and licenses are required under both national and state jurisdictions including operational permits under Army Corps of Engineers, Endangered Species Act Consultation under NMFS and USFWS, and health certification under WDOH. WDFW enforces harvest laws, and they also issue aquatic farm registrations and have jurisdiction over control of pests and diseases. Ecology issues certifications and approvals under the Clean Water Act. The regulatory labyrinth can be overwhelming and highly restrictive for new shellfish farms”.³⁰

REGULATION IN ACTION

Farmers and agribusinesses are threatened by increasing costs due to the manner in which many laws and regulations are enforced. Industry participants at all levels contend that rulemaking can rapidly depart from the original intent of the legislation. It is perceived that multiple agencies at different levels (federal, state, or local) or with different branches of government have responsibility for enforcement of different parts of the same regulation. Rules may be overlapping or inconsistent in application. Permitting processes are often complex and prolonged. Regulations are rarely scaled appropriately to the size of the operation being regulated, putting smaller farmers at a cost disadvantage. It is often difficult for farmers to know which parts of which regulations apply to their particular operation. In turn, responding farmers said that regulatory agencies often do poor outreach in explaining their expectations of the producers or processors they are regulating.

Farmers and agribusinesses also object about the process by which rules are enforced. In general, they would prefer assistance from the regulatory agency in bringing their operations into compliance before they are faced with fines or “cease and desist” orders for failure to comply. Another difficulty is created when third parties bring a lawsuit against a farmer or agribusiness for failure to comply with a specific law before the responsible regulatory agency has had a chance to monitor compliance.

TOWARDS A MORE RESPONSIVE REGULATORY CLIMATE

Addressing many of the regulatory problems discussed above will be a bigger task than can be addressed by agriculture alone. The regulatory system is the result of the fractionated way in which federal, state, and local laws are promulgated, passed into law, and implemented by many different agencies that have extensive, but often opaque, rule-making authority. The climate has become more complex and intrusive over time as the number and scope of regulations have continued to expand (see Regulatory Burden paper³¹).

A number of questions need to be answered if the regulatory system is to become less burdensome. First is whether the intent of specific laws is being achieved in practice. A related issue for individual laws is what have been the unintended (and undesirable) consequences of the execution of each law. A second key question relates to the interaction between different laws. Do laws countermand each other either in intent or in execution? For example, wetlands protection laws in some cases offset farmland preservation work. The more numerous and complex laws and regulations become, the greater the likelihood of such adverse interactions. (Environmental Regulations Paper³²). Finally, for industries such as agriculture that must compete in a global marketplace, there is need for an objective assessment of how the regulatory burden on Washington farmers affects their competitiveness relative to other major global suppliers. For example, buyers of some commodities demand standards that require access to and use of crop protectant tools. Limited access to these tools reduces the production capacity and capability of Washington agriculture.

Farmers and agribusinesses certainly believe that regulation has become a major hindrance to their profitability and survival. They disagree with the “business friendly” ratings that Washington has received. It may be possible to quickly identify the most obvious examples of misguided or ineffectual regulations and persuade the relevant agencies to alter those rules. However, in many cases, changes in regulations may not be possible without changes in the underlying laws, a much more difficult task.

Industry participants often cite specific regulations within their area of interest, but if the future of farming is to be secured, more empirical evidence will be needed on the true costs and benefits of regulation. The agricultural industry will need to work collaboratively with other industries and with legislators and government agencies if regulations are to better meet society’s goals. Otherwise, many farmers in Washington believe that they will soon be counted among the endangered species.

“The work you have to go through to set up a commercial kitchen is astounding.”



Category 3 - Protect Resources

Policymakers need to ensure that farming has access to the key resources necessary to keep it viable. Among these the most critical are: land, water, labor, and electricity and other energy sources.

4.1

Factor 1 - Land

The availability of productive and affordable land is essential to the continuation of agriculture:

- Support the work of the Office of Farmland Preservation (OFP)³³
- Protect Open Space Taxation for farmland
- Encourage county efforts under GMA to maintain and enhance natural resource-based industries
- Improve enforcement and outreach consistent with the intent of Right to Farm Laws
- Increase the understanding by public officials of the long-term negative fiscal impact of farmland conversion
- Ensure that state-owned and managed working lands use agricultural Best Management Practices to protect adjacent farms and ensures environmental stewardship

THE LAND RESOURCE

Agriculture requires large areas of land for most of its productive activities. About one third of the land area of Washington, 15 million acres, is classified as agricultural, another one third as forest land, and the remaining one third is public land owned by federal or state governments. Other participants report that up to 50 percent of Washington's total land is owned by federal, state or county governments. Most housing and other development is on former agricultural land. In recent years, more people have been moving into what was once forest land.

Agricultural land varies widely in quality. Almost half of all agricultural land is classified as rangeland or pastureland that is normally unsuited for cultivation. Of the remaining 7.7 million acres, about 1 million acres are in the Conservation Reserve Program, indicating that they are of marginal productivity. About 2.3 million acres are classified as prime cropland, but less than one million acres of these are irrigated. There are small amounts of prime farmland included under forests or public ownership, but it would be difficult to make that land available for agricultural uses. The future of farming in Washington is heavily dependent on agriculture's ability to maintain the land resource that is currently available to it.

However, that land base is under constant threat of erosion since privately-owned agricultural land is also in heavy demand for non-agri-

cultural uses such as roads, houses, industry, commerce, and schools and other public services, especially on urban fringes. That demand is tied closely to population changes. If the population of Washington increases by one third to 8 million people by 2025, as currently forecast, it would lead to a commensurate increase in non-agricultural demand for land. As land is progressively lost, the core infrastructure for farming in the region falls below its critical mass, increasing costs to the remaining farmers and encouraging future conversion to other uses.

Particularly on the urban edge and other locations attractive for retirement, industry, or recreation, the per acre production value of land for agricultural use is almost always much lower than for non-agricultural use. If no social or environmental stewardship values are taken into consideration, non-agricultural uses consistently outbid agricultural uses for available land. The value of land in agriculture is derived from the value of the farm products that can be produced on that land. Similarly, the demand for land for an intensive centralized manufacturing facility is derived from the demand for the (per acre) relatively high-value products of the facility. Thus, based solely on business feasibility, non-agricultural activities can typically afford to bid high prices for the relatively small amounts of land that each operation needs.

The American Farmland Trust (AFT) estimated that agriculture used 50 percent of Washington agricultural land (17% of total land in the state) to generate two percent of the state's gross domestic product (at the farm gate). Allowing for multiplier effects, the total economic impact of agriculture is about 13 percent of state GDP. AFT estimated that in 2006, the value of Washington land in agricultural use was less than \$4 billion, compared to a total fair value in all uses of \$14 billion. In every county in the state, the current use value of land in agriculture was less than the "fair value" by a substantial margin. There is a strong financial incentive for cities and counties to permit development on agricultural lands, both to gain the benefits of increased economic activity and to capture the increased property taxes (Land Stats paper³⁴). Some would argue that the gain from the decision to develop agricultural lands is merely short-term due to the commensurate increases in services and infrastructure required to serve the increasingly dispersed population. Clearly, the importance of extra-market policy preferences for agricultural lands, such as open space programs, is critical for agricultural production over the long term.

Some development practices lead to the removal of land from farming. For example, a developer wishing to build on wetland in an urban or suburban area can win approval by buying farmland in an outlying area and converting (or attempting to convert) it into the equivalent area of wetland. In addition, governments at every level have used the power of eminent domain to take over farmland for various public purposes.



It can be difficult for the general public in Washington to see any immediate positive or negative impact in the conversion of land from agricultural to non-agricultural uses. Three quarters of the production of Washington farms goes to consumers in other states and countries. Over time, declines in production due to loss of land have not been apparent because increases in yield per acre have more than offset reduced acreage. Since Washington imports large amounts of food, consumers do not tend to consider if a reduction in production from Washington farmland would be reflected in a reduction in food supplies or an increase in food prices in their grocery stores. Therefore, educating voters and policy makers about the social and economic benefits of agriculture may increase the desire to take a proactive long-term vision for the future of agriculture.

On the other hand, urban dwellers may see short-term benefits from stopping the agricultural activities around them. As urban activities encroach into agricultural areas through subdivisions, individual home sites, and businesses or shopping clusters, the newcomers may become critical of, or hostile to, normal agricultural activities that create smells, noise, dust, machinery activity, use inputs, etc. There has been a tendency for urbanized societies to impose additional regulations and restrictions on normal agricultural activities. This increases costs and threatens the survival of agricultural enterprises. Over time, many agricultural operations move out of these mixed-use neighborhoods. However, once land moves out of agricultural use, its reversion to farmland becomes difficult or impossible. Decision-makers are increasingly aware that short-term development benefits do not make up for the long-term reduction of productive agricultural capacity and its inherent stewardship role.

During listening sessions FOF participants made clear their desire for public officials to realize that farmland conversion has a negative fiscal impact. Local officials frequently think in terms of the gains from bringing in new industry and business, however, they often do not factor in the costs associated with the new residential development that will be necessarily associated with that new industry. According to Don Stuart with the American Farmland Trust (AFT) there have been over 100 Cost Of Community Services (COCS) studies around the country, done by planning departments, universities, consultants, and others. All have come to the same conclusion: development of farm and forest land is an overall net loss to the fiscal well-being of



local communities. Fuller explanation is found in an AFT Fact Sheet on COCS studies and a list of the studies that have been done around the country.³⁵

AFT has done COCS³⁶ studies locally in Skagit, San Juan, and Okanogan counties. Skagit is a perfect example. For each \$1 paid in taxes by farm and forest lands in that county, those lands received back about 51 cents in services, contributing a 49 cent subsidy for the rest of the taxpayers in the county. For every \$1 paid in taxes by residential properties, those properties received \$1.25 in public services. This is quite typical. As farm and forest land disappears, this subsidy also disappears. Industrial and commercial uses also, typically, pay more than they receive, but unlike agriculture and forest lands, they almost always require ancillary residential growth, so their excess contributions are offset by the deficit county governments run on residential growth.

AGRICULTURE AS LAND STEWARD

Farmers play a major role in the stewardship of the state's land. Farmers work in daily contact with streams, lakes, birds, and wildlife. Farmers have a vested interest and associated skills to maintain the productivity of the lands they operate, in a way that urban dwellers with small plots of land often do not. Pesticides used by farmers are much more heavily regulated than those used by homeowners; correspondingly the pollution caused by homeowner use of pesticides is much greater.

Farm practices affect the soil, air, water, and esthetic appearance of the countryside. They also tend to be heavily impacted by various environmental laws. While these laws were often initially prescriptive, it has become increasingly clear that current farmer efforts can be more effective when regulators, environmentalists, and farmers are better educated and willing partners in meeting the goals of laws. Although the approach is slowly changing from punitive toward collaborative and incentive based, the laws as interpreted by the courts are considered by some producers to contain little room for logic or practicality.



The changing view on the role of farmers and farming has been reflected in the decision by the Washington Legislature to set up a new state entity, the Office of Farmland Preservation³³, within the Washington State Conservation Commission. That Office is still exploring strategies for carrying out its primary mission of farmland preservation. Importantly, the office acknowledges that if the farm is not profitable it is unlikely to stay in the family or be purchased by another farmer. Their actions may include the following:

1. Create grants for local strategic agricultural planning with staff support for farm advisory committees
2. Hire a state agriculture planner
3. Provide farm transition or succession programming
4. Work toward programming for purchase of development rights & transfer of development rights--long-term farmland retention programming
5. Explore other farmland preservation tools such as: linking existing and new farm incentives or benefit programs to existing GMA agriculture zoning or to properties protected by easement, agricultural enterprise district concepts, and methods to retain water with arable land

PRESERVING FARMLAND

A number of programs already exist at the federal, state, and local level, either to sustain farmers in farming or to maintain land in farms. The most widely available aid is provided through reduced levels of property taxes for land used in farming. The farm loses that tax concession if the land is sold for non-farm uses. In addition, the farmer must pay back-taxes for the difference between the non-agricultural and agricultural taxes.

As a local example of farmland preservation, beginning in the 1970s King County provided a pool of money that could be used to buy farmers' development rights. Farmers were paid the difference between the value of their land in farming and in development, but had to commit to maintain their land in farming. That program was limited when funds ran out. There are a number of federal, state, and local sources of funding, and some private funds, available for purchase of development rights from farmers. However, the funds available tend to be limited and intermittent. The Growth Management Act and zoning laws have limited the transfer of land from agricultural to nonagricultural uses, but zones are vulnerable to change under political pressure.

Despite these various measures, there has been a small but steady reduction of the total area of agricultural land in the state. The NASS statistics show that the number of acres in agriculture in Washington has decreased by an average of 67,860 acres per year over the last 10 years.¹² Exact data are not available on how much *prime* farmland is being lost

to non-agricultural uses. However, anecdotal evidence on where urban development has been taking place suggests that the losses of prime farmland are substantial. Given the financial strength of the non-farm sector in the state and the pressures from expected population growth, agriculture will not be able to maintain its current land resource without major intervention by state government (Land Protection Programs³⁷). There is much to learn from the successes and failures of the many entities protecting land both nationally and globally. Above all, interventions to preserve land must be well thought out in order to prevent an additional maintenance burden on the state.

4.2

Factor 2 - Agricultural Water

Competing demands threaten to reduce farming's access to the water needed to produce, pack, process, and distribute the state's farm products:

- Conduct a state-wide assessment and prioritize projects for investment readiness; identify and apply for appropriate funding
- Change relinquishment statute to reward irrigation efficiencies and other best practices without removing water from agricultural land
- Develop watershed and other local level water resource management programs to continue water conservation, drainage, transfers, and irrigation efficiencies
- Upgrade and improve the antiquated water distribution, drainage, and irrigation infrastructure
- Continue current efforts to identify, evaluate, and develop increased water availability including storage capacity, flexibility, and reuse

WATER: THE LIFEBLOOD OF AGRICULTURE

Water is a critical ingredient of agricultural production. According to the 2002 census, over 75 percent of Washington's harvest by value was from the 11.9 percent (1,823,155 acres) of Washington farmland that was irrigated. While all water originates from rain or snowfall, it becomes available for human uses through many different intermediaries including rivers and lakes, wells and aquifers, and dams and other artificial storage systems. In general, agriculture that must depend on the natural cycle of precipitation is limited to the crops or pasture that can flourish in those natural conditions. For example, cool season legumes in Western Washington and grain in Eastern Washington. There is nothing that the producer can do to alter the volume or timing of this precipitation. In contrast, water drawn by users from wells, aquifers, dams, or



storage catchments can be controlled in volume and timing to suit the needs of a wide variety of crops. However, that same water is also desirable for numerous non-farm uses such as individual consumption and other municipal use, power generation, industrial uses, tribal needs, environmental goals, and transportation. Analogous to what goes on with land, more economically intensive non-agricultural users of water are able to outbid agriculture for transferable water rights. The implication here, similar to that in the discussion of agricultural land above, is that in the long-term agriculture is durable only if state government intervenes in the interest of long-term agricultural production and associated competitiveness policy.

Excess water can also be a problem, especially on the wetter west side of the state. It can bring problems of flooding, property damage, erosion of riverbanks, and increased flow of sediment into rivers and the ocean. Drainage systems and other controls of excess water remain important in Western Washington.

As the economy of Washington has developed, the number of claimants for the state's water resources from all sources has continued to grow. In some cases the perception of both agricultural and non-agricultural water users is that demand may have already outstripped available supplies. While access to water is particularly contentious in the state's desert areas, the growth in demand has increased the cost of access to new sources of water throughout the state. Thus, within the current structure of state water code, it has become more difficult for new producers to acquire existing water rights and for farms to expand operations. On the other hand, division sometimes occurs within the industry because the realizable value of water rights owned by farmers is going up, increasing incentive to sell those rights. Some specialists believe that the current situation regarding supply, demand, and increasing costs for water is to some degree an "artificial creation" within the state-controlled water supply.

However, participants are fairly unified in their opinion that the first and easiest place to find and "create" new water is to encourage conservation of that which they already have through incentives and changes in relinquishment laws. Decisions on how water will be allocated have become major public policy issues for federal, state, and local governments, public utilities, and other entities with control over various aspects of water use. Powerful groups representing different interests attempt to influence public policy outcomes on water.

WATER RIGHTS

Farms were among the earliest users of water in the state and many current water rights on farms derive from those early rights. Water ownership is governed by Western Water Law (first in time, first in right). Water rights are a property owned by the farmer or other land owner and are administered by the Washington State Department of Ecology. A key element of this water law is that failure to use all the



water available in a water right in at least one year out of five results in the permanent loss of that unused part, the “use it or lose it” principle. Farmers feel under threat that their water rights may be reduced, encroached upon, or lost under rules that have gradually been imposed upon them. Moreover, disincentives for conservation are cited by every type of FOF participant. They describe various ways that the inflexibility of current laws leads to inefficient use of water and prevents economic transfers of water both within agriculture and between agricultural and non-agricultural uses.

Farmers are generally supportive of policies that would increase the total supply of water available. They have been strong supporters of retaining existing dams and irrigation systems, of enlarging those systems, and of providing additional storage facilities from which water can be drawn when needed. However, a number of environmental groups, tribal governments, and others either oppose expansion or favor reduction of the existing systems for providing water, such as by removing dams. Farmers are generally supportive of policies that would stretch the available water resources. A few examples of this are: improving the infrastructure for water delivery, increasing efficiencies in irrigation methods, increasing opportunities for the catchment of rain water, recapturing or treatment of waste water, and injecting greater flexibility into water regulations so that farm activities can be adapted to agricultural product demand, current conditions, and constraints.

“The assumption is that somehow if we take water and farms away we’ll just import what we need to eat.”

REASONED WATER MANAGEMENT IN WASHINGTON

Decisions about water use in Washington are made by multiple agencies with conflicting goals and practices. These include federal agencies such as the Army Corps of Engineers and the U.S. Fish and Wildlife Service. More importantly from the standpoint of this state FOF project, Washington entities include the Washington State Departments of Ecology and Fish and Wildlife; Public Utility Districts and private power companies; conservation districts; irrigation districts; tribal governments; counties; and municipalities. Each of these has its own goals, missions, policies, and procedures. None have a specific mandate to ensure that agriculture’s water needs are protected.

Participants in the Future of Farming project believe a more rational fact-based approach to the current supply and allocation system for water in the state could solve many of the most pressing problems. Many FOF participants, from producers through specialists, want to see more WSDA and other agricultural industry expertise in venues such as the Water Resources Advisory Committee (WRAC), watershed planning, the Columbia River Implementation Team (CRIT), and other state water planning efforts.



“It is a huge issue and getting worse every year. We used to turn people away. Now we are having bidding wars for labor.”

The availability of the labor force vital to conducting many farming activities is threatened:

- Expand current migrant worker housing efforts and encourage producers, non-profit housing suppliers, and the private housing sector to replicate successful models
- Reform unemployment insurance and workers’ compensation (L&I) programs to prevent uncompetitive increases in employers’ costs
- Petition the federal government for a viable and predictable process ensuring sufficient numbers of legally authorized agricultural workers
- Amend labor laws to allow youth to work hours compatible with school vacations and consider tourist or intern program models found successful in other regions or counties
- Reform mandated increases in labor compensation laws that may make agriculture uncompetitive

LABOR A MAJOR CONCERN FOR WASHINGTON AGRICULTURE

One of the top concerns of respondents to the various Future of Farming surveys was the continued availability of adequate labor for Washington agriculture. For the purpose of state labor statisticians, the workforce falls into three broad categories: “seasonal unskilled labor, permanent unskilled labor, and permanent skilled labor.” As agriculture has become increasingly knowledge-based and technology-driven, the need has grown for a more skilled permanent labor force. According to industry representatives, “unskilled labor” is a misnomer since these workers often skillfully carry out tasks such as selecting right size and grade product, culling to a buyer’s standards, pruning, and operating machinery, often while working at high speed under physically demanding conditions. In fact, one of the tree fruit industry’s advantages has been the highly skilled nature of the labor force (the labor education topic is discussed more fully in section 4.6, Education). Pools of skilled labor are more readily found in major urban areas such as Seattle, and in the larger Standard Metropolitan Statistical Areas (SMSAs) such as Yakima and Tri-Cities. When the state and national economies are booming, it is difficult to attract workers in farming, packing, processing, or agricultural marketing. An aspect of labor availability troubling to industry leaders is an estimate by the U.S. Department of Labor that “approximately 64 percent of the agricultural labor force in Oregon and Washington are not legally eligible to work in the United States.”

The major labor challenge for agriculture is attracting sufficient numbers of seasonal skilled workers to carry out the often difficult work involved

in picking fruits or vegetables in the field or in preparing products for packing or processing. For many years, the number of domestic skilled agriculture workers willing and able to undertake such work has been dwindling. Industry representatives say that several things contribute to this such as:

- The seasonality (timing, product perishability, and number of workers needed) of agricultural employment is a contributing factor as to whether potential employees are available
- The number of U.S. legal population either allowed or capable of physical work is a lower percentage of the population in comparison to 20 years ago

Until recently, there was a large pool of migrant workers willing to conduct such seasonal work. Both producers and processors would like policy makers to help remedy the current high risk situation. The Future of Farming participants consider that certain critical solutions to workforce challenges will be decided at the federal level. However, there are some state level actions that impact the availability of labor.

DEMAND AND SUPPLY OF AGRICULTURAL LABOR

The demand for labor in agriculture is derived from the demand (that is, the quantity and price) for the agricultural products produced by that labor. The prices of items like fresh apples, canned asparagus, and fresh sweet cherries are determined in the global marketplace. Global prices will be affected by supply conditions in countries like Chile and Peru and by demand conditions in markets like Japan and Mexico. In determining what wage rate they can offer workers, farmers and processors will also be influenced by the other costs that must be incurred to produce the final product. For example, the wage rate they offer will be affected by what they must pay to rent land or purchase fertilizer or other inputs. Thus, agriculture's ability to offer higher wage rates is constrained by product price, seasonal unpredictability, and all other costs (Labor Overview³⁸).

The demand for agricultural labor also has some unusual features. First, it tends to be greatest for intensively produced crops such as fruits and vegetables. It is also highly seasonal, concentrated at harvest time and during periods of intensive activity such as pruning. Finally, it is widely dispersed over many different operators in many different districts from Oregon to the Canadian border. These factors also make recruitment and the provision of transportation, housing, medical, and other services relatively difficult and expensive.



The supply of agricultural labor has become dominated by Hispanic workers, some migrating annually from Mexico or its southern neighbors, and some residing in the southwest United States but moving northwards to meet sequential seasonal labor needs in California, Oregon, Idaho, Washington, and other states. That supply can be disrupted by changes in the volume or timing of labor demands in other states or other industries, especially construction. Changes in labor supply also affect the wage rates that agriculture must offer to both seasonal and non-seasonal workers.

GOVERNMENT INFLUENCE ON AGRICULTURAL LABOR

Governments at different levels have a significant influence on the supply and cost of agricultural labor. Many respondents to Future of Farming surveys commented on the fact that Washington had the highest minimum wage rate in the United States and that it automatically adjusts upward each year. They commented that the wages of many non entry-level workers had to be increased also so that the wages of more senior workers would not be overtaken by those of entry-level workers. A study by Holland and Schotzko³⁹ indicated that one consequence of state actions that artificially raise labor costs was to lead the better-capitalized agricultural producers and processors to seek ways to substitute machinery and equipment for labor, and to cause the less well-endowed enterprises to leave the state or the industry. In either case, employment is reduced.

Agencies such as the U.S. Occupational Safety and Health Agency (OSHA) and the Washington State Department of Labor and Industries (L&I) have regulatory authority over working conditions or housing for agricultural labor in field and factory. Over time, various other state agencies have added many requirements about the sort of housing, transportation, working conditions, and services that must be provided to temporary labor. Many agricultural employers have struggled to meet these requirements. This has been particularly difficult for smaller growers.

Another challenge for agricultural employers has been the various measures employed by the immigration authorities to prevent illegal immigrants from gaining employment or remaining in the United States. This is especially problematic for farmers since many “illegally documented” workers have what appear to be excellent employment eligibility documents. Agricultural employers argue that they do not have the legal authority or expertise to question the authenticity of documents presented to them. The federal document verification systems are designed to assist employers in verifying whether an employee’s name and social security number match. However, the system does not verify the employee’s legal status. Currently, employers report that there is no legal status verification system available. In addition, if a worker is wrongly singled out as an illegal immigrant, the employer may be accused of or charged with discrimination. Various efforts to amend or clarify immigration laws in Congress have not yet been successful. This inaction has left agriculture with few tools for determining worker eligibility and a poor legal process for maintaining a reliable workforce.



EFFORTS TO ALLEVIATE THE LABOR SUPPLY PROBLEM

Legal programs to alleviate the labor supply problem in agriculture have generally been ineffective. The federally authorized H-2A program permits farmers to bring in foreign workers for a limited period when a documented domestic labor shortage has been verified by USDOL. Workers in agricultural packing houses and food processing use the H-2B visa. At present the only way an agricultural employer knows their employee is legally eligible to work in the U.S. is if the employee was provided through the H-2A or H-2B federal guest worker programs. However, many growers have found the procedures expensive, bureaucratic, untimely, and unsatisfactory. It has been suggested that if Washington would offer its own guest worker program, some of the problems of cost, timeliness, or bureaucracy could be reduced, but it is unlikely that the state has this authority. Others have suggested that workers should be allowed to enter the U.S. as tourists or interns, programs that have worked in other countries. Many farmers also advocate amending labor laws to allow young family members and neighboring youth to work hours compatible with school vacations. Traditionally, summer vacation was the time when school-age family members were needed to help on the farm.

Over time the state has invested in mechanization technology as a strategy to mitigate labor shortages. This innovative technology is assisting the state's commodity producers to remain competitive, and influences the economies of scale achievable by some commodities. In addition, the state has made substantial progress in housing solutions. Producers and processors alike would like to see these models continue and expand. Large portions of the industry would like to see the agricultural worker compensation programs reformed. Most agree that the most effective long-term remedy is a federal-level commitment to ensure a viable and predictable process to realize sufficient numbers of legally authorized agricultural workers.

The future of farming in Washington will be heavily influenced by how effectively the labor problem is addressed.



Rising costs of electricity and other energy sources put our competitive advantage in jeopardy:

- Continue to encourage and incentivize the development and adoption of conservation, energy-efficient, and energy generating technologies for agriculture – particularly for the use of liquid fuels
- Protect and promote current and potential energy and distribution sources (dams, windmills, methane digesters, etc.) that provide Washington agriculture a competitive advantage, and be ready to look ahead and respond
- Encourage the development and adoption of alternatives to imported fertilizer, including more efficient use technologies and alternative sources
- Increase the availability of natural resources such as land and water so that producers are better able to meet the increasing demand for renewable fuel crops in addition to the traditional food, fiber, forage, and feed

THE ENERGY REVOLUTION IN AGRICULTURE

A hundred years ago, virtually all energy on U.S. farms was provided by human or animal traction. Farmers had to devote a substantial part of their acreage to providing feed for the working animals. The availability of hydrocarbon fuels and the development of the motor have transformed agriculture in the last century. Electricity became available on farms and in rural areas of Washington beginning in the 1930s through the building of hydroelectric dams and the efforts of various rural electrification schemes. For decades since, Washington has enjoyed the favorable electrical rates that gave it a competitive advantage in the production, processing, and marketing of many commodities.

Since the 1930s, purchased energy has replaced human physical effort and animal traction power on farms. It has allowed farmers to increase the area farmed per person, and to dramatically increase productivity per acre. It has permitted the mechanization of many functions on and off the farm. The availability of electricity has facilitated the computerization of many functions in agriculture. Hydrocarbons have played an additional role as the basis for the synthetic chemical revolution that provided powerful new fertilizers, herbicides, and insecticides to agriculture.

Agriculture must increasingly compete for scarce energy with other energy-demanding industries and urban developments in the state, and with growing competition for local energy from California. Without major changes, Washington agriculture will face steeply ris-

ing costs for its energy needs. This will offset the competitive advantages it had gained from relatively low-cost energy.

AGRICULTURE AND THE DEBATE OVER OUR ENERGY FUTURE

Agriculture is a central player in the debate over the state, national, and global energy future. The global competitiveness of Washington farming and food processing has been heavily dependent on the availability of relatively low-cost electricity. It helped attract large frozen food processors to the state in the 1950s and 60s. A side benefit has been the availability of the Columbia-Snake river system for barge transportation of bulk items like wheat. Policies that would reduce the availability or increase the cost of electricity would threaten that competitiveness. Because Washington agricultural suppliers are further than their competitors from many of their major markets, increases in the price of oil for transportation put Washington at a greater disadvantage. Thus, as currently structured, Washington agriculture is helped by lower-priced electricity and oil.

AGRICULTURE AS SUPPLIER OF ALTERNATIVE ENERGY

Agriculture has long been considered a potential supplier of alternative energy. For example, subsidies for ethanol from corn have been available from the U.S. federal government for 30 years. However, interest in developing alternative energy from agricultural products has soared in the last few years for two main reasons. First was the concern that the increased burning of non-renewable, fossil fuels was hastening global warming. Studies suggested that energy derived from many agricultural products reduced the production of greenhouse gases. The second reason was the dramatic increase in global oil prices after 2004, and the subsequent wide fluctuations in those prices due to tightening global supply and demand, and social and political unrest in major oil-producing countries. Concerns about the level and volatility of oil prices triggered a new round of policies aimed at energy independence. It was believed that energy derived from a U.S. cornfield was more reliable than energy derived from a foreign oilfield.

Initial high hopes for alternative energy from agriculture have been moderated as a result of experiences to date. The surge in use of corn for ethanol in 2006 and 2007 coincided with global food shortages, high grain prices, and food riots in many countries. It became clear that using an increasing share of agricultural land for fuel production had a substantial effect on the markets for human and animal foods. The dramatic fall in the world price of oil in the later part of 2008 made the economics of alternative energy programs less attractive.

Despite these reverses, the arguments for continuing to seek alternatives to non-renewable energy sources remain strong. Recapturing and reusing methane gas from livestock waste remains a viable option, but



various technological, scale, economic, and environmental problems await solutions. Numerous other feedstocks, or combinations of feedstocks, are being considered, including wood chips, algae, switchgrass, and post-consumer food waste. However, efficient production of alternative fuels will require large volumes of feedstocks, technological breakthroughs to efficiently convert those feedstocks into fuel, and widespread financial and practical support for farmers.

Policy decisions on energy will have a major influence on the future direction and prosperity of Washington agriculture. It will be vital for agriculture to remain well-informed and intricately involved in the evolution of these policies.

4.5 Factor 5 - Capital and Credit

Work to assure adequate long-term capital and short-time credit for the state's farmers and agribusinesses at reasonable cost

AGRICULTURE'S SPECIAL CREDIT NEEDS

Like all other businesses, agriculture needs long-term capital for land, buildings, and durable equipment. It also needs long-term capital for investments in orchards, asparagus, grass seed, and other perennial crops. It needs short-term operating capital to cover recurring expenses such as labor, utilities, and fuel. In addition, in orchard crops such as tree fruits and nuts, expenditure in preparation for a crop may begin a full year before harvest begins. Sales from that crop may take place during the twelve months after harvest. As a result, the grower may not receive final payment for the fruits of a particular crop until two years or more after the first variable costs of the crop were incurred. At any one time, a producer may be incurring expenses and/or receiving payments on three different crops. During that same period, the producer may be exposed to various weather risks, to risks from pests and diseases in the field or in storage, to risks incurred in getting the product to market, and to price risks in the market itself. Various insurance programs have been developed by the USDA to help offset some of that risk for some commodities.

In the case of grains, wheat harvested in one season may be stored for several seasons such that the farmer may be selling wheat from different harvests at the same time. Growers of wheat and other so-called "program" crops are also eligible for non-recourse loans from the federal government on their harvested crops. Loan rates are set within the provisions of multi-year Farm Bills. If the market price falls below the loan rate, a farmer can surrender the crop and keep the loan payment. If the market price exceeds the loan rate, the farmer can redeem the loan and sell the crop at the higher market price. In addition, producers of program crops are eligible for other support payments based on formulas that change with each farm bill. How-

ever, the net effect is to provide a supplementary source of financing for some farm operations.

Many financiers who do not understand the risks of agriculture have traditionally been reluctant to provide credit to farmers. That reluctance becomes particularly acute during prolonged periods of low market prices. As a result, the federal government set up the farm credit system that is specifically charged to provide financing to agriculture. The system finances its activities by issuing bonds, which tend to earn high ratings because of the presumed backing of the U.S. government. However, as farmers and agribusinesses have become bigger, and as many new techniques have been developed for risk mitigation such as hail nets and wind machines in orchards, integrated pest management in crop production, and use of hedging in grains; large national banks, insurance companies, and numerous community banks have become more aggressive participants in lending to agriculture. The needs of small farms or new farms are different than for established program crop growers. In some part this is due to the risks inherent to small businesses with high start-up costs. As in many sectors, entrepreneurs may be skillful in production or marketing but lack the business skills or resources required to access credit. Many entities assist small businesses and beginning farmers such as the Small Business Development Centers, banks, Department of Community, Trade and Economic Development (CTED), the Beginning Farmers loan program at the Housing Finance Authority, Washington Sustainable Food and Farming Network, various federal finance assistance programs, and many others.

FINANCIAL STABILITY OF AGRICULTURE

Farmers and agribusinesses have one major asset that they can use as collateral for long-term loans: their land. The value of land has tended to rise with inflation, providing some cushion to farm assets. However, the value of land is also tied to the prices received for the main crops from that land. In the case of program crops, government payments tend to smooth out returns and reduce fluctuations in land values. The value of the crop is the major collateral for short-term loans. That value can change very rapidly, both within seasons and between seasons, in response to changes in world market conditions.

Farmers tend to be fairly conservative in their use of debt. The latest farm business balance sheet for Washington agriculture relates to the year 2003. In that year, total farm assets were about \$22.5 billion, of which \$17.9 billion (79.6 percent) was real estate (measured at market value). Total farm debt was about \$3.8 billion, about half in real estate debt and half in non real estate debt. Farm equity was about \$18.7 billion. The ratio of total debt to total assets was less than 17 percent, similar to the average rate for the five-year period from 1998 to 2002, but one percentage point above the average rate from 1993 to 1997. While individual farms or agribusinesses have



“There is no USDA facility where we can harvest animals in a legal manner. You can sell whole animals and put them in the locker, but can’t go to the next step to supply demand for restaurants. Anything the state can do to make that process easier, that’s what we’re looking at.”

faced financial difficulties in recent years, the financial condition of Washington agriculture as a whole has remained sound.

In 2002, 32.3 percent of real estate debt was supplied by the Farm Credit System, about 20 percent each by commercial banks, life insurance companies, individuals and others, and 2.5 percent from the Farm Service Agency (formerly the Farmers Home Administration). Commercial banks supplied 64.8 percent of non real estate debt, individuals and others 21.5 percent, the Farm Credit System 11.8 percent and the Farm Service Agency 1.9 percent.

NEW FINANCING CHALLENGES FOR WASHINGTON AGRICULTURE

Washington agriculture is likely to face a number of new financing challenges in the near future. The first will arise from the increasing technological sophistication of the industry. In order to compete on a global stage, farmers and agribusinesses will have to invest in sophisticated machinery, equipment, biotechnology, information systems, and computerized measuring and monitoring devices. The speed of technological obsolescence will mean that the life cycle of many new technologies will become shorter (FarmCredit⁴⁰). Farmers and agribusinesses will have to be able to demonstrate to lenders that they have the skill to manage the new technology and to generate adequate return on investment.

A second major challenge will arise as agriculture moves into higher-value crops and livestock that provide unique foods, feeds, fuel, fiber, or specialized products for industrial, pharmaceutical, medical, and other uses. In many cases, farmers and agribusinesses will have to take the initiative in creating the upstream facilities, such as processing and marketing, which will be necessary to bring those products successfully to market. Additional financing will be needed for investment in those upstream activities. Farm assets may have to be used as partial collateral for that finance. Thus, the debt to asset ratio of the Washington farm balance sheet can be expected to rise above traditional conservative levels.

A third major challenge as seen by FOF industry representation is that with risks such as climate change, water use limitations, regulatory requirements, labor availability, and other factors increasing sector volatility, financial institutions will limit their exposure to agricultural portfolios.

FARM CREDIT AND THE GLOBAL FINANCIAL CRISIS

Farm credit is not likely to remain immune from the crisis that has engulfed the global financial system in 2008. In general, the solvency of the main lenders to agriculture, such as the Farm Credit System, community banks, and a few large commercial banks, has not been compromised during the financial crisis. Farm payments through government loans and price supports have not been affected.

However, the loss of trust among bankers has already caused problems with the financing of international transactions in agricultural products, and could lead to tighter credit availability or higher loan rates as farmers and agribusinesses attempt to secure financing for the coming production season.

It appears also that a global economic slowdown will coincide with a widespread decline in commodity prices that will make agricultural enterprises less credit-worthy. No one knows if the various measures taken by governments and monetary authorities to prevent a further financial meltdown will work, or how soon more normal credit conditions will be restored. As long as the period of financial uncertainty continues, it will tend to make farm credit more difficult and expensive. Washington agriculture is unlikely to remain immune from these systemic problems. Farms' credit situation is much less tied to policy considerations (apart from federal subsidy programs) than are land, water, labor, and energy.

Category 4 - Strengthen Support Services

The future competitiveness of farming in Washington requires strengthened support services.

4.6

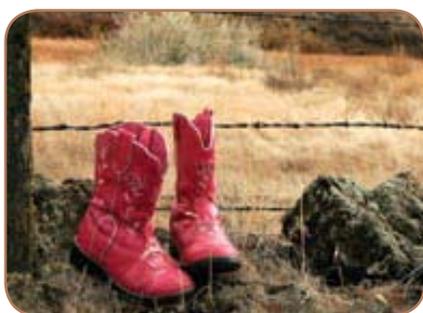
Factor 1 - Education

Re-commit to agriculture and food system education infrastructure:

- Invest in vocational and higher education agriculture programs
- Engage the agriculture industry to be proactive on solutions and to identify skill gaps and opportunities for current and future producers, processors, and workers
 - Assess the performance of existing programs, increase flexibility of agricultural education programs to meet changing needs of the industry, and identify new strategies to recruit industry producers, processors and employees
- Focus efforts to make career and job opportunities in agriculture known to young people
- Continue and increase food system awareness programming in K-12 curriculum
- Disseminate research-based information concerning the full range of food system supply to all Washington residents and decision-makers so that they are able to make informed personal choice and political decisions
- Promote beginning farmers and succession planning programs



As Washington's agriculture becomes more knowledge-based and more open to global competition, the level of education of its workforce will play a vital role in its continuing competitiveness. Much of the education system available to agriculture is shared with the rest of the state and makes little provision for agriculture's special needs. Agriculture will need to forge partnerships with other segments of society to bring about changes in that shared system. Many farmers in the Future of Farming surveys and discussion groups expressed concerns that the educational system was not adequately preparing young people for careers in agriculture. Industry leaders assert that the public does not fully recognize and appreciate agriculture's value to the economy, the environment, and to national security. Many FOF producer participants pointed out that this perception, in conjunction with low and inconsistent farm income, causes agriculture not to be recognized as a career opportunity. Agricultural class size has been dropping, which further encourages educational institutions to reduce or eliminate their investment in agricultural education and instructors. This concern is shared by other sectors of the state. For example, the Washington Learns Committee appointed by Governor Gregoire worried that in the current system of education, not enough children are succeeding. A Future of Farming survey of agricultural educators suggested that schools in many farm and rural communities had above average problems in student performance.



Young people entering agriculture need to have learned how to learn, and they need to have learned how to work. They need competence in basic skills such as language; basic sciences; mathematics and computer use; interpersonal skills such as working in a team; cross-cultural competencies in dealing with a diverse workforce; and reasoning and problem-solving skills based on logic, mathematics, or debate. As they progress through the system, they will need the ability to master new technologies, to take on managerial roles, and to think strategically as business owners, directors, and leaders of agricultural agencies or farm organizations. Agriculture will continue to be a high-risk dynamic industry where adaptation to consumer demand, consolidation, and vertical integration require both versatile producers and a highly skilled seasonal and permanent labor force.

Educational elements targeted specifically at agriculture generally begin only in high school, where about 200 schools offer vocational agricultural courses. A special online survey of high school vocational education teachers for the Future of Farming project indicated a group that sees themselves under siege (Agricultural Educators Survey⁴¹). Many agricultural instructors are retiring and not being replaced. The pool of potential new instructors is drying up. School administrators are reportedly non-supportive. The high school curriculum is being increasingly focused on college preparedness or meeting WASL standards, and training in trade and technical skills is being reduced. The number and caliber of students taking agricultural classes is declining. Despite these obstacles, the teachers were

optimistic about the opportunities for their students in agriculture if properly prepared.

There are more opportunities to prepare for careers in agriculture in higher-level education. A number of community colleges and technical institutes offer courses in general agriculture, agribusiness, horticulture, viticulture, and organic and sustainable agriculture. However, funding and staffing are insecure, and relationships with the nearby agricultural communities are often tenuous. The state's land grant university, Washington State University, offers undergraduate and graduate degrees in a wide array of agricultural specialties such as agribusiness, animal science, food science, horticulture, entomology, soil science, organic agriculture, and veterinary medicine.

A major challenge throughout the formal higher education system is its inherent inflexibility. The state's budgeting system means that buildings get built and facilities placed in service at one point in time, with no provision for upgrading or adapting as needs change. Academic programs in agriculture have traditionally focused on significant depth in a single discipline (e.g., soil science), but tomorrow's leaders require a more interdisciplinary and integrated learning experience. Contemporary agricultural education programs must involve hands-on experience, systems thinking, internships, and study abroad experiences. Recently, several community colleges have placed a renewed emphasis on agricultural education, which is translating to increased numbers of two-year graduates and students transferring to four-year institutions. Improved coordination of high schools, technical institutes, community colleges, and universities should be emphasized to leverage the state's investment in agricultural education, and to increase accessibility to two-year and four-year programs.

The informal adult education system available to farmers includes extension programs, commodity group annual meetings and conferences, and WSDA pesticide classes. A significant issue in adult education concerns developing programs that are relevant and accessible to the wide diversity of individuals who comprise the food and agriculture sector. Agriculture production is becoming increasingly bi-modal with a small number of producers producing the lion's share of the product. These large producers require high-quality, in-depth educational opportunities that are often not available within the state. In contrast, small farmers require educational programs which are directed toward their unique production, marketing, and management challenges. Sometimes, those in most need of training least often attend. For example, small farmers may have part-time jobs that limit their time available, and farm workers find it difficult to get paid leave from employers to attend classes.

“We need to educate the public about how ag works. We're not making millions on the increased crop prices when all our input costs have gone up. We do not have the ability to rake in benefits from increased food prices.”



During the listening process of the Future of Farming project, industry representatives consistently voiced a concern about the increasing average age of farmers, due in part to the lack of young people entering the industry. Farmers question whether they can encourage their children to become producers in today's business environment. Magnifying the theme, the high risk inherent to farming and ranching, the low feasibility of operation start-up, the erratic nature of farm income, and the lack of emphasis on agriculture as a career destination have contributed to the fact that few non-farmers are seeking an agricultural education.

In preparing for the future of farming through 2020 and beyond, there is a need for a comprehensive assessment of what educational opportunities are currently available to agriculture to meet the goals set out above (Ag Ed Matrix⁴²). A second important step is analyzing where the major gaps may be. Agricultural employers, including small, medium, and large-scale farmers, need to be canvassed about their expected requirements in the next few years. A third important but more difficult step is assessing the performance of existing programs in terms of student achievements and placement in industry: a prerequisite for improvement in any field. A final important but challenging step is finding ways to increase the flexibility of agricultural education programs to meet the rapidly changing needs of the industry. Some feel that in order to staff the food and agriculture sector, new strategies must be developed to recruit employees from non-traditional sources.

4.7

Factor 2 - Transportation

Assure the future of Washington's reliable and cost effective multi-modal system through collaboration with other agricultural and commercial allies to support initiatives and coalitions:

- Continue to support Washington State Department of Transportation's Freight Transportation Strategy and finish authorized transportation projects for which funding have been approved. Focus on transportation modes that most efficiently address the state's producers and processors: rail, rivers and roads
- Make quality of service a condition of state funding for rail projects.
- Work with federal, regional, state and private investors to improve the efficiency of the state's transportation infrastructure, its overall capacity and the ease of access to export ports, including air for perishable high value products, and rail yards. For example, increase truck weight limits by adding a 3rd axle, allowing 20 percent greater capacity
- Improve rural farm service roads and bridges to handle increased loads

Transportation was cited as a major concern for some of Washington's larger commodities and one of the concerns of the processing industry. Undoubtedly, the cost and availability of transportation affects every decision in the supply and marketing chain for agricultural products (Transportation paper,⁴³ Transportation_Initiatives⁴⁴). Most economic activities will only take place if the value created by moving a product from point A to point B exceeds the cost of transportation. Transportation costs strongly influence whether or not it is profitable to move potash from a mine to a farm, raw product from a farm to a processing facility, or finished product from the processing facility to a distant market. Conversely, transportation costs play a major role in determining whether or not a competitor can compete for that distant market. Washington internationally exports approximately one third of all its agricultural products. Critical to Washington's agricultural economy, a few commodities rely almost exclusively on out-of-state and international buyers.

The three key elements of a transportation system are transportation infrastructure, transportation vehicles, and transportation containers. The characteristics of each contribute to the cost, service, and effectiveness of any transportation system. The three major modes available to Washington agricultural shippers are rail, road, and waterway. Currently, railroad service, both mainline and shortline, has limited routes across the state. To access ocean or air freight services, agricultural products generally must be moved to ports by truck. For most of their transportation needs, many agricultural areas have no alternative to truck transportation. Waterway traffic is confined to the Columbia-Snake river system from Lewiston-Clarkston to Portland. Thus, it is not a feasible mode for many farmers and agribusinesses. Overall, agriculture's transportation system goal is to maintain a reliable and cost-effective system between the farm and the consumer. This includes the freight infrastructure for export. Ocean freight handles about one third of Washington product. Only a small percent of exports go by air, but these perishables are dependent upon fluid movement from farm to destination. Part of the transportation strategy is to maintain and enhance these modes and provide convenient interconnection between truck, rail, barge, and ports. Washington has funded rail investments such as the Produce Express promoted by potato and corn growers, the Grain Train for wheat, and purchase of the PCC Railroad to support agricultural shippers.

The major challenges to transportation of Washington agricultural products now and in the near future are in the interconnected issues of capacity, congestion, and cost. The capacity of a transportation route is influenced by the physical dimensions, the vehicle size and speed, the type of container, the "choke" points at border crossings or ports of entry and exit, and the costs incurred in using that mode. Mainline railroads are running close to their current capacity. The capacity for waterway traffic could be increased physically, but diversion of more traffic to barge would be costly and inconvenient for many shippers. Highway systems



are also nearing capacity, especially in the Puget Sound area and near major ports. In addition, volatile energy costs will have their biggest impact on highway costs. For example, Jerry Fruin of the Center for Transportation Studies at the University of Minnesota estimates that one ton of freight can be carried 202 miles by rail per gallon of fuel, 514 miles by inland barge, but only 59 miles by truck.



Congestion occurs when the number of vehicles seeking to use a mode or a choke point at any time exceeds the capacity of that mode or point. Congestion has become a problem at times on Interstate 90, the main east-west route between Central and Western Washington, and on Interstate 5, the main north-south route through Western Washington. It has become a systemic problem within the Puget Sound region, particularly for freight seeking entry to or exit from the ports of Seattle and Tacoma. Congestion is also a problem at harvest time in many rural areas as farm traffic competes for road space with increasing volumes of urban and suburban traffic. The limited hours of access to major ports has also been blamed for much delay and congestion. Similar delays frequently arise at the U.S.-Canadian border post at Blaine. Congestion increases trip costs by increasing energy use, labor time, and other expenses to complete a given trip. Those costs have escalated as energy prices have soared since 2004. Prices for using roadways could be varied by time of day or expected level of congestion, allowing the vehicle user to make an economic choice about when to travel. However, use of tolls or of congestion pricing has not been a favored solution in Washington. Because most agricultural products are time-sensitive, there is widespread belief that the only viable long-term solution to the state's transportation congestion is to increase the capacity of the transportation system.

Increasing capacity will be difficult for every major transportation mode. The Class 1 railroads have indicated a strong preference for utilizing their existing capacity for large volume unit trains that carry long-distance, out-of-state shipments. Such large trains are not appropriate for many of the state's agricultural products. The Railex service for fresh fruit from Washington to New York is a notable exception. Currently, 60 percent of the state's wheat is moved to the coast by barge, much of the bulk fuels and fertilizer used by agriculture is moved inland by barge, and more container shipments are being moved by barge. However, use of the waterways is not economically viable or logistically desirable for agricultural products from locations far from the waterways. In addition, the waterway system is under continual threat of having capacity reduced by drawdown of water levels or of being totally dismembered by dam removal. Thus, the best prospects for increasing capacity for transportation of agricultural products are in the highway system.

Schemes to increase the capacity of the Washington highway system face the same challenge - where to find the large sums of money needed to make the necessary upgrades to aging roadways and to improve highway systems in urban areas that are already densely developed. The sums are immense relative to the current total state biennial budget and the biennial funding for the Washington State Department of Transportation, although

not relative to the total national highway fund. The problem has been accentuated in recent years by the escalating costs of building materials and of purchasing rights of way, and by the tortuous process required to get all of the necessary regulatory approvals to build. Particularly in a period of rapidly rising costs, such delays dramatically erode the purchasing power of any funds allocated to highway projects. More recently, the high price of gasoline has led to a reduction in highway travel and the volume of gasoline purchased, and has reduced the expected revenue from fuel taxes.

The three major potential sources of funds to increase the capacity of Washington highways are the federal government, the state government, and private investors in infrastructure projects. The battle for federal funds has intensified in recent years as many states have grappled with the same twin problems faced by Washington: maintaining an aging transportation infrastructure, and preparing for the growth in traffic resulting from long-term increases in population, commerce, and trade. The level of state funds generated by the state fuel tax and other fees is barely sufficient to maintain the current infrastructure. The purchasing power of that revenue stream has decreased dramatically. The WADOT Construction Cost Index has risen by about two-thirds in just the last five years. The state has explored various taxing and bonding options and use of tolls to finance special needs such as the replacement of the Alaska Way viaduct or the SR-520 bridge, but consensus has been difficult to reach.

The last option of using private investors has not been widely explored in Washington, although it is common in many other states and countries. The dwindling purchasing power of gas taxes has led many states to look more favorably at private options. In the United States, the tax-exempt status of state bonds put private companies at a disadvantage in raising funds for infrastructure, but under the Highway Reauthorization Bill of 2005, the U.S. Congress extended that tax-exemption to public-private partnerships funding toll road development, for up to \$15 billion per partnership. Cintra of Spain and Macquarie Bank of Australia have partnerships for toll-highway projects in Illinois, Indiana, Ohio, and Texas. Many other foreign companies have entered the business. States get an up-front payment and an immediate solution to their funding and capacity problem. Such a solution has not been offered in Washington.

It is clear that the agricultural transportation system is inextricably linked with the wider transportation system in the state, in the region, and in the country. Equally clearly, agriculture will need to form coalitions with other sectors to bring about improvements in capacity, changes in regulations, or new initiatives in transportation. The Transportation Committee also pointed out the need for Washington interests to work closely with other west coast states in solving many of the problems common to the region, and to work closely with allies throughout the United States in influencing policies at the federal level. Specialists affirm the concerns of producers with respect to Washington's transportation infrastructure: the multi-modal system must be reliable, timely and cost effective.



4.8 Factor 3 - Science, Technology, Research and Development

Innovation is key to agricultural viability in Washington:

- Recognize the industry need for enhanced publicly funded agricultural research and associated transfer of findings that will permit Washington agriculture to remain competitive
- Increase state-funded support for food and agricultural research to a level consistent with the size and complexity of the state's industry
- Develop public-private partnerships to fund the development and renovation of agricultural research facilities

Some producers commented on the importance of science and technology to the future competitiveness of the state's agriculture. They stressed the vital role that WSU research and extension has historically played and could rebuild to help offset the advantages of competing external suppliers. Many were concerned about the erosion of resources for research and extension either industry-wide or in their specific area or commodity. Many commercial producers say that they depend upon the private sector vendors for services that used to be provided by the land-grant university.

Converting scientific findings into technology that is usable in agriculture depends either on scientists being willing and able to bring the science into the practical realm, or on users in the agricultural industry being willing to ferret out the scientific discoveries that might help them solve industry problems. Most farmers do not have the time, expertise, or resources to convert science into technology. A few larger agribusinesses may have personnel capable of generating new technology. However, large businesses often want exclusive access to any new technologies developed with public partners such as universities, whereas universities are generally required to make their inventions publicly available within a short time-frame.

Even after a technology has been tested in the laboratory, field, or plant, it has to be embedded in a usable product before it can become readily available to farmers or agribusinesses. For any new product to be accepted by farmers or agribusinesses, it must provide a clear benefit over previous products or technologies, it must be able to win the trust of the users, and it must make a significant difference in the users' operations. In the past, extension scientists played a major role in testing the benefits of new technologies, and in measuring how significant a difference they could make: critical in winning the trust of the farmer. However, that extension role has been diminished as the ranks of extension specialists have been gradually eroded and as new agricultural technologies emerge in scientific disciplines. New technologies for agriculture are now as likely to come from non-agricultural firms like Microsoft and Motorola as from the public agricultural research system.

The public agricultural research system in Washington is dominated by Washington State University at its Pullman headquarters and at branch campuses throughout the state. USDA Agricultural Research Service scientists are placed in specialist centers, or as collaborators at WSU centers. Within WSU, most agricultural research is conducted by faculty in the College of Agricultural, Human and Natural Resource Sciences (CAHNRS), or in the College of Veterinary Medicine. Innovative technology helps the state's commodities remain competitive, and influences the economies of scale achievable by some of the sectors important to the state economy.

The U.S. agricultural sector has sustained impressive productivity growth over the last several decades. The Nation's agricultural research system, including Federal-State public research as well as private-sector research, has been a key driver of this growth. Economic analysis finds strong and consistent evidence that investment in agricultural research has yielded high returns per dollar spent. These returns include benefits not only to the farm sector but also to the food industry and consumers.⁴⁵

There are a number of serious challenges in applying scientific resources effectively on behalf of Washington agriculture. The first is the declining level of funding in real terms at the same time that the cost of scientific research has been escalating. Despite Washington's expansive and highly diverse agricultural sector that places it 13th among all states in value of farm production, according to industry representatives it ranks only 28th in the nation in state appropriations for agricultural research. Concurrently, federal funds for agricultural research have continued to trend downward, and a trend over the past two decades has been toward funding more basic research, thus placing the onus on states to fund applied research focused on local agricultural issues and commodities. The position paper written by WSU's Dean Bernardo may be found online.⁴⁶ A second challenge is the difficulty of keeping buildings, facilities, and equipment maintained on the cutting edge of science. A third is selecting and retaining the sets of scientists most relevant to the state's agricultural problems, and removing, where necessary, those emphases that are no longer productive.

FOF producer representatives agree that a fourth challenge is the fact that new research findings, innovations, and regulatory changes are coming from all sections of the world at an ever increasing rate. As a result, it is critically important that a system is in place to draw on the global body of science when needed, and to acquire the help of relevant scientists from other disciplines, other states, or other countries. From producers forward, FOF participants agree that it is critical to identify useful findings and innovations, test them, implement them in a timely manner, and educate growers on the-state-of-the-art in a more timely and effective manner to maximize the opportunity to remain viable. Clearly, agricultural research is changing rapidly as a result of evolving scientific discoveries within the global body of knowledge and the needs of the industry. While the demand for



research programs and discovery in traditional areas (e.g., cropping systems, plant protection, animal nutrition) continues, significant research opportunities exist across a variety of emerging areas including the life sciences, automation and mechanization, water efficient crop varieties and water conveyance and application systems, health and nutrition, biofuels and bioproducts, and animal health. Strategic investment in these example areas and divestment in areas that have reached maturity could greatly enhance the future competitive position of Washington agriculture relative to its global competitors.

4.9

Factor 4 – Processing / Preparation

A strong processing sector is vital to continued profitable production:

- Provide leadership and outreach to support the symbiotic relationship between a vibrant processing sector and retention of farmers. This includes both higher-profile processing such as milk, and value-adding activities such as seed conditioning, apple packing, grain storage, animal / meat processing, etc.

The processing and preparation sector of the state’s food system is pivotal to the economic health of the state’s agriculture and its rural areas. According to ESD, 34,100 people were employed in food manufacturing in 2007. The sector depends on a plentiful supply of raw product from state farmers. If that supply is threatened by shrinkage of farm operations, the processing / preparation sector cannot expand. In turn, if the processing / preparation sector is not expanding, it reduces the potential market for the output of the state’s farmers, and threatens the economic viability of farms that have no alternative large-volume markets. Globalwise, Inc. wrote an overview of major food processing in Washington.⁴⁷ Georgine Yorgey wrote a detailed assessment of meat processing in Washington.⁴⁸ Yorgey’s analysis of the trends in this sector also applies to other processing sectors in the state.

The major challenge for the sector is that larger regional companies are moving out of state, or choosing not to locate here. Processor representatives claim that Washington is losing its competitiveness in the global market as a base for food processing because it is losing many of its past advantages, including relatively plentiful and cheap land, water, energy, and labor, and a favorable regulatory environment. They blame rising costs and reduced supplies of these key inputs on federal and state policies that have paid little attention to the special needs of the sector. The regulatory burden has become “huge” (their words), ever changing, and frequently internally conflicting. Small-scale processors see many opportunities in local, organic, and other niche markets, but face challenges in meeting state and federal



standards without the modern infrastructure available to their larger competitors.

In the spring of 2004, the Northwest Food Processing Association (NWFPA) Board of Directors launched an aggressive cluster initiative with a goal to reposition the Idaho, Oregon, and Washington food processing industries to compete globally. NWFPA began developing a strategic plan that engaged all members of the cluster to identify strengths and weaknesses, frame and prioritize issues, cultivate champions to drive implementation, and catalyze action around targeted strategic recommendations. The resulting Cluster Assessment and Roadmap executive summary is found on NWFPA's website.⁴⁹ The FOF findings coincide with NWFPA's statement that "changes in the market, consumer demands, increasing environmental regulation, concerns over security, energy supply, and fair trade practices are driving food processors to adopt new practices in marketing, product development, manufacturing, supply chain management, and workforce training. The dual challenge of consolidation of buyers (retailers, distributors, food service, and re-manufacturers) and the increasing costs of labor, energy, transportation and logistics, water treatment, and regulatory compliance are squeezing profit margins."

Washington needs to gain a better understanding of how these different factors are affecting the retention or expansion of both large-scale and small-scale processing and preparation in the state. A topic discussed more fully under regulations, steps need to be taken to identify what actions are necessary in terms of altering laws and regulations or providing more information, technical assistance, or other aid, to ensure the viability of the sector through 2020 and beyond.



The future of farming in Washington will be heavily influenced by how successful agriculture is in enhancing its local, regional and global marketing efforts:

- Enhance local, regional, and global marketing efforts and support, including compliance assistance and provision of timely and cost efficient inspection, certification, and documentation of products for domestic and international sales
- Launch a “Grown in Washington” program in partnership with industry, including producers, processors, retailers, and educators (closely aligned with economic development)
- Maximize capabilities in market intelligence, analysis, promotion and support to serve current and emerging global markets for which Washington has strong competitive advantages, coordinating actions with existing capacities when possible
- Encourage and support industry innovation to identify all demand-led production, value added, and niche potentials
- Continue to develop Washington’s deserved reputation for quality agricultural products

The future of farming in Washington will be heavily influenced by how successful agriculture is in local, regional, and global marketing efforts. Some producers market directly to consumers, but the bulk of farm gate value is sold to intermediate brokers, packers, processors, and other system buyers. Although producers and specialists participating in the FOF work did not emphasize marketing as an overall priority, participants agree that Washington agriculture faces increasing competition both in domestic and world markets from other suppliers that already have advantages in lower costs and higher government supports. The competition is becoming better funded and more sophisticated marketers. Washington cannot afford to divest the system of marketing support services.

Washington has the capacity to produce up to four times the volume of agricultural commodities than can be sold within the state, so marketing is crucial in keeping farmers viable. Effective marketing enables products to be sold around the world at a price that covers all preparation, processing, transportation, and distribution costs, and still return an adequate profit to the producer. The private sector invests heavily in these and other marketing functions, such as choosing the most appropriate products, prices, packaging, and promotion for different markets. Industry organizations in-state (described in section 4.12 Producer Associations and Formal Commissions) provide information and communication. Many are also affiliated with regional or national bodies such as U.S. Wheat Associates or the U.S.

Apple Association, which include the provision of marketing services among their major activities. Larger food producers are generally better positioned to take advantage of expanding overseas markets, and often have dedicated marketing staff able to navigate the many rules, trade agreements, and government-government interactions. However, they still rely on trade organizations, commodity groups, and government agencies to gain access to these markets, resolve trade barriers, and deal with government officials.

Consolidation and growth of large farms, large processors, and large retailers increases the pressure on smaller producers to develop markets and promote products more aggressively. Because many enterprises and organizations engaged in agricultural marketing are relatively small, government is relied upon to provide other marketing functions described earlier in section VI, such as transportation infrastructure, education, scientific research, and extension. Small and medium-sized producers are economically pressured to directly market their products, bypassing middlemen for added income. Two current and evolving factors critical to viability are development of the processing infrastructure discussed in section 4.9 and the marketing infrastructure described in the Organic and Local Food Economy working paper.⁵⁰

The U.S. Department of Agriculture has numerous agencies and programs that provide funds to the state and commodity groups to promote and finance exports and provide marketing assistance, including the Commodity Credit Corporation (finance), the Agricultural Marketing Service, the Economic Research Service, the National Agricultural Statistics Service (NASS), and the Foreign Agriculture Service (FAS). USDA administers specific programs to assist export marketing, such as matching grants through the Market Access Program, that are used by many Washington commodity commissions. The USDA is the lead agency in implementing international trade agreements for agricultural products.

The Washington State Department of Agriculture administers a number of marketing programs including the International Marketing and Export Assistance program, the From the Heart of Washington program, and the Small Farm and the Direct Marketing program.⁵¹

Both federal and state governments administer legislation that permits producers to band together in marketing orders or commissions without breaching anti-trust laws. Many of the funds raised from grower assessments for these marketing orders and commissions are devoted to marketing activities such as marketing research, promotion, public relations, and export market development.

EXPORT MARKETS

In section 3.1 of this report the work of AG 2000 was reviewed. All participants on the review team agreed that certain elements of



the 20 year old plan were still valid today. As a powerful example, the economic strategy associated with Washington's work to serve the emerging international markets is still defensible today and is expected to remain so into the foreseeable future.

Although there are numerous marketing programs currently managed by Washington entities, and tremendous strides have been made during the past 20 years, the importance of continued attention to serving international markets is critical for the future of Washington agriculture. Findings of AG 2000 were:

- Expand market information programs
- Target market analyses
- Refine product development process
- Provide production promotion support
- Enhance marketing support programs and services

4.11 Factor 6 - Information, Communication and Outreach

Apply the breadth of trusted communication modes to the advantage of Washington's dispersed agriculture industry and to consumers:

- Improve the understanding of farming's story both within industry and to legislators, regulators, labor agents, consumers, environmentalists, and natural resource managers through information disseminated by agencies, industry associations, and commodity commissions
- Leverage information and trusted communication modes to educate producers, potential producers, and processors about how to operate effectively in the agriculture business environment

Many farmers in the Future of Farming surveys and discussion groups saw a need for agriculture to do a better job of communications within the industry and of telling its story to the general public. There was a widespread belief that agriculture's importance to the global food system, to both urban and rural communities, and to general welfare, was poorly understood by the public and often misrepresented. This lack of communication can lead to government policies unfavorable to agriculture. Many also believe agriculture is not effective in helping its own communities and the general public to be aware of potential careers in agriculture.

The Future of Farming project interviewed a variety of producers, association representatives, agricultural economists, and communications specialists to learn more about how they exchange information within the industry and with the public.⁵² The major

sources of information for producers cited in descending order of trust are word-of-mouth, seminars and workshops, trade associations, extension agents, trade media, government agencies, company representatives and field agents, and the mainstream media. Word-of-mouth included the influence of teachers, friends, relatives and opinion-makers, the so-called “Oprah Winfrey” effect. The Future of Farming listening sessions heard that many agriculturalists listen to “other producers.” For consumers, the major trusted sources of information in descending order are word-of-mouth, point-of-sale in stores, mainstream media, trade associations, and government agencies. Consumers rarely accessed many of the information sources on agriculture that were available to producers.

Communication specialists saw both strengths and weaknesses in the major methods of communication. Word-of-mouth is very effective, but vulnerable to distortion. Many producers do not use e-mail, while many of those who do use it suffer from information overload. Web sites can provide useful access to documents and regulations, but can be time-consuming to use. Agencies often put information on web sites in a passive manner that does not attract the attention of those to whom the information may be vital. There is a lack of coordination between key agencies in sharing information. Radio is effective in a number of languages, but mainly reaches the driving public. Local weekly and daily newspapers provide more trusted information on agricultural issues than major daily newspapers. The major U.S. media often distort agricultural issues, partly because they do not understand them. Major trade, association, and commission publications are trusted but not available to the general public.

Respondents agreed that agriculture needs to close the “perception gap” between agricultural realities and the public’s understanding of the agricultural situation. It was important to equip what the report called “information ambassadors”: that is, trusted and influential leaders in agriculture, with the information and tools they need to influence producers and the general public. Respondents agreed that winning the information battle was essential to the survival of the state’s agriculture. Agriculture’s information efforts are currently inadequate for the task ahead, both educating those in the agricultural industry on what they need to know to operate in compliance with rules and regulations effectively, and educating the general public about the importance and societal contributions of agriculture. In fact, in every FOF venue one unambiguous message was repeated by producers, service providers, and agency leads: “When all participants become more educated about each other’s needs, they all become more effective.”

The Future of Farming survey and listening sessions revealed that there is a more unified vision amongst the state’s producers than is commonly reported or believed. On the other hand, there has been little attempt to bring together a common message to be delivered to consumers, policy makers or across sectors. Consistent with the

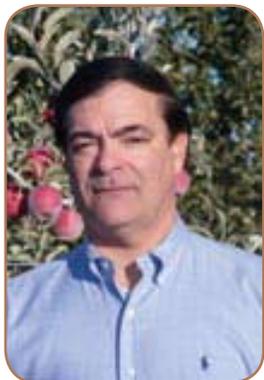


recommendation found above in Category 1, to make agriculture a priority, participants suggested that Washington might consider the Idaho model of an agricultural summit with the goal to discuss and solidify the industry message and to galvanize industry support. Most importantly, policy makers must consider the appropriate non partisan and unbiased modes of communication to be used to get the word out (Communications paper⁵²).

4.12 Factor 7 - Producer Associations and Formal Commissions

Leverage the expertise and trusted messenger role of industry associations and commissions:

- Continue and enhance capability to proactively identify and communicate innovative and new products, markets, technologies, and processes that sustain profitable production
- Encourage associations and commissions to continue to assess the relevance of current goals and programs
- Investigate ways in which they can facilitate a more timely adoption of new computing and telecommunication advances to best assist farmers



The commodity commissions provide for the orderly, fair, efficient, and unhampered marketing of agricultural commodities produced in Washington. Each commission represents producers or handlers of a specific commodity. Agricultural commodity commissions⁵³ operate under a separate statute or under the provisions of a marketing order adopted by the Director of Agriculture. The marketing order provides for the goals and objectives of the commodity commission. The producers or handlers of an agricultural commodity must approve the marketing order by referendum. Each agricultural commodity commission is composed of industry representatives who are elected or appointed to the commission. Depending on the statute or marketing order, an agricultural commodity commission may develop and engage in research that benefits the planting, production, harvesting, handling, processing, or marketing of the specified agricultural commodity; promote an agricultural commodity or expand markets through advertising and promotional campaigns; provide for labeling practices, consumer education programs, and dissemination of information to the industry; or take measures to prevent unfair trade practices.

Each commodity commission's activities are funded almost entirely through assessments paid by the producers or handlers on the commodity produced. The commissions are supported by local funds that are not budgeted or appropriated and are subject to state audit. In 2007, commissions raised assessments of \$27.1 million for research, promotion and all other activities. Those assessments amounted to only one third of one percent of the value of the state's agricultural output.

WSDA keeps a list of Washington agricultural organizations as a service to interested persons.⁵⁴ Associations and organizations form in response to needs identified by producers and close industry links, thus the comprehensive list changes along with rapidly evolving industry needs. There are currently at least 38 grower membership associations representing individual commodities. There are three general farm organizations with voluntary memberships that deal with cross-commodity issues. There are also numerous specialized organizations that deal with food processing, transportation, trade, labor, conservation, development, or other pertinent issues. When these organizations speak with one voice, they can be very effective in advancing agricultural causes. However, because of their different commodity bases, regional locations, philosophical perspectives, or ancillary businesses, unanimity is often difficult to achieve.

The industry is simultaneously over-served and under-served with organizations and associations. As one over-service example, the Washington tree fruit industry is served by, and helps fund, the Washington Horticultural Association,⁵⁵ the Yakima Valley Growers-Shippers Association,⁵⁶ the Washington Growers Clearing House,⁵⁷ the Northwest Horticultural Council,⁵⁸ the Washington Growers League,⁵⁹ the Marketing Associations⁶⁰ that represent four separate fruit marketing cooperatives organized under the Capper-Volstead Act, two traffic associations, three state commissions (discussed above), and numerous marketing order committees. The respective missions of these associations are stated on the opening pages of their web sites.

The agricultural industry is under-served with organizations and associations in the sense that many of them have limited funds and staffing, and limited mandates from their grower members to service new areas of need. The problem of funding has been exacerbated by the departure of many growers from the industry during the 1995-2005 decade and the narrow profit margins of the remaining growers. During that same period, growers have faced a steady stream of new regulations, procedures, and record-keeping requirements from governments, and of new standards and certifications required by retailers. Many growers lack either the time or the expertise to interpret these new demands and develop acceptable protocols on their own. Thus, one area of need is compliance with regulations. Agricultural organizations could develop templates that thousands of growers could use, and make them available to growers on their web sites, or could provide telephone or in-person guidance. However, providing such services would require changes in the goals and operations of agricultural organizations and associations.

According to the communications paper developed for FOF, commissions and associations are trusted industry messengers. Thus, ex-



“Inputs are going up and margins are going down. We have to share that information. We’d like to look in the crystal ball and say fuel will go down, but look at the world economy.”



pansion of their role in helping growers with regulatory compliance and in other areas would serve both growers and the general public.

Category 5 - Harness Emerging Opportunities

Prosperity of farming in Washington will depend in part on the industry's ability to recognize and tap into emerging opportunities including technologies in a timely manner. The future is unknown, but there is evidence that the factors below merit acknowledgment, monitoring, and appropriate industry response.

4.13 Factor 1 - Organic, Sustainable, and Local Demand

Leverage the increased interest in local, organic, and other new product categories into demand sufficient to market them at the required prices:

- Continue to promote consumption of locally grown products, institutional buying of Washington products
- Provide and enhance the regulatory and advisory structure to assure the integrity of the state's organic production
- Enhance research, extension, and teaching in organic and alternative production and marketing of agricultural products
- Encourage consolidation of definition and certification requirements for "sustainability"

Demand for conventional agricultural products is based on such intrinsic qualities as size, color, taste, and texture. However, demand has been growing for products that also possess certain extrinsic qualities such as being grown organically, being grown sustainably, or being grown locally. Of these three, organic products are most distinctive, since "Organic" has been defined in the Organic Foods Production Act of 1990. In addition, producers and handlers must operate under the guidelines of national organic standards, and formal systems are in place for auditing and certifying the integrity of organic product claims. Certification is vital because much of the success of organic sales depends on consumers' trust that the products are produced under strict adherence to these national and international organic standards. Organic production has grown rapidly from a small base in both the United States and in Washington. In 2007 organic production in Washington accounted for less than 1 percent of farm acreage, 2.2 percent of producers and 3 percent of the total value of farm sales.

Organic products generally sell at a premium over comparable conventional products, but unit costs of production are also frequent-

ly higher. Therefore, if the premium does not exist, the producer will revert to conventional practices. In the last few years, the demand for organic products has widened beyond the circle of core buyers, in part supported by the efforts of major retailers such as Walmart and Safeway to expand their organic offerings. More large suppliers are boosting their organic production capacity to meet that demand. Organic production in Washington is likely to further increase in the next few years if the consuming public continues to demand and pay for certified organic products. If demand does not keep up with supply, there will be downward pressure on prices. In fact, the apple industry is experiencing this phenomenon now. In 2008 organic apple production doubled that of 2007. Clearly, over time organic producers across products will need to increase their marketing efforts and reduce their unit production costs in order to remain viable, especially during economic downturns.

State leadership representing organic, sustainable, and local products unified to write a working paper for the Future of Farming project. The group supports ideas that lead to smoother and more unified marketing systems, more transparent labeling and communications, and alleviation of obstacles to production and processing.⁶¹

4.14 Factor 2 - Influence of Multi-Year Farm Bills

The 2008 Farm Bill added millions of dollars for specialty Crops:

- Advocate for Washington agriculture in the development of new Farm Bills
- Leverage the Farm Bill programs
- Identify the USDA programs and state level service providers capable of assisting producers and processors to access all Farm Bill resources

Farm Bills have affected land use, income support, environmental programs, research and education, and other factors over time. Washington agriculture needs to take full advantage of the resources provided by the 2008 Farm Bill.

The Food, Conservation, and Energy Act of 2008 (PL 110-246) is the most recent omnibus Farm Bill to be passed. Congress renews the Farm Bill about every five years and these bills govern federal farm and food policy. The current bill contains fifteen titles covering support for commodity crops, horticulture and livestock production, conservation, nutrition, trade and food aid, agricultural research, farm credit, rural development, energy, forestry, and other programs. The bill runs through FY2012.⁶²



The 2008 Farm Bill contains administrative and funding authorities for numerous programs administered by the United States Department of Agriculture which are beneficial to Washington's agriculture. While the bill continues the safety net for commodity crops such as wheat, it also provides substantial new resources for specialty crops. Since Washington also has a national competitive advantage in specialty crops, this is good for the state's producers. Conservation programs received increased funding in the new Farm Bill, and the Country of Origin Labels (COOL) for perishables is expanded and initiated. The conservation provisions in the 2008 Farm Bill will affect farmers for years to come. The new provisions build on the conservation gains made by landowners over the past decade. They simplify existing programs and create new programs to address high priority goals. Specific emphasis in the Farm Bill is also placed on assistance to organic and specialty crop producers, as well as beginning and socially disadvantaged farmers. Producers who fall under these emphasis areas, along with conventional farmers, can take advantage of technical and financial assistance to help them address resource problems on their land. This could include issues like integrated pest management, precision agriculture, irrigation efficiency, erosion control and water quality. For better understanding of Farm Bill programs specific to Natural Resources Conservation Service visit USDA website.⁶³

4.15

Factor 3 - Food Safety and Food Security



Consumer demand for products requiring handling and production is increasing: therefore the programs for regulation and education must adapt proportionately:

- Examine how federal and state agencies and industry organizations can better share knowledge, technology, processes, or protocols to enhance the safety of all food produced in Washington and safeguard the competitive advantage of Washington's outstanding food safety reputation
- Assess the role and opportunities that Washington can take in both local and global food security including plant and animal disease

FOOD SAFETY

There is continuing and evolving need to reduce the risk to public health by assuring the safety of the food supply. Food safety is both a public health and an economic issue. Obviously the proper handling and processing of food using safe, sanitary methods is necessary to prevent human illness and the spread of disease. Food is also a major industry and a significant employer. The production and perception of safe, high quality food products is essential for ensuring robust sales of quality products will command premium prices in a competitive global marketplace.

The mission carried out by WSDA of regulating, licensing, and inspecting the food processing, dairy, egg, and storage industry will continue and will change. WSDA expects an increased role in assuring the safety of fresh consumed agricultural products and continuing improvements in control methods. Consumers are demanding more convenient, ready to eat produce, so handling and associated sanitation compliance are more important. Retail and food service businesses are verifying that suppliers meet specific agricultural best practices, thus growers and handlers are increasingly subject to Good Agricultural Practice (GAP) and Good Handling Practice (GHP) requirements. This is a national trend for which USDA's Agricultural Marketing Service (AMS) currently provides an audit oversight program for GAP, GHP, and tomato marketing agreements. The Food and Drug Administration (FDA) adopted and plans to expand the system known as Hazard Analysis and Critical Control Point (HACCP). Traditionally, industry and regulators have depended on spot-checks of manufacturing conditions and random sampling of final products to ensure safe food, which is sometimes viewed as reactive rather than preventive. Since the HACCP system is considered preventive, the FDA is considering developing regulations that would establish HACCP as the food safety standard in other areas of the food industry.

Another component of food safety is the continuing education of both producers and consumers. Food producers vary widely in their awareness and expertise of food safety and sanitation. In addition, security of production facilities and ingredients has become another component of food safety. There will be a continuing need to efficiently deliver training and to direct producers to resources to help them meet food safety requirements. Finally, education for consumers of the benefits and hazards of certain types of foods is a component that is increasing demand on government and industry resources.



FOOD SECURITY

Food Security is the overall protection of food supply. According to experts in the WSDA and many other states and nations, there is an increasing role for addressing food security at local, regional, and national levels. The definition of food security has broadened in recent years.

In the past, the only meaning of Food Security was for people to be able to secure safe, nutritious, affordable, and culturally appropriate food. Now, Food Security includes preventing or eliminating deliberate contamination of food. It also means that Food Security is important not only on the farm, but also everywhere in the cycle from the ‘Farm to the Fork’.

4.16

Factor 4 - Climate Change

Washington producers have adopted resource conservation practices for decades. new perceptions and concerns regarding climate change can be addressed through similar processes:

- Implement approaches for farmers to receive benefits for practices and/or ecological goods and services that they may develop or provide
- Develop systems to allow voluntary farmer participation in carbon markets and carbon offset or other credits
- Encourage additional conservation through best practices such as energy conservation, conversion to lower water use crops or varieties, and more efficient conveyance and application systems as appropriate responses to potential climate change
- Continue to investigate the potential negative consequences of climate change, including policy, on agriculture, such as water availability, flooding, and increase in invasive species, and fuel allowance tax offsets

COPING WITH CLIMATE CHANGE

The FOF process received mixed responses to the evolving attention to climate change. The principal concern of producers participating in listening sessions is that it will add more restrictions and compliance requirement layers on Washington’s agricultural industry.

Yet, governments at international, national, and state levels are already committed to taking actions to mitigate and adapt to climate change by reducing greenhouse gas emissions and preparing for adverse effects. Agriculture may be called upon to make its share



of the adaptations in practices needed to reduce energy use and pollution emissions. It will be vital to keep farmers and agribusinesses informed as knowledge improves on the causes and consequences of climate change, to have their active participation in the formulation and application of climate change policies, and to help them utilize developing carbon markets to their advantage.

New policies and practices need to keep in mind the highly competitive global market in which Washington agriculture operates. Even minor additions to regulatory burdens could threaten the survival of many farms and agribusinesses. At this point, it appears that there are very few potential direct liabilities facing farmers due to climate change policy. There may, however, be indirect costs that will impact farmers such as increased cost of inputs (power and manufactured and raw materials).

According to research, climatic changes already under way could threaten the supply of irrigation water for agriculture if, for example, the mountains receive less precipitation in winter, or if warmer weather in the spring hastens or renders unpredictable run-off. Changes are probably needed in the state's water storage and distribution system to offset these effects. Continued state investment to convert to more efficient conveyance and application systems would be an appropriate response. Producers of different commodities may also need help in making the necessary adjustments to climate change. For example, earlier springs or later falls could alter the suitability of different seed varieties or different rootstocks for Washington conditions. The development of lower water use varieties in both food and nursery products may be a useful area for future research. Increases in incidence of extreme weather, such as frost, hail, wind, or sun could require expensive prophylactic measures. The support of science and technology will be critical in helping agriculture overcome these potential changes.



On one hand, production agriculture sequesters a significant amount of greenhouse gases, while on the other hand it is seen as a contributor to the emission of greenhouse gases and a heavy user of fossil fuels in their many forms. Agriculture is likely to be penalized or taxed for perceived gas contributions. However, agriculture has the potential to further contribute to the reduction of greenhouse gas emissions. Certain practices such as no-till farming and managed grazing contribute to the process of storing carbon in the soil. Over 95.4 million Washington orchard trees absorb greenhouse gases. The major uncertainty for agriculture is for which practices they might get credit and how much credit they might get. An example of current work is the Western Climate Initiative created to identify, evaluate, and implement collective and cooperative ways to reduce greenhouse gases in the region, focusing on a market-based cap-and-trade system.

Investment strategies designed to support Washington agriculture for the next 20 – 40 years need to provide adequate consideration for climate change. Generally speaking, early evidence indicates that climate change will likely require additional management efforts and costs for many existing agricultural production systems in the state, and potentially could force substantial shifts for some of our agricultural production systems. More detailed assessment will be needed to understand the relative impact of these possible changes.

Legally binding carbon / greenhouse gas mitigation policies are likely to emerge in the next few years, both at a regional and federal level. While it appears at this time that none of these will directly “cap” emissions from agriculture, they will likely have indirect consequences for agricultural production. Agriculture has the potential to continue and further reduce greenhouse gas emissions and increase soil carbon sequestration that would help meet emission reduction goals (Climate Change paper⁶⁴).

Washington is in a difficult place regarding agricultural investment related to climate change. The reality is that there is limited potential for climate change-related financial investment and immense political pressure to direct that investment toward transportation emission reductions rather than agriculture. The diversity of the agriculture industry makes it difficult to define a strategic investment that benefits the majority of farmers. Two guiding principles that might be utilized to guide investment decisions are (1) investment in “mitigation” and “adaptation” technologies are frequently the same investment, and (2) use limited public resources to enhance market opportunities [in the broadest sense of the word – not just carbon credits]. These principles encourage the agriculture industry to continue ongoing adoption of technologies and practices, such as energy conservation, that generally improve farm profitability, durability, and resiliency to a changing climate while also mitigating emissions or storing carbon. More information about current climate change initiatives can be found online.⁶⁵

Volatility of the industry indicates that the future of agriculture is partially dependent upon using the tools of risk management:

- Train educators and producers in methods to more effectively evaluate and manage risks that jeopardize profitability
- Work more closely with USDA's Risk Management Agency and other programs to identify the special risks faced by Washington farmers and gaps in current programs that need to be filled

Agriculture is by its very nature an endeavor facing many risks. Producers, even in favorable economic times, must develop effective strategies to deal with a wide ranging list of risks including the uncertainties of weather and climate, disease, energy, water, markets, consumer preferences, health, transportation, regulations, finance, transitions from one generation to the next, labor issues including labor supply, and globalization.

As the problems in the economy in general have an impact on the agricultural economy, agricultural businesses, from the smallest farm to the largest commodity producer, large input suppliers, credit providers, and marketing agents are entering a time of greatly increased risks. Most recently, the great variability in agricultural crop and livestock prices, input and other costs, a strengthening dollar coupled with the softening of major export markets, the failure of major agribusiness firms, problems in credit markets, and the tightening of investment resources has created an unprecedented fast moving environment of uncertainty. This adds a layer of risk that in some cases dwarfs the risks producers and agribusinesses have had to deal with in the past. Effective risk management tools and skills have never been more important to the success of the individual businesses involved in Washington agriculture. WSU Extension Western Center for Risk Management Education is proactively assisting Washington industry through outreach and training.⁶⁶



Acronyms

American Farmland Trust (AFT)
 Agricultural Marketing Service (AMS)
 College of Agricultural, Human and Natural Resource Sciences (CAHNRS)
 Cost Of Community Services (COCS)
 Country of Origin Labels (COOL)
 Columbia River Implementation Team (CRIT)
 Community Supported Agriculture (CSAs)
 Department of Community, Trade and Economic Development (CTED)
 Foreign Agriculture Service (FAS)
 Food and Drug Administration (FDA)
 Future of Farming (FOF)
 Good Agricultural Practice (GAP)
 Good Handling Practice (GHP)
 Hazard Analysis and Critical Control Point (HACCP)
 Washington State Department of Labor and Industries (L&I)



National Agricultural Statistics Service (NASS)
 Northwest Food Processing Association (NWFPA)
 Office of Farmland Preservation (OFP)
 U.S. Occupational Safety and Health Agency (OSHA)
 Standard Metropolitan Statistical Areas (SMSAs)
 Water Resources Advisory Committee (WRAC)
 Washington State Department of Agriculture (WSDA)

Hyperlinks

I. Mission

II. Background

- ¹<http://www.merriam-webster.com/dictionary/agriculture>
- ²<http://agr.wa.gov/fof/appendix.aspx>
- ³<http://agr.wa.gov/fof/docs/PeerReview.pdf>
- ⁴<http://agr.wa.gov/fof/docs/SurveySummary.pdf>
- ⁵<http://agr.wa.gov/fof/docs/AgriculturalEducators.pdf>
- ⁶<http://agr.wa.gov/fof>

III. Situation of Agriculture in Washington

- ⁷<http://agr.wa.gov/fof/docs/Ag2000Strategic-Plan.pdf>
- ⁸<http://agr.wa.gov/fof/docs/Review-ofAG2000-Project.pdf>
- ⁹<http://www.nass.usda.gov/hi/stats/stat-159.pdf>
- ¹⁰<http://agr.wa.gov/fof/docs/LandStats.pdf>
- ¹¹<http://agr.wa.gov/fof/docs/AgricultureSystems.pdf>
- ¹²http://www.nass.usda.gov/Statistics_by_State/Washington/Publications/Annual_Statistical_Bulletin/annual2008.pdf

- ¹³<http://agr.wa.gov/fof/appendix.aspx>
- ¹⁴<http://agr.wa.gov/fof/docs/TreeFruit.pdf>
- ¹⁵<http://agr.wa.gov/fof/docs/GrainAlliance.pdf>
- ¹⁶<http://agr.wa.gov/fof/docs/Dairy.pdf>
- ¹⁷<http://agr.wa.gov/fof/docs/Potatoes.pdf>
- ¹⁸<http://agr.wa.gov/fof/docs/Beef.pdf>
- ¹⁹<http://agr.wa.gov/fof/docs/Organics.pdf>
- ²⁰http://www4.law.cornell.edu/uscode/search/display.tml?terms=3103&url=/uscode/html/uscode07/usc_sec_07_00003103----000-.html
- ²¹<http://www.unitedfresh.org/>
- ²²<http://agr.wa.gov/fof/docs/OrganicsLocalFoods.pdf>
- ²³<http://agr.wa.gov/fof/docs/Competitiveness.pdf>
- ²⁴<http://agr.wa.gov/fof/docs/LandStats.pdf>
- ²⁵<http://agr.wa.gov/fof/docs/Energy.pdf>
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- ²⁹<http://agr.wa.gov/fof/docs/Transportation.pdf>
- IV. Categories, Factors, and Recommendations**
- ³⁰<http://agr.wa.gov/fof/docs/Shellfish.pdf>
- ³¹<http://agr.wa.gov/fof/docs/RegulatoryBurden.pdf>
- ³²<http://agr.wa.gov/fof/docs/EnvironmentalRegulations.pdf>
- ³³<http://ofp.scc.wa.gov/>
- ³⁴<http://agr.wa.gov/fof/docs/LandStats.pdf>
- ³⁵http://www.farmlandinfo.org/documents/27757/COCS_09-2007.pdf
- ³⁶<http://agr.wa.gov/fof/docs/COCS.pdf>
- ³⁷<http://agr.wa.gov/fof/docs/LandProtectionPrograms.pdf>
- ³⁸http://agr.wa.gov/fof/docs/LaborOverview_06%2007.pdf
- ³⁹http://www.agribusiness-mgmt.wsu.edu/AgbusResearch/docs/eb1999e_minwage.pdf
- ⁴⁰<http://agr.wa.gov/fof/docs/FarmCredit.pdf>
- ⁴¹<http://agr.wa.gov/fof/docs/AgriculturalEducators.pdf>
- ⁴²<http://agr.wa.gov/fof/docs/AgEdMatrix.pdf>
- ⁴³<http://agr.wa.gov/fof/docs/Transportation.pdf>
- ⁴⁴http://agr.wa.gov/fof/docs/Transportation_Initiatives.pdf
- ⁴⁵<http://www.ers.usda.gov/Publications/EB10/>
- ⁴⁶<http://agr.wa.gov/fof/docs/ResearchAndEducation.pdf>
- ⁴⁷<http://agr.wa.gov/fof/docs/MajorFoodProcessing.pdf>
- ⁴⁸<http://agr.wa.gov/fof/docs/MeatProcessing.pdf>
- ⁴⁹http://www.nwfpa.org/eweb/docs/Webposting_doc/news_files/ClusterAssessment_ExecutiveSummary.pdf
- ⁵⁰<http://agr.wa.gov/fof/docs/OrganicsLocalFoods.pdf>
- ⁵¹<http://agr.wa.gov/Marketing/>
- ⁵²<http://agr.wa.gov/fof/docs/Communications.pdf>
- ⁵³<http://agr.wa.gov/Marketing/CommodityCommissions/>
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- ⁵⁵<http://www.wahort.org>
- ⁵⁶<http://www.yvgsa.com>
- ⁵⁷<http://www.waclearinghouse.org>
- ⁵⁸<http://www.nwhort.org>
- ⁵⁹<http://www.growersleague.org>
- ⁶⁰<http://www.themarketingassociations.org>
- ⁶¹<http://agr.wa.gov/fof/docs/OrganicsLocalFoods.pdf>
- ⁶²http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_2KD?navid=FARMBILL2008&navtype=WA
- ⁶³<http://www.wa.nrcs.usda.gov/programs/index.html>
- ⁶⁴<http://agr.wa.gov/fof/docs/ClimateChange.pdf>
- ⁶⁵<http://www.westernclimateinitiative.org/>
- ⁶⁶<http://westrme.wsu.edu/>



Detailed Recommendations by Category and Subcategory

CATEGORIES	RECOMMENDATIONS
<p>Category 1: MAKE AGRICULTURE A PRIORITY: <i>Farming needs to be given the priority it merits by the citizens and lawmakers of Washington. Farmers are stewards of much of the state's land and of the esthetic values of the countryside, provide food for the citizens of Washington and many other people around the world, and are a major contributor to the state's economy.</i></p>	<ul style="list-style-type: none"> • Provide an environment conducive for Washington's agricultural producers, agribusinesses and new agricultural products and services. • Annually assemble agency and industry leadership to discuss topics such as: regulatory framework, land, water, labor, transportation, research, education, energy, and public sector's role in enhancing the business environment. • Create and financially support a strategic and tactical agricultural economic development program carried out in partnership with the agricultural industry focusing on the findings of the Future of Farming strategic plan. <ul style="list-style-type: none"> – Evaluate other states' agricultural coalition strategies to determine which have been most productive. Identify the Washington implementation agent that may be appropriate for positive coalition leadership and strategy development – Direct state funded entities impacting agriculture to consider impacts on the agricultural industry as a unified system – Foster creative solutions and innovation from within agriculture, within the state or from other states and countries
<p>Category 2: ELIMINATE REGULATORY BARRIERS: <i>Assess and reform the accumulated and complex regulations impacting agriculture to promote the competitiveness of farming in Washington.</i></p>	<ul style="list-style-type: none"> • Establish a Blue Ribbon Panel to evaluate the impact of regulations on agricultural production, processing, profitability, and competitiveness, to mitigate duplication, contradiction, unintended consequences and other factors burdening the system. <ul style="list-style-type: none"> – Assure reasoned decisions that do not disadvantage the competitiveness of Washington agriculture • Direct regulatory agencies to provide outreach and educate producers and processors about rule and regulation requirements. Increase efficiencies through providing concise, accurate summaries of applicable rules in writing. • Direct regulatory agencies that have overlapping authority to meet annually to discuss industry compliance issues, share their educational outreach presentations, and to ensure the rules and interpretation of the rules are consistent. • Construct a model Agricultural Impact Statement that can be used to assess and document the effect of state agency actions prior to their implementation. • Implement streamlined application and reporting processes to minimize redundant paperwork and simplify applications for licenses and permits.

CATEGORIES	RECOMMENDATIONS
<p>Category 3: PROTECT RESOURCES</p>	<p>Policymakers need to ensure that farming has access to the key resources necessary to keep it viable. Among these the most critical are: land, water, labor, and electricity and other energy sources.</p>
<p>LAND: <i>The availability of productive and affordable land is essential to the continuation of agriculture.</i></p>	<ul style="list-style-type: none"> • Support the work of the Office of Farmland Preservation (OFP). • Protect Open Space Taxation for farmland. • Encourage county efforts under GMA to maintain and enhance natural resource-based industries. • Improve enforcement and outreach consistent with the intent of Right to Farm Laws. • Increase the understanding by public officials of the long-term negative fiscal impact of farmland conversion. • Ensure that state-owned and managed working lands use agricultural Best Management Practices to protect adjacent farms and ensures environmental stewardship.
<p>AGRICULTURAL WATER: <i>Competing demands threaten to reduce farming's access to the water needed to produce, pack, process, and distribute the state's farm products.</i></p>	<ul style="list-style-type: none"> • Conduct a state-wide assessment and prioritize projects for investment readiness; identify and apply for appropriate funding. • Change relinquishment statute to reward irrigation efficiencies and other best practices without removing water from agricultural land. • Develop watershed and other local level water resource management programs to continue water conservation, drainage, transfers, and irrigation efficiencies. • Upgrade and improve the antiquated water distribution, drainage and irrigation infrastructure. • Continue current efforts to identify, evaluate, and develop increased water availability including storage capacity, flexibility, and reuse.
<p>LABOR: <i>The availability of the labor force that is vital to conducting many farming activities is threatened.</i></p>	<ul style="list-style-type: none"> • Expand current migrant worker housing efforts and encourage producers, non-profit housing suppliers, and the private housing sector to replicate successful models. • Reform unemployment insurance and workers' compensation (L&I) programs to prevent uncompetitive increases in employers' costs. • Petition the federal government for a viable and predictable process ensuring sufficient numbers of legally authorized agricultural workers. • Amend labor laws to allow youth to work hours compatible with school vacations and consider tourist or intern program models found successful in other regions or counties. • Reform mandated increases in labor compensation laws that may make agriculture uncompetitive.

CATEGORIES	RECOMMENDATIONS
<p>ENERGY: <i>Rising costs of electricity and other energy sources put our competitive advantage in jeopardy</i></p>	<ul style="list-style-type: none"> • Continue to encourage and incentivize the development and adoption of conservation, energy-efficient, and energy generating technologies for agriculture, particularly for the use of liquid fuels. • Protect and promote current and potential energy and distribution sources (dams, windmills, methane digesters, etc.) that provide Washington agriculture a competitive advantage, and be ready to look ahead and respond. • Encourage the development and adoption of alternatives to imported fertilizer, including more efficient use technologies and alternative sources. • Increase the availability of natural resources such as land and water so that producers are better able to meet the increasing demand for renewable fuel crops in addition to the traditional food, fiber, feed, and forage.
<p>CAPITAL AND CREDIT</p>	<ul style="list-style-type: none"> • Work to assure adequate long-term capital and short-time credit for the state’s farmers and agribusinesses at reasonable cost.
<p>Category 4: STRENGTHEN SUPPORT SERVICES</p>	<p>The future competitiveness of farming in Washington requires strengthened support services.</p>
<p>EDUCATION: <i>Re-commit to agriculture and food system education infrastructure.</i></p>	<ul style="list-style-type: none"> • Invest in vocational and higher education agriculture programs. • Engage the agriculture industry to be proactive on solutions and to identify skill gaps and opportunities for current and future producers, processors, and workers. <ul style="list-style-type: none"> – Assess the performance of existing programs, increase flexibility of agricultural education programs to meet changing needs of the industry, and identify new strategies to recruit industry producers, processors and employees. • Focus efforts to make career and job opportunities in agriculture known to young people. • Continue and increase food system awareness programming in K-12 curriculum. • Disseminate research based information concerning the full range of food system supply to all Washington residents and decision-makers so that they are able to make informed personal choice and political decisions. • Promote beginning farmers and succession planning programs.

CATEGORIES	RECOMMENDATIONS
<p>TRANSPORTATION: <i>Assure the future of Washington's reliable and cost effective multi-modal system through collaboration with other agricultural and commercial allies to support initiatives and coalitions.</i></p>	<ul style="list-style-type: none"> • Continue to support WSDOT's Freight Transportation Strategy and finish authorized transportation projects for which funding have been approved. Focus on transportation modes that most efficiently address the state's producers and processors: rail, rivers and roads. • Make quality of service a condition of state funding for rail projects. • Work with federal, regional, state and private investors to improve the efficiency of the state's transportation infrastructure, its overall capacity and the ease of access to export ports, including air for perishable high-value products, and rail yards. For example, increase truck weight limits by adding a 3rd axle, allowing 20 percent greater capacity. • Improve rural farm service roads and bridges to handle increased loads.
<p>SCIENCE, TECHNOLOGY, RESEARCH AND DEVELOPMENT: <i>Innovation is key to agricultural viability in Washington.</i></p>	<ul style="list-style-type: none"> • Recognize the industry need for enhanced publicly funded agricultural research and associated transfer of findings that will permit Washington agriculture to remain competitive. • Increase state-funded support for food and agricultural research in recognition of the size and complexity of the state's industry. • Develop public-private partnerships to fund the development and renovation of agricultural research facilities.
<p>PROCESSING / PREPARATION: <i>A strong processing sector is vital to profitable production.</i></p>	<ul style="list-style-type: none"> • Provide leadership and outreach to support the symbiotic relationship between a vibrant processing sector and retention of farmers. This includes both higher profile processing such as milk, and value-adding activities such as seed conditioning, apple packing, grain storage, animal / meat processing, etc.
<p>MARKETING SERVICES: <i>The future of farming in Washington will be heavily influenced by how successful agriculture is in enhancing its local, regional and global marketing efforts.</i></p>	<ul style="list-style-type: none"> • Enhance local, regional, and global marketing efforts and support, including compliance assistance and provision of timely and cost efficient inspection, certification, and documentation of products for domestic and international sales. • Launch a "Grown in Washington" program in partnership with industry, including producers, processors, retailers, and educators (closely aligned with economic development). • Maximize capabilities in market intelligence, analysis, promotion and support to serve current and emerging global markets for which Washington has strong competitive advantages, coordinating actions with existing capacities when possible. • Encourage and support industry innovation to identify all demand-led production, value added, and niche potentials. • Continue to develop Washington's deserved reputation for quality agricultural products.

CATEGORIES	RECOMMENDATIONS
<p>INFORMATION, COMMUNICATION AND OUTREACH: <i>Apply the breadth of trusted communication modes to the advantage of Washington's dispersed agriculture industry and to consumers.</i></p>	<ul style="list-style-type: none"> • Improve the understanding of farming's story both within the industry and by legislators, regulators, labor agents, consumers, environmentalists, and natural resource managers through information disseminated by agencies, industry associations, and commodity commissions. • Leverage information and trusted communication modes to educate producers, potential producers, and processors about how to operate effectively in the agriculture business environment.
<p>PRODUCER ASSOCIATIONS AND FORMAL COMMISSIONS: <i>Leverage the expertise and trusted messenger role of industry associations and commissions.</i></p>	<ul style="list-style-type: none"> • Continue and enhance capability to proactively identify and communicate innovative and new products, markets, technologies and processes that sustain profitable production. • Encourage associations and commissions to continue to assess the relevance of current goals and programs. • Investigate ways in which they can facilitate a more timely adoption of new computing and telecommunication advances to best assist farmers.
<p>Category 5: HARNESS EMERGING OPPORTUNITIES</p>	<p>Prosperity of farming in Washington will depend in part on the industry's ability to recognize and tap into emerging opportunities in a timely manner. The future is unknown, but there is evidence that the factors below merit acknowledgement, monitoring, and appropriate industry response.</p>
<p>ORGANIC, SUSTAINABLE AND LOCAL: <i>Leverage the increased interest for products grown by organic, local farmers, and future developments, into demand sufficient to market the products at the required prices.</i></p>	<ul style="list-style-type: none"> • Continue to promote consumption of locally grown products, institutional buying of Washington products. • Provide and enhance the regulatory and advisory structure to assure the integrity of the state's organic production. • Enhance research, extension, and teaching in organic and alternative production and marketing of agricultural products. • Encourage consolidation of definition and certification requirements for "sustainability."
<p>INFLUENCE OF MULTI YEAR FARM BILLS: <i>The 2008 Farm Bill added millions of dollars for specialty crops.</i></p>	<ul style="list-style-type: none"> • Advocate for Washington agriculture in the development of new Farm Bills. • Leverage the Farm Bill programs. • Identify the USDA programs and state level service providers capable of assisting producers and processors to access all Farm Bill resources.

CATEGORIES	RECOMMENDATIONS
<p>FOOD SAFETY AND FOOD SECURITY: <i>Consumer demand for products requiring handling and protection is increasing; therefore the programs for regulation and education must adapt proportionately.</i></p>	<ul style="list-style-type: none"> • Examine how federal and state agencies and industry organizations can better share knowledge, technology, processes, or protocols to enhance the safety of all food produced in Washington and safeguard the competitive advantage of Washington’s outstanding food safety reputation. • Assess the role and opportunities that Washington can take in both local and global food security including plant and animal disease.
<p>CLIMATE CHANGE: <i>Washington producers have adopted many resource conservation practices for decades. New perceptions and concerns regarding climate change can be addressed through similar processes.</i></p>	<ul style="list-style-type: none"> • Implement approaches for farmers to receive benefits from practices and / or ecological goods and services that they may develop or provide. • Develop systems to allow voluntary farmer participation in carbon markets and carbon offset or other credits. • Encourage additional conservation through best practices such as energy conservation, conversion to lower water use crops or varieties, and more efficient conveyance and application systems as appropriate responses to potential climate change. • Continue to investigate the potential negative consequences of climate change, including policy, on agriculture, such as water availability, flooding, increase in invasive species, and fuel allowance tax offsets.
<p>RISK MANAGEMENT: <i>Volatility of the industry indicates that the future of agriculture is partially dependent upon using the tools of risk management.</i></p>	<ul style="list-style-type: none"> • Train educators and producers in methods to more effectively evaluate and manage risks that jeopardize profitability. • Work more closely with USDA’s Risk Management Agency and other programs to identify the special risks faced by Washington farmers and gaps in current programs that need to be filled.



