2013 OREGON STATE OF THE AGRICULTURE INDUSTRY REPORT

Creating vibrant, competitive, healthy, and sustainable farms, ranches, and fisheries in Oregon

Oregon agriculture is a dynamic, complex mix of many issues, challenges, and opportunities facing our farm, ranch, and fishing communities. People and business rely on a healthy farm sector to sustain the Oregon way of life. As a representative of this great and diverse enterprise, the State Board of Agriculture recognizes this report cannot address all issues and developments. But the board has focused on a list of key factors that it feels are the highest priorities and essential steps towards a brighter future for Oregon agriculture.

This report should help the reader understand where Oregon is competitive, and where it is not; what things are going well, and where challenges exist; and what the Legislature, Governor, Congressional representatives, and Oregon's citizens can do to help.

We hope that this report fosters a better understanding and appreciation of Oregon agriculture, and a chance for all Oregonians to join together to address key issues.

We are dedicated, with the rest of Oregon's agriculture, fishing, and other natural resources sectors, to demonstrate ingenuity and innovation in solving problems, to raise the bar in stewardship of natural resources, to produce quality, safe products, to be transparent and open in our discussions, and deliberate in our efforts to a better future.

We commend Oregon's farmers, ranchers, and fishers for their contributions to our state.

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ORS 561.378 State Board of Agriculture report

The State Board of Agriculture shall report as provided in ORS 192.230 to 192.250 on a biennial basis to the Governor and the Legislative Assembly regarding the status of the agricultural industry in this state.

Photographs used in this document were provided by employees of the Oregon Department of Agriculture, the Oregon Employment Department, and Andrea Johnson for the Oregon Luscious Fruit Campaign.

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Executive Summary

Priority policy recommendations to the legislature, governor, and regulatory agencies

1. Ensure access to irrigation water (statewide).
2. Expand markets and increase sales locally, regionally, and internationally.
3. Support truck transportation, but begin to maximize rail, barging and other water modes to move product to market more efficiently.
4. Provide relief from the high cost of inputs, including taxes, energy, and labor.
5. Encourage management of natural resources in a way that enables farming while protecting water, soil, air, habitat, and endangered species.
6. Support a land use system that protects farmland for farm use.
7. Support a high quality research, experiment and extension service that enables growers to diversify cropping and capitalize on unique geographic micro-climates and soils, and to remain competitive in a world market.
8. Offer assistance for food processors—as key markets for growers—with technical and financial help to address wastewater permits that incorporate recycled, reclaimed, or reused water methods and technologies.
9. Help growers meet new food safety standards that are becoming more stringent and costly.
10. Help young or new farmers and transitional family farmers successfully become the next generation of aspiring producers.

Creating vibrant, competitive, healthy, and sustainable farms and ranches in Oregon

This report evaluates comparative agriculture data between Oregon and three other western states: Washington, Idaho, and California.

Farm income (gross and net) is arguably the key measure of farm success and viability. Without adequate profit, many farms must rely on outside income, government support, or borrow more than they can repay. This hampers their ability to hire and pay employees, invest in natural resources management, or continue as a business and community member in the long term.

THE BAD NEWS: Oregon agriculture lags behind our three neighboring states in many key areas.

THE GOOD NEWS: Oregon policymakers can take positive actions to help us catch up.

By the numbers

How does Oregon compare, and what can be done to help Oregon's farmers and ranchers?

- While Oregon has roughly the same number of farms as Washington, and slightly more than Idaho (and more land in farm use than both states), average sales per farm are half of these two states, and one-fifth that of California farms. Further, Oregon has fewer farms with sales over $100,000 and more farms with sales less than $10,000 than neighboring states. Oregon growers need more help expanding their sales in a variety of markets.
- Growing food and fiber requires water. Oregon agriculture uses a smaller portion of available Columbia River water than Washington or Idaho. Oregon agriculture needs an assured, growing supply of water to create economic progress. The State of Oregon needs to support Oregon's Integrated Water Resources Strategy currently under coordination by the Oregon Water Resources Department, placing an emphasis on capture and storage with creative delivery systems and efficient technologies. This includes working with the State of Washington for stored water to be delivered via the Columbia River to expand irrigated production in the Columbia Basin. Expanding the water "pie" for agriculture and other uses can enable more productive ground to be cultivated and create economic stimulus and jobs.
- Oregon's agricultural sales have continued a long upward trajectory, but expenses are climbing faster than income, and recent market volatility has taken a toll. Compared to neighboring states, Oregon's average net farm income is lower, fewer farms have positive net income, and the average income for those farms that are positive is less than in the other states. Oregon growers need assistance in stabilizing costs of production, including energy components, taxes, and a legal workforce.
- Farmers in all four states are engaged in a variety of programs (local, state, and federal) to address soil conservation, water quality, and wildlife. The three most significant challenges that loom:
  - » Threatened and Endangered (T&E) Species listings and habitat designations.
  - » Invasive species (plants, pests, and diseases) with their threat to natural, agricultural, forest, and urban landscapes and environments, as well as animals—both livestock and pets.
  - » Miles of streams or area of water bodies designated as "water quality impaired" by EPA or the Oregon Department of Environmental Quality. Such listings prompt

the need for Total Maximum Daily Loads (TMDLs, or allowed impairment levels), which influence agricultural management and activities.

Oregon growers need technical assistance and financial support to address these imperatives.

- Population growth and expanding urban areas, along with rural non-farm uses, create challenges for agriculture to operate and maintain an adequate supply of land for commercial production without nuisance complaints and other public pressures against common agriculture conditions (noise, dust, smell, etc.). Some growers in various areas of the state favor more flexible land use laws. While limited flexibility is being examined, on the whole, farmers need certainty around land use laws that minimize speculative pressures on farmland prices and limit non-farm conflicting uses.
- Traded sector agriculture (exports) brings new dollars into Oregon. Not all production can be consumed locally. In fact, 80 percent of Oregon's agricultural products are shipped out of state. For long-haul shipping, water movement (barge or ship) is the least cost per mile of any mode. Oregon's ports and shipping lanes, along with container availability, are a priority need for agriculture and all other products moving out of Oregon. While Oregon is larger than Washington, it has fewer rail miles and short lines. Rail is the next most efficient mode of shipping after barging. Food processing and other businesses should be encouraged to locate around port and rail nodes to enable competiveness in moving product out of state. The State of Oregon needs to negotiate short-line rail and railcar capacity measures, including piggyback refrigerated units, to retain cost-competitive options for Oregon growers. Air capacity is also important for high-value export products such as blueberries, seafood, and nursery crops.
- Long-term competitiveness is driven by productivity gains coming from research that develops new seed varieties, technologies, management systems, and knowledge of plant and animal pests and diseases. Oregon's statewide agriculture research stations and Extension programs have suffered catastrophic staff reductions of 25 percent over the past decade, threatening the R&D pipeline that underlies Oregon's economic competitiveness. A robust Research and Extension program at Oregon State University and other schools to support agriculture is key to the future, including training future employees and leaders in all related fields of biosciences. It's also important for students to know that there are a wide spectrum of jobs in high demand in agriculture and food-related fields.
- Oregon farmers are aging, and a new generation of growers is on the scene—many of them small-scale producers. Oregon

leads Idaho and Washington in the number of farmers' markets and sales derived from direct-to-consumer or establishments. But more outlets are needed to help these small farms generate higher sales. Successful transition between generations will also require further work on estate taxes. Additionally, fundamental information about agriculture is nearly missing from our schools, where an understanding of farming and food begins. Policy makers can support beginning and small farms in Oregon through:

» supporting Agriculture in the Classroom program (http://aitc.oregonstate.edu).

» supporting high school FFA and other technical training programs that can prepare interested students in applied learning and career development related to agriculture and natural resources.

» exploring creation of an "apprentice" certification for new farmers in Oregon.

» supporting farm incubator programs.

» supporting OSU Small Farms Program.

» supporting food-hub.org and other online marketing outlets for growers.

» supporting farmers' markets, farm stands, Community Supported Agriculture (CSAs), and other local venues to expand outlets for small operations.

» making business planning more readily available to new farm start-ups.

» eliminating the estate tax for farmland transfers to family or new/beginning farmers.

» helping solve the transportation puzzle for small farms to get product to customers.

- How growers and food processors adapt to new production safeguards and testing measures from the federal Food Safety Modernization Act (FSMA) will prove crucial—not only to maintain the reputation of a product in the market, but also to remain competitive financially despite additional costs to meet these increased standards. Growers will need technical assistance, development of best management practices, and possibly financial help to meet these challenges.

Top to bottom:
Barbara Boyer
Doug Krahmer
Laura Masterson
Steve Van Mouwerik

Top to bottom:
Jan Kerns
Tracey Liskey
Jerome Rosa
Lynn Youngbar

State Board of Agriculture

The State Board of Agriculture advises the Oregon Department of Agriculture about programs, policies, and issues affecting Oregon agriculture. Contact: Sherry Kudna, 503-986-4619

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- Tax policies
- Farm Bill program priorities
- Legislative contacts and federal issues
- Governor's Office liaison
- Wildlife depredation
- Renewable energy issues

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- Urban growth management policies
- Interim review of land use system
- Agri-tourism use of agricultural lands
- Utility siting and aggregate mining issues for agricultural lands
- Right-to-Farm laws
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- Market development for agricultural products (local, regional, international)
- Transportation and infrastructure, freight movement strategy
- Food processing and agri-business development issues
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- Water quantity, availability, irrigation efficiency
- Long-term water strategy
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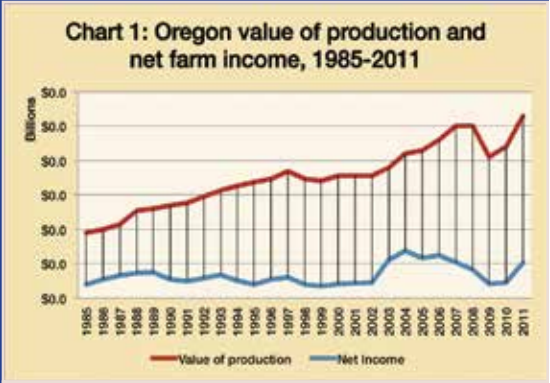
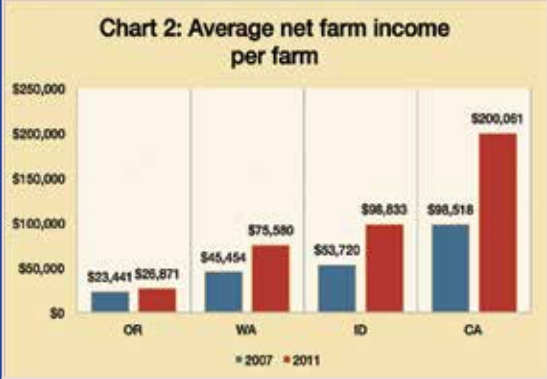
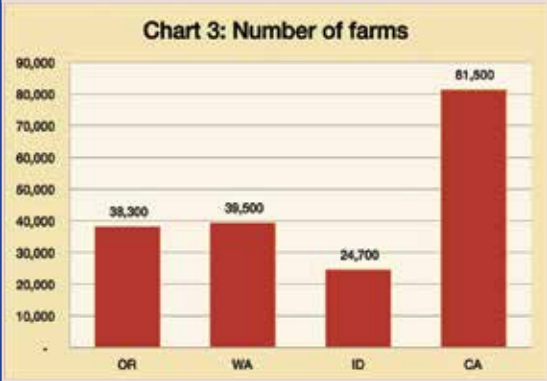






Introduction

This report evaluates comparative agriculture data between Oregon and three other western states: Washington, Idaho, and California.

In summary

THE BAD NEWS: Oregon agriculture lags behind our three neighboring states in many key areas.

THE GOOD NEWS: Oregon policymakers can take positive actions to help us catch up.

The comparisons in this report establish relative competitive values, opportunities, and challenges to agricultural viability in Oregon for farmers, ecosystems, communities, and Oregon's economy.

In each state, agriculture has experienced ups and downs over time, but not with the ferocity of recent swings in market prices and economic uncertainties.

Farm income (gross and net)—is arguably the key measure of farm success and viability, both collectively for all farms and ranches, and individually for each of them. Without adequate profit, many farms must rely on outside income, government support, or borrow more than they can repay. This hampers their ability to hire and pay employees, invest in natural resources management, or continue as a business and community member in the long term.

Chart 1 captures 26 years of combined output for all farms in Oregon (billions of dollars). The top, red line in this chart indicates the steady upward trend of agricultural value of production (nominal yearly values, not adjusted for inflation). The continual increase demonstrates the efficiencies, technologies, greater yields, and management experience of growers.

The lower line is net farm income (NFI); this is the value left to the farmer after expenses are deducted. In other words, the growing chasm between the two lines is the cost of production—and it is getting larger, representing more costly inputs of land rent, seed, machinery,

fertilizers and chemicals, fuels, electricity, labor, taxes, regulatory compliance, etc.

Net farm income is what is left to the grower and family for living expenses and personal use, and to pay the principal on land mortgages. It has remained relatively flat (in aggregate) over the past three decades except for a bump from 2003 to 2006. Farmers, on average, have been compensated by building equity in land, but cash returns from production are lagging behind costs.

Looking at the average individual farm (Chart 2, Census of Agriculture, 2007), Oregon farmers and ranchers receive about $23,400 NFI. Compared to neighboring states, Oregon lags considerably. In 2007, as a reference, agriculture was headed into a recession. Fortunately, recent USDA data document 2011 as a banner year. Even while Oregon growers, in aggregate, produced a near record net farm income overall in 2011, average net income per farm improved only $3,000 since 2007. Comparatively, Washington growers netted $30,000 more than in 2007; Idaho growers $45,000 more; and California growers increased net income in 2011 by more than $100,000 per farm over 2007 levels.

QUESTION: Why are growers in Washington and Idaho attaining net farm incomes more than double that of Oregon? What about California's net income nearly five times higher?

First, let's define a farm.

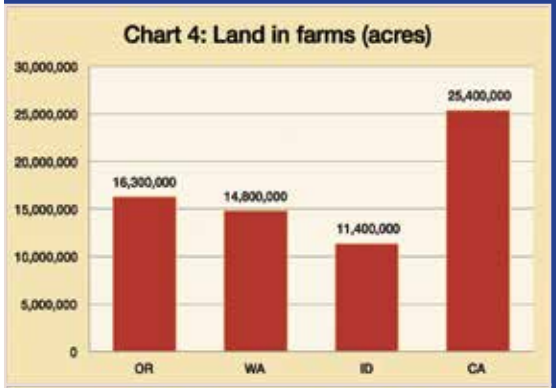
USDA designates a farm as any enterprise with $1,000 or more of agriculture sales in a year (or the potential to do so).

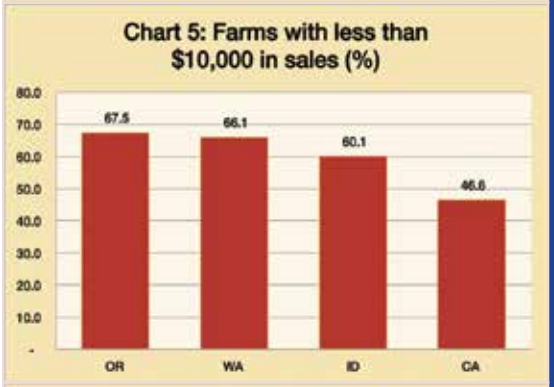
Using this definition, Oregon has nearly 39,000 farms.

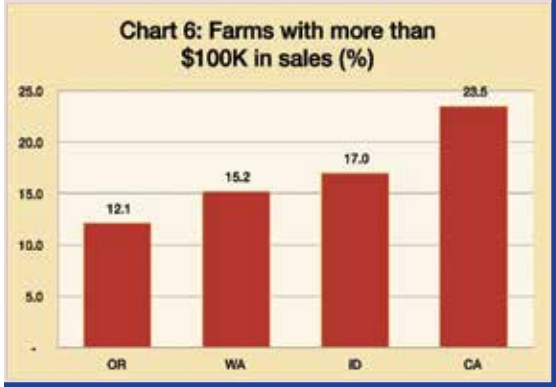
Washington has only slightly more farms than Oregon; Idaho some less, and California, being the largest agricultural state in the nation, has considerably more farm enterprises. Oregon is comparable to Washington and Idaho based on number of farms.

The amount of land in agricultural use is also very comparable between Oregon and Washington, with Idaho trailing. California, again, is dominant, but helpful as a reference point when viewing the other states.

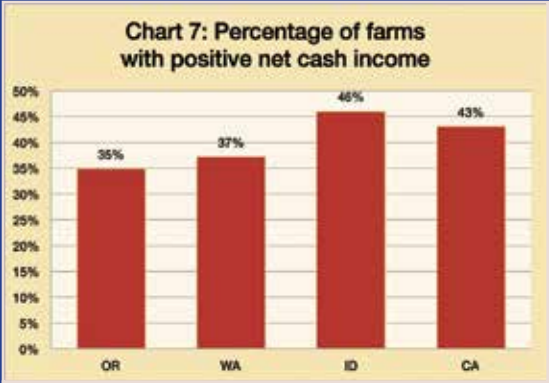
Oregon's farmland covers approximately 16.3 million acres. Washington has 14.8 million; Idaho, 11.4 million. California leads with over 25 million acres in agriculture production or related use (conservation acreage). The data help conclude that land available for farm use is not the comparative limiting factor to NFI for Oregon.

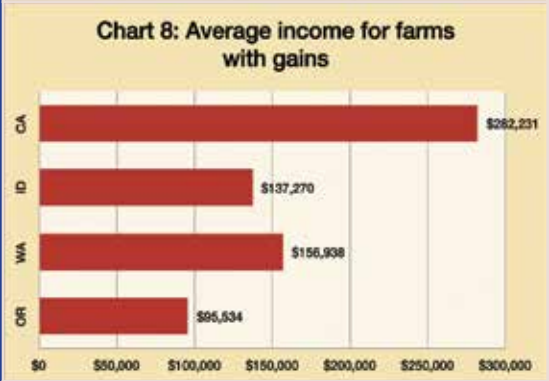






Farm structural differences





The size and structure of farms can influence markets, processing capacity, access points to wholesale or retail/direct sales, types of crops grown, how much human labor is used versus mechanical energy, and even the profitability of the operations.

Because Oregon has the highest percentage of farms with sales less than $10,000 (Chart 5) of all the comparative states, the average income per farm is lower. The difference with Washington is small, but noticeable with Idaho, and striking with California.

On the other end of the spectrum, a small percentage of Oregon farms (12 percent) have sales of more than $100,000 (Chart 6).

A farm must generate about $250,000 in sales to net enough (NFI) to support a family, without outside income from another source. Only about 7 percent of Oregon's farms meet that measure. Most farms have off-farm income to support the family and provide medical insurance.

Compared to the other states, fewer Oregon farms show a positive net cash income from their farm operations (Chart 7).

The average net income for Oregon's 13,400 farms with a positive NFI was $95,534 (Chart 8). A respectable take-home pay, but note that this is for the "farm operation," which could be supporting more than one family, and it is before repayment of principal on loans for purchase of farmland. And as shown in the chart, these farms lag significantly behind the neighboring states.

An average NFI of $23,400 indicates many farms have a negative net income. Indeed, over 25,000 Oregon farms report red ink NFI of -$15,000 per farm.

Many Oregon farmers, even when they are making a profit, "net" less than farmers in neighboring states. And for more than 25,000 operations, an additional $15,000 in sales is needed just to break even.

QUESTION: Why are Oregon farms consistently behind in net farm income compared to those in the neighboring states? Are Oregon farms selling less to start with?

Unfortunately, yes. Oregon has the lowest average amount of farm products sold (sales per farm, Chart 9) of the four comparative states. Washington and Idaho nearly double Oregon sales, and California farm sales amount to five times the value of Oregon's average sales per farm (2007 Census of Agriculture, USDA).

Farm structural patterns (including many small farms serving direct customer markets), state and federal policies, access to irrigation water, accessibility to markets, and geographic limitations may all help explain these differences,

and point to some opportunities for Oregon. Some of these issues will be explored in more depth in this report.

To compare in a more precise way, average sales per acre of all agricultural land (including grazing and dryland) can provide insight into the type or intensity of production. Again, Oregon farms lag in sales per acre of land in agricultural use.

Farmland used in crop production returns higher values per acre than grazed, pastured, or conservation enrolled land. Chart 11 compares each state's agricultural output (sales) based on acres that are in cultivated row crops or harvested (orchards, vineyards, etc.).

Using this comparison, Oregon's farms appear relatively even with Idaho and Washington, but still considerably behind California.

The bright side for Oregon is that the beef cattle sector, which is what dominates the large uncultivated acreage, has seen good market prices in recent years. Beef cattle in Oregon (604,000) outnumber both Washington (476,000) and Idaho (274,000), and nearly match California (662,000).

The biggest factors affecting the profitability of this sector include: high feed costs, high transportation costs to ship cattle out of state for processing (lack of in-state processing and rending facilities), interfaces with wildlife (wolves, coyotes, bears, etc., creating depredation), wildfires, and management issues around water quality and Endangered Species Act listings that affect access to, timing of use, and ability to graze the large expanses of private and federal lands in Eastern Oregon.

Chart 12 denotes the percentage of all agricultural lands that are in crop production, and demonstrates that Oregon agricultural land is less intensively cropped than Washington and Idaho. This is partly a function of access to water to grow crops. While California has the same percentage of all agriculture lands under cropped acreage as Oregon, its land mass is significantly larger and therefore the acreage base captures the best lands already under cultivation.

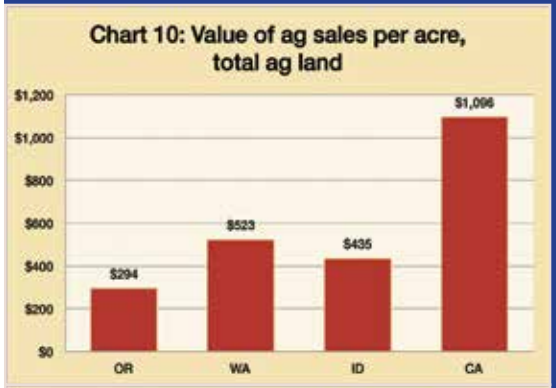
QUESTION: What is influencing Oregon farms to be smaller, have lower sales, be less productive per acre, and end up with lower net farm income than neighboring states?

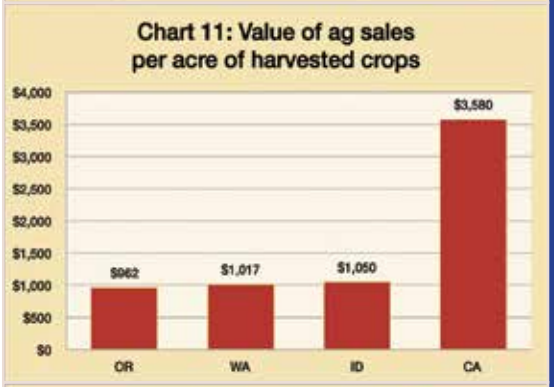
QUESTION: What factors or challenges do Oregon farms face that may differ from those in surrounding states?

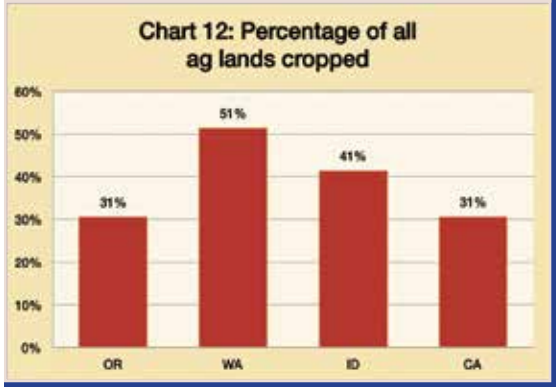
QUESTION: Are there regulatory or non-regulatory hurdles that limit Oregon producers' profitability?

QUESTION: What are some ways to help farmers generate more jobs?

QUESTION: What are the Oregon advantages that help those farms with profitable incomes and sustainable operations stay that way?







QUESTION: What policies or initiatives can boost Oregon sales and net income, per farm and overall?

QUESTION: How can policy makers, state and federal agencies, and the public help more Oregon farms achieve positive income?

QUESTION: How will Oregon producers fare in an increasingly competitive international market?

Conclusions and Recommendations

In response to the above questions, the following policy actions and recommendations can make a positive and significant economic difference for Oregon farms and related businesses. In turn, this can result in more jobs, increased local foods and agriculture exports, and sustainable natural resources that protect the open spaces and the vistas we all enjoy.

1. Finding creative ways to conserve, capture, and make available more irrigation water that enables broader cropping ability, yield increase, certainty for growers and lenders, and creation of jobs and economic activities.
2. Creating new local markets for agriculture (including government, schools, and other institutions), and capitalizing on export potential in Asia, and supporting alternative income options for growers to expand opportunities for increased revenue.
3. Making investments in transportation infrastructure, including road, rail, port, and waterways.
4. Reducing cost of production through research, tax incentives, energy inputs, and a stable, legal workforce, with improved mechanization for routine work.
5. Supporting technical and financial programs that help growers face higher standards and increasing costs to protect natural resources and ensure food safety.
6. Maintaining a land use system that protects farmland for farm use and minimizes conflicting uses.
7. Supporting a high quality research, experiment, and extension service that enables growers to diversify cropping and capitalize on unique geographic micro-climates and soils, and to remain competitive in a world market.
8. Assisting food processors—as key markets for growers—with technical and financial help to address wastewater permits that incorporate recycled, reclaimed, or reused water methods and technologies.

9. Helping growers meet new food safety standards that are becoming more stringent and costly.
10. Assisting new/beginning growers in their quest to become next generation farmers.

Oregon and other areas of the US are experiencing a growth of the local food movement. A growing number of small farms, many owned and/or operated by young and beginning farmers, serve this market, helping create a potential new generation of farmers. The Oregon Department of Agriculture supports these efforts. Oregon's metro areas embrace direct-from-farm efforts and even encourage food production within the city with new codes and accommodating regulations. Farmers' markets are flourishing, restaurants are clamoring for local food, and "foodies" are gathering to enjoy the feast. Many people, particularly in urban areas, are more aware than ever of where their food comes from and express interest in supporting their local farm community.

However, not all of what is grown in Oregon can be consumed in Oregon. More than 80 percent of Oregon's agricultural production must find markets outside of Oregon. This is the basis of trade. Certain types of foods will always be imported into Oregon (for example, oranges and bananas) because the soils and climate don't support them here, whereas what does grow well here in volumes will be exported to customers who seek to enjoy Oregon's bounty.

So, Oregon agricultural policies should focus on how the state is uniquely positioned—geographically, structurally, with diverse products, utilizing water and agricultural lands to their potential, and thinking strategically about local and global markets.

The potential of job creation and economic development possibilities are endless with support for and investment in research and extension; water development; regional, national, and global market development; a stable land use policy; and technical and financial support for food safety compliance and natural resource management.

Policy makers, government agencies at all levels, and consumers have a role to play in the viability of Oregon's farms and ranches. Vision, creativity, and collaboration are the ingredients for success.

We support all segments of agriculture—working together—to address the monumental challenges of providing the world with safe and nutritious food, feed, fiber, energy/fuel, and ornamental products; managing resources for current and future generations; and helping farmers and communities be prosperous and successful.

Water: Looking to the Future

The author of the statement, "Whiskey is for drinking and water is for fighting," probably underestimated how many people would really be fighting for water and how important it would be to all of them.

After sitting on the Oregon Water Resource Strategy Public Advisory Committee for the past two years, I got to see just how passionate people are about water and the many different thoughts on how water should be managed and for what purpose. The agriculture culture changes slowly, and for good reason: time tested practices work. Our passion is embedded in the past and we are proud of our history—it is all about family and heritage. But agriculture is also about adapting. If our forefathers had not been able to learn new ways, none of us would be here today. Agriculture has changed a lot from the simple hand dug well, to very efficient sprinkler systems, drip irrigation, and satellite infrared mapping.

With today's rising demands on our water supply for all kinds of needs (fishing, recreation, environmental, municipal, and agriculture), it will be increasingly important for agriculture to adapt and learn to use the most efficient tools available, while at the same time making sure we educate the public on what we are doing and why we are doing it. We have learned to make a living off the land in the West, tapping Mother Nature for life giving water. We have learned how to grow crops that feed the ever-growing population; but now we need to learn to be even better at what we do. This would include getting along with all the people that have an interest in our life blood, WATER.

Tracey Liskey

All crops grown for food consumption need water. Some areas of the US receive rain during summer months (Midwest and Southern US), but Oregon does not. One of the key limiting factors of growth in agriculture productivity is water—it affects what can be grown, yields, and the amount of carbon that can be sequestered, among other things. Water for agriculture translates into water for everyone in the form of food and other agricultural products.

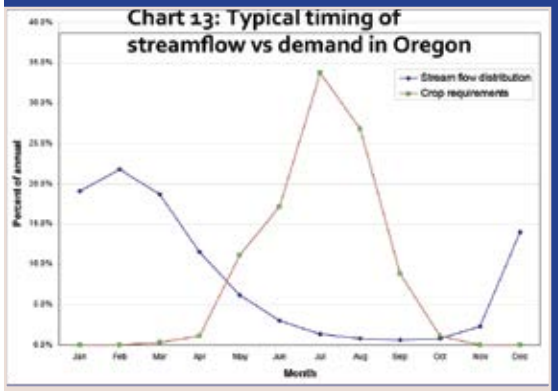
Most fruits and vegetables grown in the United States, and animal feed for livestock (non-range grazing), require irrigation because these plants optimally thrive where summers are warm, the air is dry (reducing molds and fungus), and nights are cool. In these areas, most moisture accumulates during the winter and is used during the dry summer months. Some of the moisture is stored as snow in the mountains, captured in reservoirs, or recharged into aquifers. Even so, more than 92 percent of precipitation in the Western US region eventually flows down rivers and streams toward the Pacific Ocean, where it will again evaporate and seasonally re-deposit moisture as rain or snow in a never-ending hydrologic cycle. Changes in climatic conditions appear to be affecting frequency and severity of weather patterns.

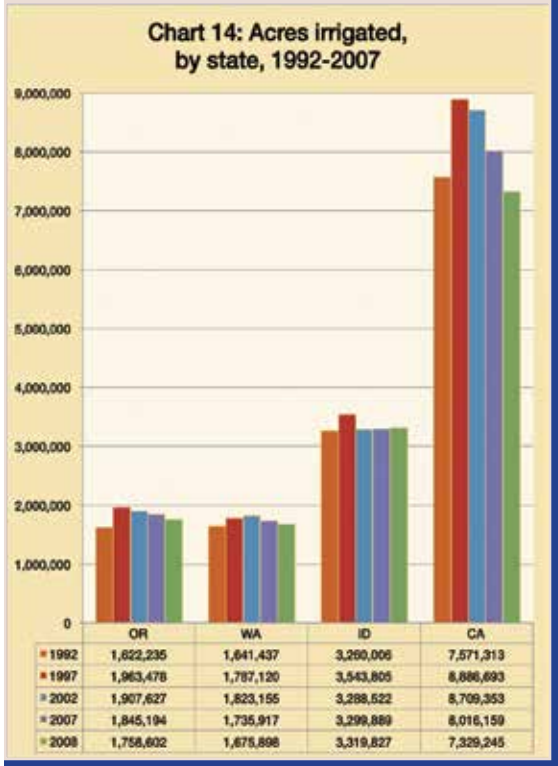
The Oregon Water Resources Department (OWRD) estimates that total surface water output in Oregon is equivalent to 96 million acre feet each year. An acre-foot is approximately equivalent to a football field covered with one foot of water.

The availability of water for agriculture use is limited in most regions of the state due to timing of flow, as can be seen in Chart 13 (OWRD). Creative "capture and storage," as well as efficiency and cutting edge technology in irrigation is imperative.

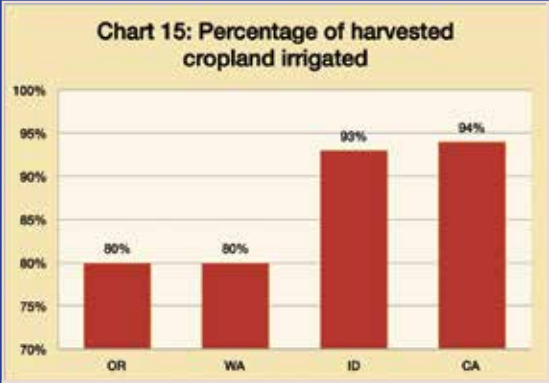
Agriculture uses roughly 6.5 percent of all water that is produced in Oregon in an average water year. This represents 80 percent of consumptive use for the production of food and other products for human sustenance. Consumptive use means water that is used by plants and animals, transpired into the environment, and therefore not returning to its immediate point of withdrawal. Some of the water remains in the product itself.

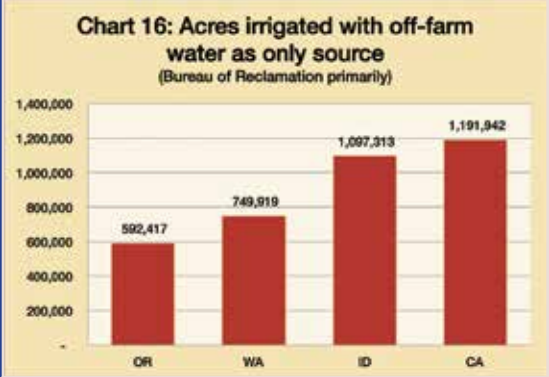
Water applied to soils can make the difference in how a soil is classified for agriculture use, and whether a crop can be grown or not. Irrigation can boost yields two to six times. As world population increases 50-75 percent in the next two decades, there will be great pressures to expand agricultural output. Irrigation can help produce more food and agricultural products on a fixed amount of land, creating more certainty for farmers and consumers, and leaving more land to wildlife habitat.





	OR	WA	ID	CA
1992	1,622,235	1,641,437	3,260,006	7,571,313
1997	1,963,478	1,787,120	3,543,805	8,886,693
2002	1,907,627	1,823,155	3,288,522	8,709,353
2007	1,845,194	1,735,917	3,299,889	8,016,159
2008	1,758,602	1,675,898	3,319,827	7,329,245





The amount of irrigated agricultural land by state has remained relatively flat in Oregon, Idaho, and Washington over the past decade (Chart 14). All states peaked in 1997, particularly California. Irrigated acres have declined since due to: drought in California that resulted in water restrictions; Endangered Species Act (ESA) listings that have reduced water availability and removed some areas from cultivation; urban and industrial demand increases (population growth and land conversion previously discussed), and other use needs.

Since Washington and Idaho crop more intensively (more of the available agriculture land is planted in harvested crops), irrigating more of the cropped land will produce higher yields, leading to more sales value per farm.

Idaho and California are also irrigating a higher percentage of cropped acres than Oregon or Washington (Chart 15).

Sources of water vary in each state, and may include wells, on-farm ponds or storage, reclaimed or recycled water, off-site storage, and surface waters such as rivers and streams.

Significant sources of off-farm water for agriculture are the Army Corp of Engineers and Bureau of Reclamation (BOR) projects. These are mostly dam projects built decades ago, primarily for flood control and irrigation. Additional uses for this stored water have been added over time, including recreation, in-stream usage (fish/wildlife), economic development, and municipal demand.

For example, in-stream water rights in Oregon have grown to about 16 percent of all surface water flows, compared to the 8 percent diverted or removed from flows for consumptive use.

Acres in each state irrigated by water derived from BOR storage are shown in Chart 16.

Herein lies one reason why Oregon lags in cropped acreage, output per acre, farm profitability, and other measures. Not only are fewer acres irrigated, but access to BOR water is significantly less than surrounding states. Increased supply of BOR water is potentially available on both sides of the mountains—from the Columbia River flow and the Willamette Valley storage sites.

More will be discussed later in this report about ESA listings. However, listings can have a significant impact on available impounded water for irrigation from BOR reservoirs. For example, although Beulah Reservoir in Malheur County was developed as a BOR project for irrigation, the ESA listing of the bull trout pre-empts the use of the full pool for irrigation. The irrigation district and farmers were obliged to implement changes to irrigation conveyance and practices, such as piping the water (rather than running it down open canals) to avoid evaporation and ditch loss; installing lift pumps (and their additional operational expense) to heft the

water from the canal to the mainline delivery system; and infrastructure for the conversion from flood irrigation to center pivot and wheel line irrigation. All this was done to offset the bull-trout needs, resulting in the reduction of available water to agriculture.

There are many other BOR irrigation reservoirs throughout Oregon where the types of conservation practices portrayed in Malheur County have already been implemented. The ESA listing of a fish species will reduce available irrigation water due to the required habitat reserved pool, with a limited range of additional water conservation options available to growers who are already using good water conservation practices. Therefore, not all "available" water is really available where and when needed. New infrastructure, off-stream storage, capture and recharge, and other strategies need to be explored—and soon—to meet increasing environmental limitations and to protect and enhance the ability of agriculture to produce products and generate jobs and income.

All the states in these comparisons have some version of an integrated water resources strategy or policy at varying stages of development and implementation. The Oregon Water Resources Commission adopted the state's first Integrated Water Resources Strategy on August 2, 2012. The Strategy provides a blueprint to help the state better understand and meet its instream and out-of-stream needs, taking into account water quantity, water quality, and ecosystem needs. The full text of the Strategy, as well as an executive summary and draft workplan, are available at: http://tinyurl.com/au457qb.

Conclusions

- Every additional acre irrigated means a higher-value crop can be grown, or yields can be increased dramatically—the economic impact ripples throughout the economy. Further, irrigated crops help create "clusters" of certainty around local production which can bring in processing and associated industries.
- Additional water allocated to agriculture must be balanced with other needs. Yet, Oregon lags in supporting feasibility studies, creativity of water capture and storage (expanding the pie), aggressiveness in negotiating with BOR on reserved water, and focusing economic development around an industry that has a significant footprint in Oregon's economy.

Recommendations for policy makers

- Support agriculture by recognizing the importance of water and its role for the viability of agriculture in Oregon's future. Together we must aggressively search out and develop additional sources for all uses if Oregon is to remain competitive while growers adapt to new crops, changing weather patterns, new technologies, and new markets.
- Create incentives for growers to implement water delivery system improvements, including conversion to more energy-efficient systems.
- Support Oregon's Integrated Water Resources Strategy currently under coordination by the Oregon Water Resources Department, placing an emphasis on capture and storage with creative delivery systems across the state.
- Support the consensus options identified by the Columbia-Umatilla Solutions Task Force and continue to engage in long-range planning to provide water for irrigators and others in the Columbia Basin.
- Support negotiations with BOR to deliver more stored water for agriculture in the Willamette Basin, and move forward on delivery system considerations.
- Explore a water exchange "bank" as operated by the Idaho Water Resources Board to facilitate ability to move unused water to other acreage or uses via a voluntary process. http://tinyurl.com/aefmhmp.
- Support a Water Quantity Specialist position at the Oregon Department of Agriculture to help growers with water related issues, to identify and apply for financing of irrigation projects and efficiency improvements, to assist with regulatory reviews of water projects, and to advocate for agriculture water in negotiations with BOR and other entities.

Expanding Market Access: Transportation

Public attention—including that of legislators—is pulled toward health care, education, and the economy. Transportation runs a distant fourth, and the lion's share of that focus is allocated to more visible projects, such as the Columbia Crossing and light rail.

The profound dependence on infrastructure and market access that agriculture producers and processors have is a hidden one—and one that is carried on yesterday's visions and investments.

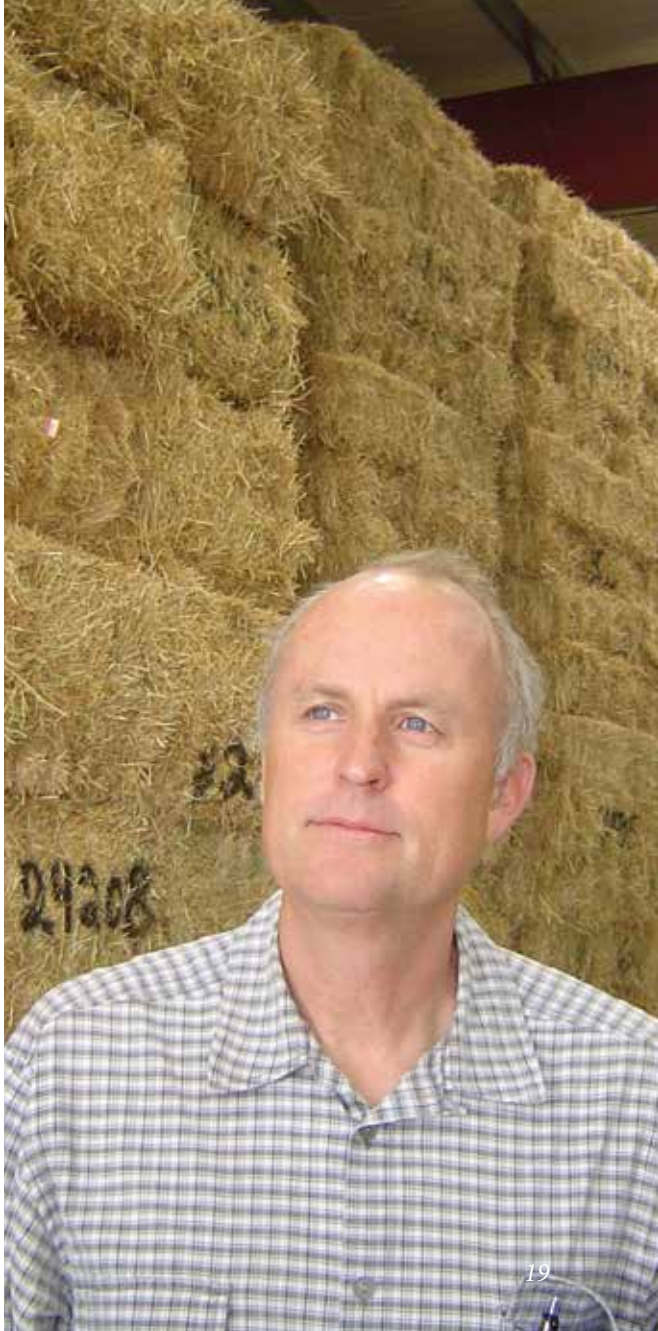
Today's legislator must find the time and the will to see the hidden harvest and logistics that enable agriculture to make a strong and steady contribution to Oregon's economy, bringing and keeping dollars in our state for our coffers, be they public or private.

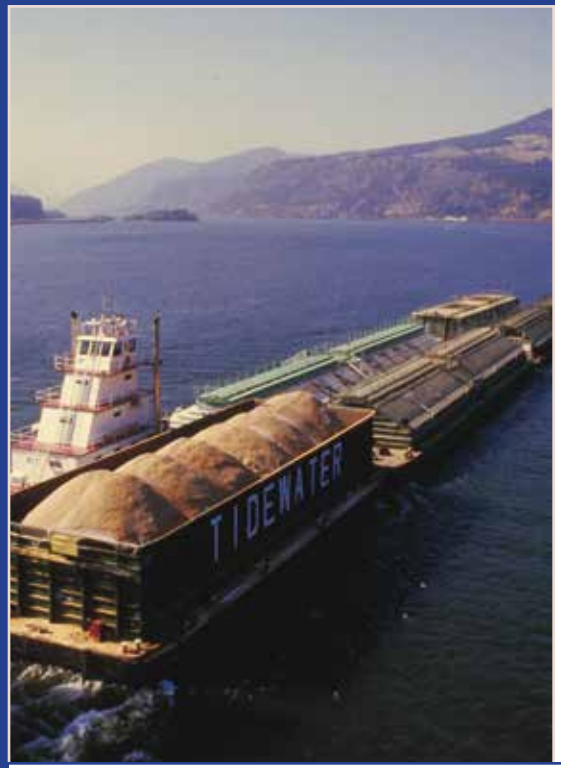
Today's legislator must understand that Oregon agricultural economics and resource conservation are set to the fast pace of meeting and exceeding national standards in environmental and conservation performance, while fulfilling a strongly local sense of place and purpose.

Today's legislator must understand that the production and processing of agricultural goods is geography-bound like no other human activity, except for perhaps the increasing urbanization of our human population.

Today's legislator must find a portion of their time to understand and take action on what we can do to shrink the distance between the farm, the processor, and their many markets, evaluating the resilience and flexibility of the transportation and energy infrastructures on which we currently rely. And in so doing, offer a stronger marriage of the fundamental values of economic and environmental wellbeing.

Steve Van Mouwerik





More than 80 percent of Oregon's agriculture produce, premier food products, seeds, and animal feeds leave the state, with half of it going overseas. Oregonians can't possibly consume all that is grown here, just as Oregonians don't buy every Nike shoe or Intel computer chip simply because they have a presence here.

Agricultural producers need market access assistance, as well as processing and transportation infrastructure, to reach domestic and international markets.

Expanding local markets is especially important for smaller farms. But even local markets need processors and efficient transportation.

Oregon's 23 ports serve as state, national, and international transportation gateways. They provide recreational, commercial, and economic services to residents and businesses in Oregon and beyond. Idaho has one commercial port in Lewiston, as the state is mostly land-bound. Washington has 75 port districts that move products worldwide.

California has 11 commercial ports, but the number of ports belies the volume of trade—it swamps the other three states combined, many times over. More than 40 percent of the total containerized cargo entering the United States arrives at California ports. Almost 30 percent of the nation's exports flow through ports in the Golden State.

The largest volume of commodities shipped in, to, from, and through Oregon moves by truck. One study forecasts truck tonnage to grow from 330 million tons to over 631 million tons by 2030, although this may be moderated by rising fuel costs. Total Oregon rail commodity tonnage is forecast to increase from 55 million tons to 100 million tons by 2030. Beginning with a very small tonnage base, air cargo is forecast to increase the fastest at a compound average annual rate of 2.6 percent, to 0.7 million tons by 2030. Waterborne cargo is expected to see growth increasing from 38 million tons in 1997 to 45 million tons by 2030; again, this may be added on as shippers respond to higher fuel costs. Pipeline transport is expected to see no growth due to the lack of additional construction or capacity. Table 17 summarizes the forecast commodity tonnage by mode over the 1997 to 2030 period for Oregon. (Commodity Flow Forecast, Global Insight, 2005)

Trucks are the most flexible form of transportation for agriculture. A reliable road and bridge system is critical for movement of commerce and commuters. However, Oregon's overall reliance on truck shipment volume is quite astounding given the barge system on the Columbia and the coastal waterway available for ocean barging. Each barge carries the equivalent

Chart 17: (Thousands of tons and compound annual growth rate)

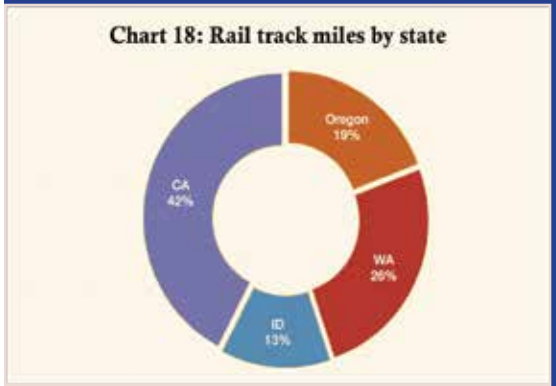
Mode	1997	2000	2010	2020	2030	CAGR 1997-2030
Truck	330,027	341,778	402,995	503,060	631,172	1.98%
Rail	55,225	56,971	67,081	81,800	100,606	1.83%
Water	38,266	35,238	38,099	42,098	45,092	0.50%
Air	318	329	386	495	747	2.62%
Pipeline	10,713	10,713	10,713	10,713	10,713	0.00%
Total	434,549	445,029	519,273	638,166	788,330	1.82%

of 134 semi-trucks. The cost per ton of moving product is magnitudes lower on barge; the usage of fuel is immensely less; and the impact on air quality is also much lower.

While Oregon is larger than Washington, it has fewer rail miles and fewer short lines. Rail is the next most efficient mode of transportation after barging. Oregon's nursery industry is moving more to rail, with an estimated 25 percent of out-of-state sales moving from truck to rail in 2012.

This will require the full intent of the State of Oregon to negotiate with the two major railways for increasing cars and piggyback reefers, and cooperating with short lines and intermodal transportation hubs, especially the ports. More rail cars need to be added to the system. Continued support for "unit trains" (long hauls with full loads) can be helpful in some projects for export, but a careful evaluation of Oregon's railway strategy, using more short lines, could make it a more attractive transportation mode and reduce truck traffic for movement of agricultural commodities and other goods.

Air cargo capacity has diminished recently from Portland, forcing high-value shipments of blueberries, seafood, nursery products, and other goods to be trucked to Seattle for large cargo capacity plane shipment to Asian markets. Focusing on creative remedies to this challenge would be helpful to Oregon's growers and food processors.



Conclusion

Transportation systems deliver goods to markets. A robust, well-maintained transportation system is key to economic vitality and links producers with consumers. It's an investment Oregon cannot afford to overlook.

Recommendations for policy makers

- Negotiate with the two major railways for increasing cars and piggyback reefers, and cooperating with short lines and intermodal transportation hubs, especially the ports.
- Give higher priority to barge and port systems, infrastructure development, and placement of processing, manufacturing, distribution and commercial development projects near ports.
- For reasons ranging from cost efficiency to reduced air quality impact, state strategy should emphasize and support rail transportation as an alternative to reduce truck traffic.

Expanding Market Access: Food Processing

Oregon agriculture's success is based on the efficient production, marketing, and distribution of products. Farmers and ranchers growing crops and raising livestock are at the core of the ag industry. Value is added to the state's agricultural commodities through processing all around the state. Food processing adds more than $2 billion in value to farm products, provides tens of thousands of jobs, and runs the gamut from large facilities to smaller ventures like domestic kitchens. Whether agricultural products are simply washed and sorted, bagged and boxed, or used as an ingredient for further processing, it all provides an avenue for the growers who need to market the product. Selling a raw commodity is not the best option for many Oregon growers these days. Value-added processing puts more money in their pocket.

Recognizing that food processing is a vital component to a successful Oregon agriculture, it is important that we take the necessary steps to keep existing processors viable, help them expand in Oregon, and attract new processors to the state. Whether it is a small entrepreneur, or a national or international food processor wanting to be part of Oregon's value-added processing industry, our support is critical to their success.

Bob Levy

Food processing is a key market access point for many producers; it represents a place to sell product. The processor aggregates, processes, and packages food for consumers. Some producers are vertically integrated to provide these services, but most rely on separate processing businesses. The number and strength of the food processing sector is a reflection of the strength of the growers and their farm operations, and the ability of both to compete in a world market.

The Northwest Food Processing cluster (Oregon, Washington, and Idaho) represents a diverse group. The extended cluster is a mix of commodity producers, specialized niche producers, processors, distributors and packagers. The Oregon cluster includes 197 companies in the food processing sector, meeting the size requirement of 20 employees or annual sales of $1 million or more. This cluster does not include retail supermarkets providing final food preparation or other food-related businesses downstream from the initial food processors.

The extended cluster includes hundreds of companies that provide supplies and services to food processing firms in the state. Food manufacturing (processing) companies—bakery, dairy, fruits and vegetables, meat and poultry, seafood, and snacks—specialize in products of all types: canned, dehydrated, freeze dried, fresh cut, frozen, juiced, organic, powdered, and pureed. In addition to food processing, the expanded food cluster includes farm production, packaging, machinery, transportation, and warehousing. Concentrations of food processing firms are found in greater Portland, the Willamette Valley, the Columbia Gorge, the Oregon Coast, and Southern Oregon. (OR Business Plan, http://tinyurl.com/77lztos).

In addition to the larger processors in Oregon noted above, there are:

- More than 650 licensed domestic kitchens or bakeries in Oregon, many on-farm enterprises. Most employ fewer than five people.
- Approximately 400 licensed food processors employing between 10-20 workers.

Together with the nearly 200 larger firms noted above, this is the most food processing facilities in Oregon in more than a decade.

- Total average annual employment in food processing is over 22,750.
- Food processing is one of the few industries that added jobs during the recession.
- More than $800 million in annual employee wages are

Five sectors make up 62.3 percent of processing sales in Oregon: frozen food manufacturing ($1.9 billion); dairy ($1.9 billion); fruit and vegetable canning, pickling, and drying ($1.6 billion); breweries, wineries, and distilleries ($1.3 billion); and bakery goods, pasta, and tortilla manufacturing ($906 million).

Chart 19: Oregon agricultural processing in food, fiber, and related products (2009)

Industry	Output-Sales ($000)	Employment (full-& part-time jobs)	Value added ($000)
Frozen food manufacturing	1,947,207	6,533	338,424
Bakery goods, pasta, & tortilla manufacturing	906,036	4,396	261,064
Fruit and vegetable canning, pickling, and drying	1,607,029	3,397	260,150
Breweries, wineries, distilleries	1,341,146	3,036	339,139
Dairy	1,900,613	2,508	246,204
Apparel manufacturing	255,073	2,072	67,310
All other food manufacturing	482,055	1,586	84,892
Meat processing	573,204	1,298	59,091
Fabric, carpet, curtain, & other mills	180,303	1,190	58,433
Seafood product preparation and packaging	306,384	1,044	36,249
Soft drink and ice manufacturing	510,130	769	56,084
Coffee and tea manufacturing	432,163	642	59,833
Leather tanning, finishing, & product manufacturing	110,917	584	49,787
Confectionery manufacturing	149,263	441	24,737
Snack food manufacturing	301,473	427	74,696
Breakfast cereal manufacturing	272,853	364	75,725
Food milling	403,805	325	49,430
Flavoring syrup, dressings, sauces & spices mfg.	226,297	325	48,873
Animal food manufacturing	302,358	272	30,730
Fats and oils refining and blending	123,240	55	9,420
Beet sugar manufacturing	24,065	47	2,525
Total	**12,355,613**	**31,308**	**2,232,797**

Source: Minnesota Implan Group, Inc. *IMPLAN 2009 Data.*

paid in the food processing sector, with the average annual wage of $33,874.

Food processing occurs in every Oregon county, with Multnomah County leading the ranks in the number of processors and employees, followed by Marion and Umatilla counties.

The food processing cluster has these goals or initiatives:

- implementing 25 percent energy intensity reduction in 10 years
- increasing the industry's operation productivity
- developing a robust workforce pipeline
- developing an industry-wide sustainability process
- building an economic distress strategy
- collaborating on transportation strategies
- exploring international markets for Oregon food products.

Chart 19 details over 31,300 jobs and the $12.4 billion in annual sales related to food processing in Oregon.

Conclusion

Food is not **MANUFACTURED**, it is **PROCESSED** in facilities that are the intermediaries between growers and consumers. These businesses are major employers in metro areas as well as rural areas. Flourishing food processing and distribution facilities mean more outlets for Oregon's producers, more jobs in Oregon, and more dollars in our economy.

Recommendations for policy makers

- Help (technical and financial) with wastewater permits, focusing on recycled, reclaimed, or reused water methods and technologies.
- Leverage the resources of the Food Innovation Center for consumer product taste tests, labeling requirements, product packaging, and other assistance.
- Assist with intermodal and collaborative transportation efforts.
- Establish a market intelligence network that provides entrepreneurs with ideas that state trade partners (ODA, Business Oregon, Tourism) discover while in foreign markets. An industry-supported members-only website could host the information.
- Assist (technical and financial) with compliance of new food safety requirements.

Key Farm Costs: Labor

"Agricultural Labor"—when one hears the term the first thought that comes to mind is hand labor harvesting crops. Ag labor is so much more than we see on the surface. Farms are getting more sophisticated than ever before. We have so many more responsibilities than we have had in the past.

Hand work in our fields is performed mainly by migrant farmworkers. But our immigration system is broken. We need a stable, legal workforce to perform these duties. Without them our perishable crops are destroyed.

This is a federal issue, and it needs a federal fix of our immigration system.

To feed the ever-expanding world, we are always trying to increase yields with fewer inputs. To accomplish this we need a highly skilled labor force that can operate tractors and other equipment with new technology.

Let's not forget all the support people in the field of agriculture. One in every eight workers in the state is involved in agriculture in some way. We work with multiple vendors, sales people, crop agronomists, processors, inspectors, Exention agents, and countless other people to provide us with our inputs. Agriculture is a very important part of our economy. Without it the state suffers.

Employees are our greatest asset. Bringing new people into the agricultural workforce is vital to our future. This includes both next generation and foreign workers if necessary to get the job done. We encourage Congress to get their job done.

Tom Fessler

The costs of hiring employees may be viewed as a reflection of the industry's ability to support wages at higher levels, or the cost impact of wages on the sector as a comparative advantage or disadvantage to other jurisdictions or countries.

As to the first perspective—Oregon's minimum wage is the second highest rate in the US, at $8.80 per hour. Oregon growers pay some of the highest hourly farm wage rates in the nation.

Washington's $9.04 minimum wage is highest, and ahead of California, at $8.00. Idaho's minimum wage rate is set to the federal rate of $7.25 per hour.

It is difficult for most farmers—without a special agreement or specialty markets—to pass wage increases along to their buyers. The buyer will simply move to the next grower willing to sell at a lower price.

More than 10,000 Oregon farms hire employees directly, with another 4,700 farms hiring workers through farm labor contractors (2007 Census of Agriculture).

Average annual Oregon farm employment includes at least 45,000 workers, and as many as 100,000 workers during peak harvest seasons. The average annual pay for Oregon employees working primarily in crop production (which includes field work) is $23,252. Wages in Harney and Linn County are near $30,000. http://go.usa.gov/gktx

Agricultural worker wages are comparable to and often higher than those in retail food establishments, clothing stores, social services, leisure and hospitality industries, textiles, and many other sectors. http://go.usa.gov/gkt5

Minimum wage isn't the only influence on wages. The specific type of crop or livestock work dominates the wage structure, as do other factors, like time of year, seasonality of the work, and employee experience. This data set (USDA, 2010, Chart 21) indicates that Oregon had the highest average annual wage rates of the four states and higher than the US average.

The four states in this evaluation invest more in employment and have higher workforce costs than any other comparable region in the US. In fact, 40 percent of all wages paid in agriculture in the US come from California (predominant), Washington, Oregon, and Idaho.

To put this in more contrast, Oregon ranks about 26th of all states in measure of total agricultural sales, but fifth of all states for total wages paid to its workforce. That is a large investment and competitive damper unless productivity and/or food prices can outpace the rising cost of labor. In fact, in an October 2012 USDA survey, Oregon farmers were paying, on average, more than $13.50/hour to employees.

Wages differ significantly within agricultural sectors (Chart 23). Some of the variance is explained by seasonality of the job (strawberries vs. nursery, dairy and livestock, etc.).

The other major concern with workforce is an adequate supply of trained, able, willing, and legal workers.

Estimates place legal status of farm workers in Oregon and surrounding states at roughly 30 to 40 percent, indicating that upwards of 60 to 70 percent do not have legal documentation for residing and working in the US.

Decades of confusing federal policies regarding immigration and worker programs have resulted in a quandary for agriculture—with few domestic workers interested in farm work, and the magnitude of labor-intensive produce grown in the region, what are growers to do? They must accept documents that appear legal on their face at the risk of lawsuits over discriminatory hiring. New systems are being developed to check Social Security numbers, but enforcement of legal status without addressing employment needs through an improved H2-A temporary worker program or transition to legal status for agricultural workers already in the US leaves agriculture very vulnerable to economic chaos.

Conclusions

- Farm workers are an integral part of our food system. The vast majority of farm employers treat their workers well, pay top wages for agricultural work, and follow state and federal labor laws.
- Oregon's farm wages are high, partly due to the indexed minimum wage law in Oregon. This can be viewed as a benefit to employees, but puts a burden on farm employers who are challenged to pass on the cost.

Recommendations for policy makers

- Send a clear message to Washington, DC that an adequate supply of legal workers for agriculture is imperative to national security. Food is survival. Federal policy controls immigration and worker status.
- Be sensitive to the local workforce needs of agricultural employers. Encourage the US Department of Labor and OR Employment Department to streamline the H-2A program to enable legal guest-worker availability for sensitive harvest timing needs.

Key Farm Costs: Labor

- Support workforce training to enable workers to progress in skills, pay scale, and duties.
- Continue to support the Oregon Farm Labor Mediation program operated by ODA to assist in addressing farm labor disputes.
- Support research in the use of robotics and mechanization to help ease labor demands for routine work, and support new job creation around technology and mechanics.
- Support tax credits and other incentives to help provide adequate housing for farmworkers.

Key Farm Costs: Energy

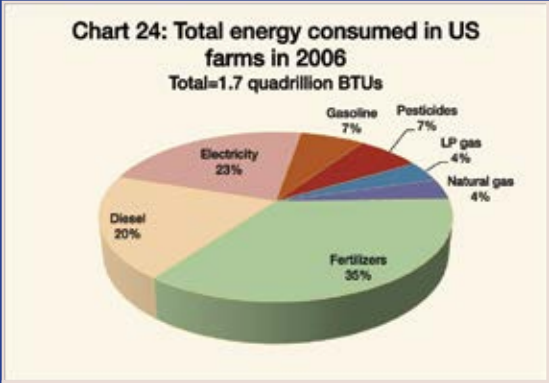
The farming sector has accomplished sizable gains in energy efficiency over the past two decades. Higher costs of fuel and fertilizers have led manufacturers to produce more efficient motors for on-farm equipment and to develop more precise and efficient practices for fertilizer and crop protection inputs.

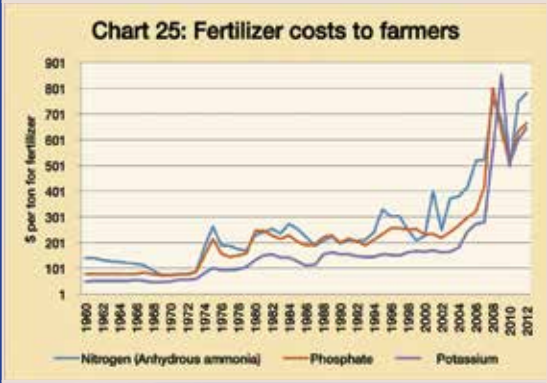
During this same two decade period, environmentally minded practices—aimed at reducing nitrates and eliminating unwanted crop protection impacts—have also furthered the energy efficiency trend as well.

I believe the foundation of these improvements, and the foundation of those to come, have everything to do with technology and with educated growers. To continue such gains into the future generation requires two areas of support from government:

- *First, the continued support of our Land Grant University (OSU) and community colleges that provide technical education and training to the sons and daughters of agriculture—and of those wishing to find their way into the field of agriculture not having grown up within a farming legacy. The energy and environmental accomplishments we have and that we seek rely profoundly on 20-somethings with their new ideas, tools, abilities, and visions to become tomorrow's farmers. The 20- and 30-somethings of two decades ago have brought us this far. Only investment in agriculture-related fields of education will prepare us for challenges that are coming head-on in the near future.*
- *Second, the development of thoughtful incentives for implementing the technology and agronomic practices that foster capturing of newer, better practices on Oregon's farms. Policy makers and elected officials who envision tougher environmental standards, energy standards, or other dramatic changes should also be part of enhancing the means for Oregon producers of all sizes and visions to accomplish these benchmarks with access to tools—equipment upgrades, precision application tools, analytics, etc.—that keep Oregon growers productive, competitive, and sustainable.*

Doug Krahmer





Energy is a national security issue critical to food production and societal stability. Energy prices have been extremely volatile during the past few years, making it difficult for growers to project long-term energy costs. With a typical profit margin of 3 to 4 percent in agriculture, highly variable input costs, such as energy, can play havoc with financing of annual operating loans.

Energy inputs, including electricity, fuels, and fertilizers, represent approximately 10 to 15 percent of total production costs for farmers and ranchers to produce food and other products, varying with type of operation. Chart 24 shows national figures on the types and relative costs of energy used by agriculture (Miranowski, 2011).

Farmers use more solar energy at a higher efficiency rate than any other industry by growing plants that cover millions of acres, transforming the sun's energy into fruits, vegetables, legumes, grains, and grasses. To do this, plants require adequate water and proper nutrients.

Nutrients are like vitamins to plants. These are necessary elements for growth and yield. Without them, in whatever form (plants don't distinguish between organic or synthetic), farmers would have to plant millions of additional acres to compensate for yield reductions.

Fertilizers or natural nutrients are key to feeding the world.

Fertilizers require energy to mine, gather in some manner, process, transport, and apply. The retail prices of key nutrients paid by growers have increased substantially in the past decade, roughly doubling in cost. The peak was reached in 2008, then prices dropped off some, but began escalating again in 2011-12. Prices are driven by world-wide acres under production (growing demand for food), availability of product, the energy (natural gas and oil) required to produce fertilizers and other inputs, and delivery mode.

Fertilizer and pesticide use on US farms has peaked in terms of total amounts applied. Further, the types of chemicals used today are more benign to the environment. These trends indicate that growers are carefully managing the quantity of these inputs. This may be due in part to price increases, but more importantly, the levels of current use are the optimal levels for the types of crop production occurring.

In addition to fertilizers, farmers use fuel to power tractors, trucks, harvesting equipment, and other vehicles, and for heating, drying, and processing. Diesel is the predominant fuel, but gasoline, natural gas, propane, and other forms are also used. The other major form of energy used on farms is electricity for pumps, fans, and other motors.

Energy prices and price volatility can impact consumers as well as agricultural growers. Under a scenario where energy costs increase 5-8 percent in any production year (which is happening at the present), USDA modeling suggests that wheat acreage could be reduced by upwards of 20 percent, unless wheat market prices also rise in tandem. This would have devastating impacts on grain markets and world food prices. (Impacts of Higher Energy Prices on Agriculture and Rural Economies/ERR-123, Economic Research Service/USDA).

Oregon's agricultural growers spent $550 million in 2007 on fuels, fertilizers, and electricity/ utilities (USDA National Agricultural Statistics Service). Utility expenses include electric and natural gas services, as well as telephone, Internet and other types of utilities. These inputs represent 14.7 percent of total farm production expenses, compared with 12 percent in 2002. Fuel, fertilizer, and utility expenses increased 62 percent for Oregon's growers between 2002 and 2007, while overall farm production expenses increased 34 percent.

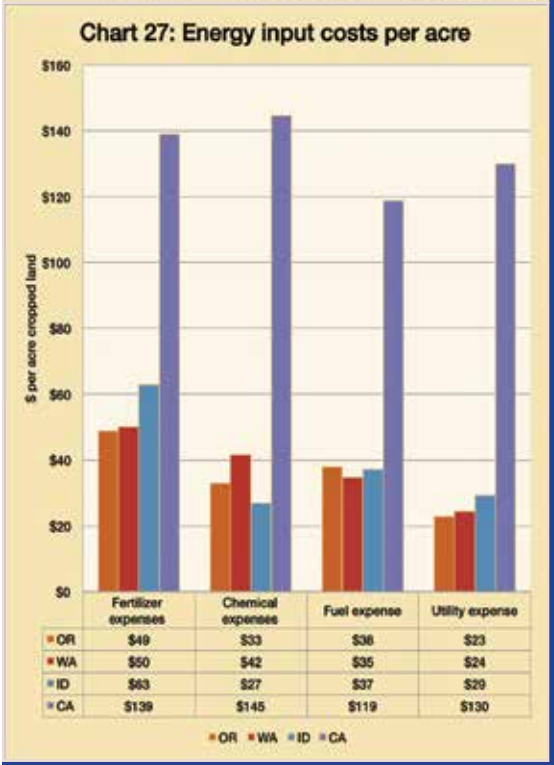
Farmers have little control over the costs of these diverse and necessary energy forms. But they do have some control over the quantity used and how they are applied.

On a comparative acreage basis of input cost, Oregon growers appear to be judicious in use, or have relatively lower cost inputs, than surrounding states. California is simply an expensive location to operate a farm, but it is close to major population centers and distribution hubs, providing offsetting advantages (Chart 27).

Further, Oregon growers continue to make their farms more energy-efficient. Nearly 5,000 Oregon farms, representing about 50 percent of Oregon's irrigated farms, reported making irrigation efficiency improvements between 2003 and 2008 (NASS, 2008). More than 2,080 farms reported reduced energy cost associated with the efficiency improvements.

A 2004 survey of small grain management trends in eastern Oregon and Washington found 17 percent adoption of no-till cropping systems, a dramatic increase from 1 percent in 1996 (Smiley et al, 2005). Fuel costs can be reduced 60-80 percent through no-till systems. A 2004 survey of Oregon wheat farmers found 21 percent of Oregon's nearly 1 million wheat acres had no-tillage operations and 47 percent of acres were in conservation tillage (systems requiring over 30 percent residue left after tillage operations; USDA Economic Research Service, Horowitz et al, 2010).

While Oregon's growers have significantly reduced energy inputs and costs, more opportunities remain. Policy makers could encourage faster adoption of energy conserving or generating technology through incentives,



technical assistance, or other strategies that help farmers overcome implementation obstacles and costs.

Conclusion

Energy is an integral part of our modern food system necessary to support the world's population. National and state policy should reflect and prioritize food and agriculture production as essential for economic growth as well as food and societal security. Farmers have little control over energy input supplies or costs, necessitating governmental policies to ensure stable markets and availability.

Recommendations for policy makers

- Support incentives and technical assistance for energy conservation.
- Create incentives for efficient fertilizer use. Fertilizer is energy-intensive to produce; therefore prices vary significantly along with oil or natural gas prices.
- Establish policy tools to stabilize or increase prices for renewable fuels and electricity produced on farm. For example, a feed-in tariff could help support renewable energy projects and make it easier for project developers to secure financing.
- Support further research into biofuel and bioenergy crops appropriate to Oregon.

For more recommendations and options, see "Agriculture and Energy in Oregon," Stephanie Page, 2011, Oregon Department of Agriculture. http://www.oregon.gov/ODA/docs/pdf/ag_energy_report.pdf

Key Farm Costs: Taxes

Planning for estate tax is one part of succession planning, or passing on the family farm. Although farms and ranches have high investment and operating costs, they are often "cash poor." In general, it can be said that the estate tax on farmers is double taxation, as the assets of the farm or ranch have been purchased from profits that were already taxed. Without careful planning, portions of an operation may also have to be sold by the heirs to pay the estate tax.

Farmers and ranchers should invest in the professional help of an attorney and accountant who specialize in agricultural succession planning. Minimizing estate tax upon death of the estate owners helps subsequent family or new owners continue a viable operation without taxes eating away the hard-earned equity.

Fortunately, Oregon's legislature created an exemption for natural resource-based estates that helps significantly, but is still costly to plan for and administer. Idaho and California have no estate tax, and Washington's is more straight forward.

One planning tool to transfer an estate is the federal Gift Tax Exclusion, which allows an individual to annually gift up to $13,000 from his estate, tax free, to any number of individuals as cash, or other legal mechanisms that represent cash value, such as stocks or shares in a corporation or LLC. Once the value of the shares is determined, they can be transferred to the heirs, thus utilizing the full annual gift tax exclusion. This accomplishes both transfer of the estate in an orderly manner, as well as minimizing the financial blow of the operation having to be sold to pay estate taxes. And with uncertainty over the federal estate tax rate, planning is imperative.

Estate planning comes at the cost of hiring attorneys and accountants. But, as one professional advisor stated, "The worst thing to do is to do nothing."

Jan Kerns

Type of tax	Oregon	Washington	Idaho	California
Property Tax: Ag land special assessment	Yes	Yes	Yes	Yes; in exchange for 10-yr. ag use agreement.
Property Tax: Buildings	Assessed value (~74.4% of real market value)	market value	varies by county	Same as real property.
Property Tax: Equipment	0.0%	State exempt; local applies	0.0%	Sales tax applies; partial exemption for ag equipment.
Property Tax: Ag inventory	0.0%	0.0%	0.0%	0.0%
Long-term Capital Gain	5.0%	0.0%	8.2%; 60% deduction from income tax for ag property sale.	9.3%
Sales tax	0.0%	8.5%	6.0%	8.0%
Corporate Income tax	6.6% for taxable income <$250K; 7.6% for TI>$250K	0.0%	7.6%	8.8%
Personal income tax*	9%; 9.9% for taxable income>$125K (single) or > $250K (joint)	0.0%	7.8%	9.3%
Unemployment insurance	4.3%	1.5%	3.4%	3.4%
Workmans' Comp.	$9.20/$100 payroll	.79/hour	3-8%	7-17%
Estate Tax	Complex to compute: base tax based on estate value plus additional 10-16% on estates valued > $1 million, less NR land credit based on % of land that is NR.	100% exemption for ag property if equal to or >50% of estate value. 10-19% above $2m. value.	0.0%	0.0%
Inheritance Tax	0.0%	0.0%	0.0%	0.0%
Farm vehicle registration	$35 to $585	$27.50 to $1,668.50	$48 to $5,860	$36 to $1,044

Comparative tax rates

Like most other employers, farmers

- withhold federal income taxes from employees' wages and forward to the IRS.
- withhold Social Security and Medicare taxes and pay FICA taxes equal to workers' portion.
- pay state and federal unemployment taxes (farmers who employ fewer than 10 workers or pay less than $20,000 in wages per quarter are exempt from unemployment taxes.)
- pay Workers' Compensation Insurance.

OREGON ADVANTAGE: Workers' Compensation (WC) is paid by all employers into a fund to assist with job-related injuries. Since 1990, Oregon has gone from the eighth most expensive state in the US for the cost of WC to the 10th most affordable. Premium costs to Oregon employers have dropped by 60 percent in that same time, saving (all) Oregon employers more than $18 billion. http://tinyurl.com/bktxxv2

OREGON DISADVANTAGE: On the opposite end of the ranking, the unemployment payroll taxes paid by Oregon employers rank among the highest in the nation for mature companies, but even higher for start-up companies with no experience ratings. Essentially, Oregon employers are paying $1,000 in unemployment taxes every year for every employee with $33,000 in earnings, which is a cost that is not borne by employers in other states. http://tinyurl.com/b46ycha

OREGON ADVANTAGE: No sales tax in Oregon is a clear and important advantage from a business perspective. All three surrounding states have a sales tax. Property taxes are assessed with differing methods in the four states, but all receive some sort of tax rate reduction based on agricultural value versus developed value of the property.

OREGON DISADVANTAGE: The corporate income tax in Oregon sits about equal with Idaho, less than California, and higher than Washington, which has no income tax. The minimum tax of $150 on S-Corps, and the gross receipt tax on C-Corps are both a disadvantage, and are regressive. Gross receipts taxes are incurred even in a loss year—which various agricultural sectors frequently experience. Personal income tax in Oregon is among the highest in the nation.

OREGON ADVANTAGE: Oregon's farm vehicle registration fees are very competitive compared to surrounding states (varies based on vehicle size and number of axles).

OREGON DISADVANTAGE: The average age of farmers in Oregon is the highest on record at 57 years. Millions of acres of land are pending transition to the next generation within the coming decade. Two taxes impact farmer retirement or death, and ability to pass the farm to family members or make a sale to someone else: 1) long-term capital gain, and 2) the estate tax (none of the four states have an inheritance tax for deaths after Jan. 1, 2012).

Making a farm sale (retirement, without a death) subjects the farmer to a capital gains tax rate of 9 percent if there is a gain in value. Oregon has the second highest capital gains rate in the United States, second only to California, which is 9.3 percent. Idaho has a high rate of 8.2 percent, but if the property is agriculture, 60 percent of the value is exempt, making the effective rate about 5 percent. Washington has no capital gains tax.

In the event of a death, the transfer of the estate may trigger estate taxes in Oregon. Idaho and California have no estate tax. Washington exempts all agricultural property from estate taxes if the agriculture or forest property value is more than 50 percent of the estate value. Only twenty states continue to levy a "death tax."

The federal estate tax exemption (ETE, until January 1, 2013) is $5 million for singles and (a nearly "automatic") $10 million for married couples, with a 35 percent maximum tax rate on value beyond those exemptions. However, with the law expiring on December 31, 2012, unless Congress acts, the exemption will revert to $1 million and the tax rate will increase—this is a serious concern for the agriculture industry since it is these assets of land and buildings where farmers have "invested" their earnings and retirement, and the income which purchased them has already been taxed.

A new estate tax law took effect in Oregon on Jan. 1, 2012. All estates valued less than $1 million are now exempt from estate tax. If the value is over

$1 million and less than $15.1 million, an estate can receive a natural resources credit if the value of the natural resources property (agriculture, forestry, etc.) is more than 50 percent of the value of the estate. The credit is applied against taxes owed, graduated from 10-16 percent. The calculation of the credit is rather complex, and for growers it is another cost burden of transferring the farm.

A simple example: A $5 million estate that is 100 percent natural resource land (agriculture) would owe an estate tax of $425,000. The natural resource credit is calculated at $425,000 since the entire estate qualifies as natural resource land. Applied against taxes owed, this leaves a net balance of $0 in estate taxes under the new law for deaths occurring in 2012 and beyond. Under prior law, the estate would have owed over $52,000. (Calculations provided by the Oregon Department of Revenue.)

The changes to the law will definitely benefit agriculture estates in Oregon.

Conclusion

Tax rates, credits, and incentives affect the viability of agriculture businesses in the state as they compete in a world marketplace.

Recommendations for policy makers

- Oregon's present tax structure presents advantages to Oregon's farmers in areas of Workers' Compensation rates, no sales tax, low farm vehicle license fees, and preferential property tax rates. Competitive disadvantages exist with the state's Unemployment Payroll tax rates, corporate and personal income tax rates, capital gains tax rates, and the estate tax. The Legislature could help Oregon farmers by addressing these disadvantages.
- While the legislature made progress in providing a natural resource credit for estate tax calculations, the process would be much simpler and less costly to growers if the estate tax were eliminated entirely for qualifying properties.
- Oregon policy makers could help agriculture's competitiveness and long-term viability by eliminating the long-term capital gains tax and estate tax for farmland transition when the sale is to a young or beginning farmer or to a member of the family.

Soil and Water Quality

The Oregon Department of Agriculture (ODA) and Soil & Water Conservation Districts (SWCDs) are helping producers address the challenges of soil erosion, water quality, and stream-side restoration. The Conservation Reserve Enhancement Program—which helps with riparian work—is a key tool and incentive for farmers in some areas of the state, but may not be the right program for all. Creative partnerships and "out of the box" alternatives for site specific landscape management is needed to address broader areas of the state. One example of this may be a voluntary certification. We need to engage mainstream commercial producers, as well as smaller landowners, to make it a larger gain.

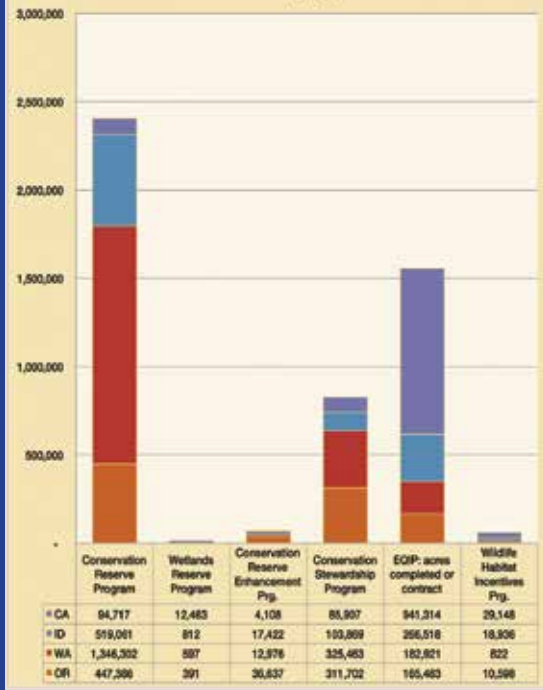
We are looking to our partners to help ODA and SWCDs with a renewed focus and collaboration in helping landowners make even more progress in natural resource management—USDA/Farm Service Agency and the USDA/Natural Resources Conservation Service, the Oregon Watershed Enhancement Board, and OSU Extension can extend a hand to make these changes. Better incentives, including financial resources, need to be provided for technical assistance to continue to make progress.

Our state was founded and remains economically viable due in great part to agriculture. Yet, all of Oregon's natural resource agencies combined are supported by 1 percent of the state budget. Protecting agriculture and our natural resources simultaneously, both financially and philosophically, leads directly to economic stability and sustainability.

With interest in sustainability, local production, and organics on the rise in the State of Oregon, I see the need to increase awareness of soil quality and water quantity needs for all growers.

Barbara Boyer

Using and preserving Oregon's natural resources



	Conservation Reserve Program	Wetlands Reserve Program	Conservation Reserve Enhancement Prg.	Conservation Stewardship Program	EQIP: acres completed or contract	Wildlife Habitat Incentives Prg.
CA	94,717	12,483	4,108	88,907	941,314	29,148
ID	519,061	812	17,422	103,869	266,518	18,936
WA	1,346,302	597	12,976	325,463	182,921	822
OR	447,306	391	30,637	311,702	165,483	10,598

All four states have versions of Soil & Water Conservation Districts and state policies designed to help growers address soil erosion and water pollution from agricultural activities.

Further, the state departments of agriculture and other cooperators work with the US Department of Agriculture to facilitate delivery of federal program funds for streamside restoration, riparian vegetation, wetland restoration, animal waste management, and soil erosion control. Most often this is through cost-share programs such as the Environmental Quality Incentives Program (EQIP), or land conservation programs (Conservation Reserve Enhancement Program (CREP), Wetlands Reserve Program, etc.).

Oregon has 972,000 acres enrolled in or managed for conservation enhancement objectives. Idaho has a total of 927,000; California has 1.2 million; and Washington has the most with 1.85 million acres enrolled or treated, primarily in the CREP program.

Washington dominates CREP acreage; California leads in Wetlands Reserve; Oregon has championed the CREP for streamside restoration; Oregon and Washington farmers take greater advantage of the Conservation Stewardship Program; and California leads in EQIP and Wildlife Habitat Incentives Program (WHIP).

Washington leads with percentage of all farmland enrolled in conservation usage at 13 percent; Oregon and Idaho enroll 6 percent of farm acreage; and California has 4 percent in these efforts.

These conservation programs are all crucial to address many resource management issues.

Despite the best efforts of growers and the federal conservation programs, there are three natural resource challenges to farm operations that intensely impact agricultural lands and management options:

- Threatened and Endangered (T&E) Species listings and habitat designations
- Miles of streams or area of water bodies designated as "water quality impaired" by EPA or the state environmental agency. Such listings prompt the need for Total Maximum Daily Loads (TMDLs, or allowed impairment levels), which influence agricultural management and activities
- Invasive species (plants, pests, and diseases) that threaten natural, agriculture, forest, and urban landscapes and environments, as well as animals—both livestock and pets.

Threatened and Endangered (T&E) Species

Chart 30 shows total T&E listings in each state, and includes all fish, mammals, birds, amphibians, reptiles, insects, plants, and mollusks considered threatened or endangered on state or federal listings. Listings are based on scientifically documented threats and endangerment to the species. Listings also reflect the flora and fauna that exist in a certain geographic region.

Washington has more T&E plants listed than any other state, which boosts its overall total (320 plants of 467 listings). California also has many T&E plants, comparatively (246 of 408).

Idaho stands out in stark contrast, with no birds or insects listed, and only a handful of fish, mammals, plants, and reptiles. One distinctive factor is Idaho's inland location, which buffers it from the impact of many anadromous fish (who live most of their lives in the ocean, returning to inland streams along coastal states to spawn), many of which are listed as T&E by state or federal agencies.

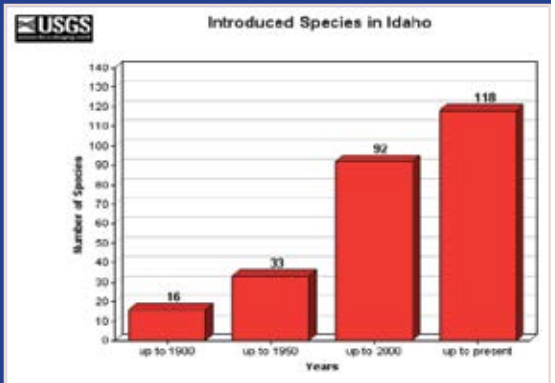
One caution about using the number of T&E listings is that it doesn't provide a picture of the total acres or land area affected by the listing. Even though Oregon has fewer overall listings than Washington, the fish listings affect much of Oregon's landmass and available irrigation water. Although T&E listings have a great impact on available irrigation water and use requirements, plant and animal T&E listings also have a great impact on land uses and agricultural operations. For example, the wolf listing negatively impacts livestock owners' ability to protect the health and well being of their animals. The sage grouse listing impacts range operations on locations of allowed grazing. Listings may prohibit or curtail actual uses of private land upon which a species is found.

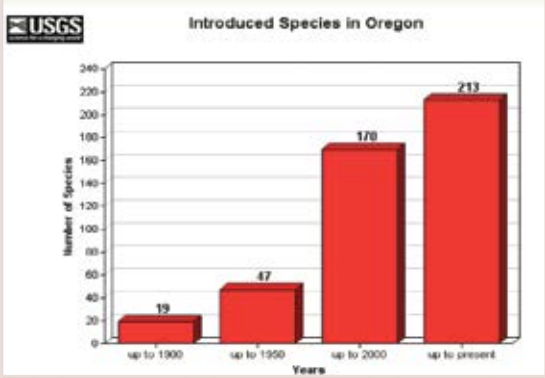
Miles of Impaired Streams or Water Bodies

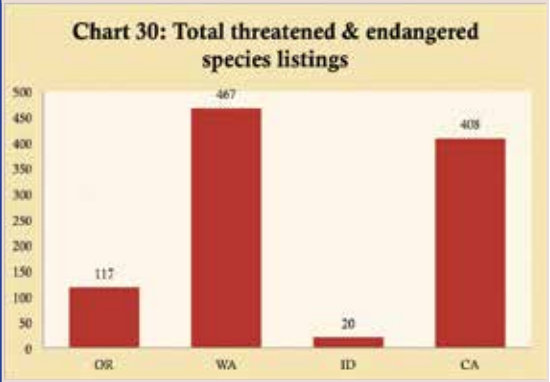
Each state is in a different stage of assessing and reporting water quality information.

The leading causes of stream impairment in Oregon are temperature, sedimentation, nutrients, pH, dissolved oxygen, pathogens, and to a lesser extent, naturally occurring minerals, and some pesticides. Similar causes of impairment, but in different order, appear for other bodies of water.

More than 60 percent of Oregon's landmass lies in an arid climate. This means there is less rain or snowfall to contribute to perennial stream flow that is necessary for cool water. In addition, the more arid regions have less land vegetation and natural riparian vegetation, due to lack of water. This contributes to higher natural temperatures in the streams across much of eastern Oregon and Washington, Idaho, and California. Getting to







"cool" may never be possible, making temperature modeling and regulation a challenge.

Agriculture bears some, but not all, responsibility in these situations. Many conditions are naturally occurring. There are several factors beyond the control of growers:

- temperature, vegetation and rain or snowfall that greatly impact the amount of available water
- sedimentation from degraded forest conditions, due to fires
- severe weather events, creating slides, floods, and washouts
- bacteria levels from wildlife contamination of waters
- naturally occurring high background levels of various mineral components.

Keeping this in mind, agriculture does have an important part to play in minimizing impacts and improving conditions. Strategies include protecting and restoring streamside areas, managing croplands to prevent and control erosion, and managing manure and other nutrients to promote plant uptake and minimize runoff.

Each state has unique challenges, site-specific issues, a variety of causes leading to impairment (some of which are from natural or legacy conditions), and various resources available to help landowners, businesses, municipalities, and the urban public implement strategies and remedies.

Invasive species

Invasive pests in Oregon include, but are not limited to, plants, animals, aquatic plants and animals, plant diseases, and animal diseases. All are devastating in their own way and need to be prevented whenever possible—a difficult task in a global trade and travel environment. For invasive species, the states stack up similarly in rank to the T&E listings. Idaho has the fewest invasive species, again stationed more insularly and less directly impacted by trade. Oregon follows next, with fewer invasive species than Washington. California tops the comparisons with over 470 introductions within the last 100 years. From 2000 to the present, Oregon has had 43 new introductions; Idaho-26; Washington-51, and California-38. All states have invasive species councils that actively engage the public in the battle to slow the introductions and control the impact of invasive species.

The Oregon Department of Agriculture has been successful controlling insects like gypsy moth and the Japanese beetle, but challenged by the persistence of *P. ramorum*—which causes sudden oak death—and other disease-causing organisms, as well as emerging insects such as the spotted wing drosophila. Some invasives become pervasive and more difficult to eradicate. Then, the goal is to control these species on private working lands

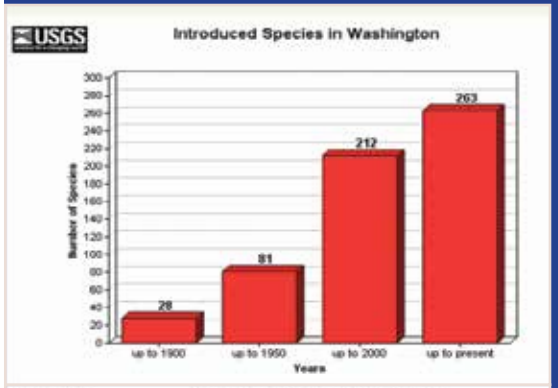
in a manner that is cost-effective, control-effective, and with minimal impact on the surrounding environment. Equally important are public lands, parks, scenic areas, rights-of-way, waterways, riparian areas and wetlands, and other natural settings where invasive weeds, insects, aquatic life, and diseases can wreak havoc.

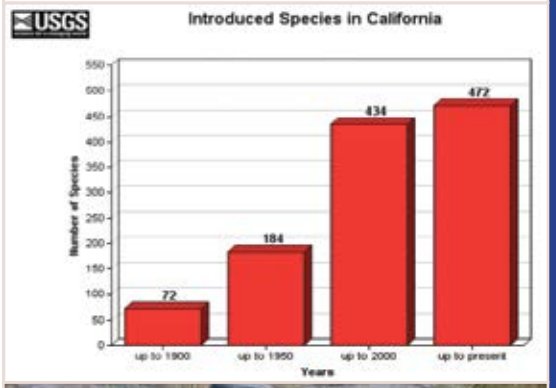
Conclusions

- Agriculture has a role to play in responsible management of natural resources.
- Some conditions that impair water or soil quality are naturally occurring and beyond the control of growers.
- Federal and state agencies responsible for species management can accomplish more through collaboration with landowners than by restrictive listings and prescriptive management practices that impact farm or ranch resources and disrupt rural economies.
- Farms need to be profitable and have access to cost-share programs in order to reach standards and achieve improvements in resource management.
- Vigilance is key to preventing the spread of invasive species. Efforts require tracking, controlling, and eradication. Collaborative public and private participation is the most effective way to achieve success.

Recommendations for policy makers

- Incentives are important. Investment in resources is sometimes more costly than landowners can afford. Grants, cost-share, or other financial incentives are necessary to help farmers manage their lands to protect water quality, fish and wildlife.
- Fund technical specialists at Soil and Water Conservation Districts (SWCDs), watershed councils, and other organizations that help farmers and ranchers design their projects, review technical proposals, and secure grants and financing options.
- Provide flexibility in regulatory programs and focus on outcomes rather than specific practices.
- Help establish assessments of both landscape conditions and water quality as indicators of agriculture's progress to address water quality concerns.
- Continue funding ODA plant programs that offer robust tracking systems, control tools, and resources to respond against invaders that continually threaten the ecosystems and economy of the state.





Land Use

Even with the pressure of population increases, Oregon's hallmark land use process has protected much of our land base for agriculture. However, continued development pressure, particularly around existing metropolitan areas, requires constant vigilance by the agriculture community. Also, we are losing prime farmland in the Willamette Valley annually to aggregate (gravel) mining. The state should take a proactive approach to finding other locations for aggregate mining by requiring an alternatives analysis on prime farmland.

The success of Oregon's wine industry and the public's growing interest in food and agriculture has sharply increased the development of rural tourism and entertainment activities in rural areas. These new ventures, from winery events to pumpkin patches and farm stays, can help diversify the agriculture economy and increase the support of agriculture in urban areas.

However, we want to ensure that these activities are directly related to commercial farm use or processing on the farm where they are located, and that they are compatible with other farm and ranch operations in the area. Without a consistent and even public policy approach to these enterprises, conflicts can occur over excessive traffic, noise, dust, etc. We urge the Oregon legislature to take a comprehensive approach and analyze the myriad complex issues involved, before taking action on new legislation around agritourism.

Lynn Youngbar

A key requirement of agriculture's viability is long-term availability of land, especially lands with high-value agriculture soils and water. Unfortunately, many of our most productive crop lands are in flatter areas with water access and near urban areas. These also tend to be the most desirable for new development, e.g. much of the Willamette Valley and parts of southern and central Oregon.

In order to preserve land for productive agriculture and forestry, the Oregon Legislature created a land use system in 1970 that specifies zones in which primary activities are devoted to agriculture (cropping and livestock), forestry, or urban development. This zoning helps minimize conflicting uses. There are various blends of these zones, and an exception process that may allow certain other uses in agriculture zones, such as the location of utilities, churches, schools, etc. when evaluated for the impacts on agricultural activities.

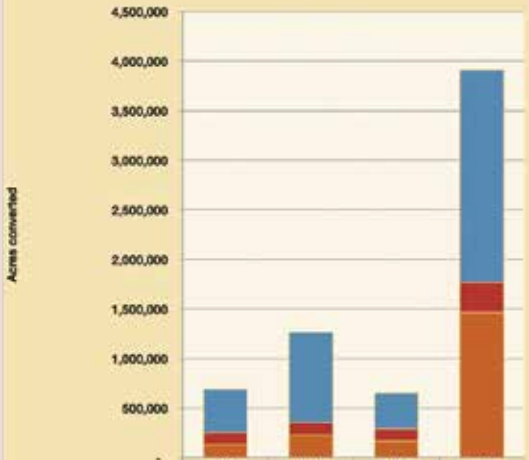
Oregon's land use system is more comprehensive than that of surrounding states, although each has ordinances, and developmental review and approval processes, which provide protections for farmland. Idaho is the least restrictive on farmland conversion. California instituted an easement program that provides a lower property tax rate in exchange for 10 or 20-year commitments to agricultural land use. This is a voluntary "sign up" program, whereas Oregon's system is applied equally across all property in a respective zone. Preferential agricultural property tax rates are applied in Oregon (reflecting agriculture rental values rather than development potential) as public policy in recognition of the broad benefits of agriculture to society, the economy, and the ecosystem. (A Comprehensive Valuation of Agriculture: http://oregon.gov/ODA/Pages/do_reports_land.aspx).

The amount of land preserved in agriculture—or conversely, the amount of agriculture acres converted to developed use—is a strategic measure of policy and societal influence on the viability and structure of agriculture in each state.

California has the highest rate of total farm acres lost, with 21 percent of acreage converted over the past 25 years, forever under asphalt and buildings. Idaho has lost 17 percent of overall ag land to development, followed by Washington at 9 percent. Oregon lost 8 percent. Prime farmland fared better, so the best of the best is being preserved longer while non-prime lands are given over to development as population increases, ranging from 4 percent to 6 percent in all states.

Two-and-a-half decades of data show Idaho and Washington faced the greatest increase in population, both with over 65 percent growth (1982 to 2007). California population increased 59 percent, and Oregon population grew by 47 percent.

Chart 31: Agricultural land (acres) converted to developed land, 1982-2007



	OR	WA	ID	CA
Rural lands converted	431,100	907,100	363,800	2,142,100
Prime ag land coverted	122,700	124,700	124,400	301,500
Ag land converted (non-prime)	132,600	231,300	165,100	1,465,700

	OR	WA	ID	CA
% Prime Converted	-4%	-6%	-4%	-5%
% Total Ag Land Converted	-8%	-9%	-17%	-21%
Population growth 1980-2011	47%	65%	68%	59%

While Oregon's land use process is envied by many states, it is always under pressure, particularly in expanding urban areas to provide jobs and housing for future populations. But who will provide food and landscape materials if we eat away at our valuable farm land for future development?

The Governor's Office has recently convened stakeholders in an Urban Growth Advisory Committee to streamline the urban growth expansion process for smaller communities (less than 25,000 population). While this process can help Oregon's smaller communities accommodate the growth they are experiencing, it will be important to make sure that options other than the conversion of the best farmlands are seriously considered for new boundary expansions. And we need to make sure we are looking at cumulative impacts so that we don't eat away valuable farmland little by little, even farmland that seems less suitable.

Keep in mind that nearly 900 vineyards have sprung up in the past 30 years, mostly on class III-VI soils. "Some of this land was claimed to be non-farm land in the past. Had the Goal 3 definition of agricultural land adopted in 1975 not included 'other lands suitable for agricultural use,' much of this class V land would likely have been developed for other uses." (2008-09 FARM & FOREST REPORT, http://go.usa.gov/gQ5W).

Also, the fast growing rural tourism industry, while an asset to many farms, is also impacting farm operations. Rural tourism is on the rise and an increase in events on farms (for example, concerts, weddings, wine related events) increases traffic on rural roads, and objections to dust, spraying and farm related noise. These conditions may put pressure on neighboring agriculture operations, leading to conflicts about enforcement of local and state codes. A consistent, statewide approach is necessary to create an environment of certainty for those undertaking these events and to protect those who farm near them. Cumulative impacts of these uses are also important considerations, as Napa Valley in California demonstrated with a moratorium on new wineries.

Other pressures on ag lands include energy facility siting and transmission, rural residential developments, aggregate mining, parks, and other non-farm uses.

We urge the strong support by policy makers of agriculture land preservation for agriculture use.

Conclusion

Oregon appears to be losing ag lands to rural (non-farm) uses, and then these rural lands are further re-zoned or developed in ways that can impact production agriculture. Lawmakers need to keep an eye on the overall loss and cumulative influence of these conversions and uses.

Recommendations for policy makers

- Require an alternatives analysis on any application for mining aggregate on prime farmland.
- Implement a consistent and even statewide policy on rural tourism and related events including wineries.

Local Foods & Small Farms

The number and variety of direct marketing opportunities for farmers in Oregon has increased dramatically since I started farming 16 years ago. Then, there were only a handful of farmers' markets in the state. Last year over 90,000 shoppers visited farmers' markets weekly and spent several million dollars directly with Oregon farmers. Fresh market growers are also reaching more consumers every year through CSA (community supported agriculture), farm stands, u-pick, and local restaurant sales.

For many people, market farmers are the face of Oregon agriculture. These farmers are dedicated to bringing high quality products to market and their enthusiasm is inspiring.

Growing for local markets has benefits to both farmers and communities. Everyone knows we should be eating more fresh fruits and veggies so the benefits there are obvious! When consumers shift their food dollars to local and regional farms it can create more jobs on the farm and for related businesses. In addition, many small farms have chosen to be certified organic or self identify as sustainable which helps to protect natural resources, if managed well.

That said, there is so much more we can do. Both small farms and communities will benefit if local food can be made more available and affordable. Balancing concerns about food safety and habitat improvements is an ongoing struggle for many fresh market growers. And last, but not least, there is work to be done to improve the profitability of small farms. While there are some great success stories out there, many farmers still depend on off farm incomes to support their household.

Successful, sustainable small farms and strong local food systems provide big benefits to the citizens of Oregon. We must support key programs and policies in order to resolve some of the current challenges and insure the success of small farms now and into the future.

Laura Masterson

Sustaining successful small farms

Based on Oregon's farm structure, it is no surprise that direct marketing is an important strategy in many areas of the state.

The number of Oregon farmers' markets has increased nearly four fold in the past two decades. The phenomenon is not unique to Oregon, however. Increased interest in supporting local farms is evident across the nation.

Here's how the number of farmers' markets stack up between the four states (Chart 32):

- Oregon is outpacing Washington and Idaho in this venue, but California is clearly the leader.
- A percentage of the number of farmers engaged in direct marketing of any sort has Oregon well in the lead with 16 percent, followed by Washington (14 percent), California (9 percent), and Idaho (8 percent).
- Oregon ranks second in all direct farm product sales—including those from farm stands, Community Supported Agriculture (CSAs), online marketing, etc.—totaling over $270 million in the four states.

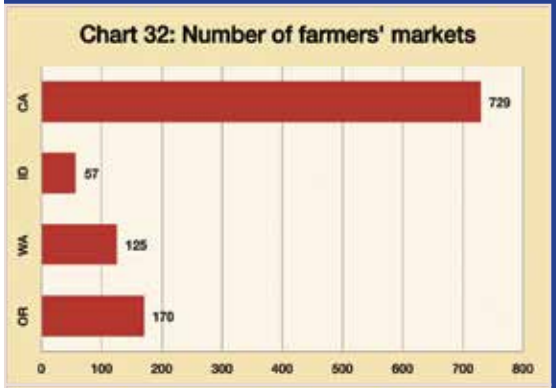
As expected, California dominates the volume of direct farm sales. Oregon follows in second place with 21 percent of the total, or nearly $57 million, going to Oregon farmers from direct sales.

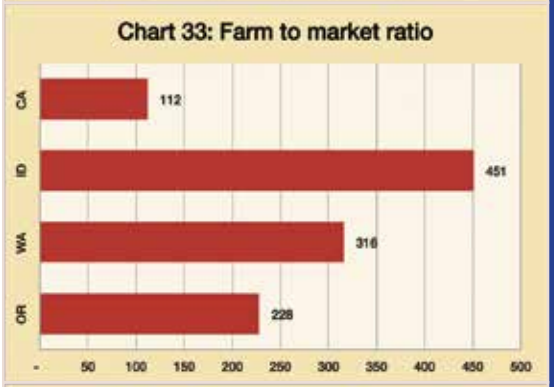
Direct sales are important for smaller farmers, especially those just starting out. On a per farm basis, the sales average about $9,000 in Oregon (see Chart 36). This is clearly not enough to support a family or even one person, especially after expenses are deducted from this sales figure. The need to assist small and beginning farmers to boost sales is evident.

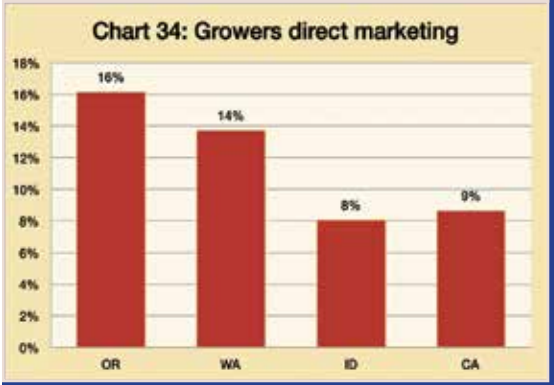
Averages, of course, don't tell the whole story. There are certainly some small farms that are doing well and growing. That's what we want to see.

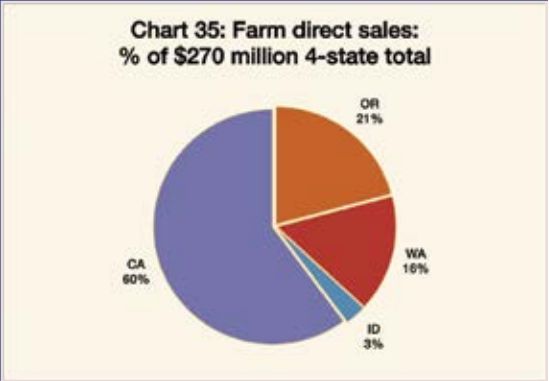
However, because most small farms lack "scale" or size that brings certain economies or efficiencies, they need to collaborate or enter into agreements with other farms to aggregate goods; share equipment, cooler space, cleaning or processing facilities; jointly lease land; or create cooperative marketing opportunities.

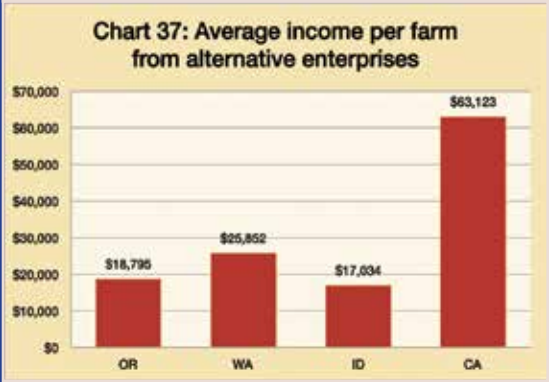
The US Department of Agriculture has made beginning and small farmers a priority and is allocating significant resources, policy, and technical assistance to this sector. As many small farms in Oregon are also focusing their production practices on organic certification, that arena is also a focus of USDA programs and funding.











Some of the incentives for small farms include:

- Cost-share for organic certification (administered by the Oregon Department of Agriculture)
- Cost-share of technical assistance and qualifying practices to implement buffer strips, conservation crop rotation, cover crops, drip irrigation, fencing, field borders, mulching, nutrient management, pest management and others practices through the Environmental Quality Incentives Program (EQIP).
- Research funding into organic practices to increase yields, control weeds, and address pests and diseases (Oregon State University and other universities).
- Dedicated loan funds for beginning and small farmers through USDA's Farm Service Agency.
- Farm to school, farmers' markets, and other direct marketing program support.

Expanding alternative income opportunities

Upwards of 13,000 Oregon farms are participating in various types of alternative incomes that help support agriculture operations (Chart 37).

Average farm income from these enterprises in Oregon is nearly $19,000 per year for each operation (includes direct marketing).

Renewable energy siting policy needs to recognize that sizable facilities should not be on prime farmland or interfere with the principle use of farmland for farm purposes. However, there are many opportunities for expanding renewables and other alternative enterprises with careful and creative zoning, siting standards, and model criteria for counties to consider.

Conclusion

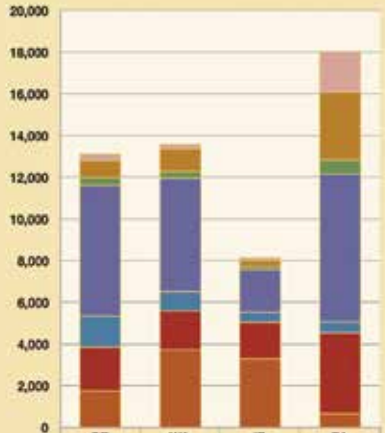
Smaller operations are an important part of the character of Oregon agriculture. These farms need assistance in expanding sales and alternative income opportunities using the natural resource base to remain viable.

Recommendations for policy makers

Policy makers can help beginning and smaller farms, and alternative income opportunities on Oregon farms by:

- supporting the Agriculture in the Classroom program (http://aitc.oregonstate.edu) so a rising generation will understand food and natural resource issues, and career opportunities.
- supporting high school FFA and other vocational and technical training programs that can prepare interested students in applied learning and career development related to agriculture and natural resources.
- creating an "apprentice" certification program for new farmers in Oregon.
- supporting farm incubator programs throughout the state.
- supporting OSU Small Farms Program and research.
- supporting Food-hub.org and other online marketing outlets for growers.
- supporting farmers' markets, farm stands, farm to school, community supported agriculture (CSAs) and other local venues to expand outlets for small operations.
- making business planning more readily available to new farm start-ups.
- eliminating the estate tax for farmland transfers to family or new/beginning farmers.
- creating model county siting standards for renewable energy or other alternative farming models (agro-tourism) to minimize conflicts with other farming operations while enabling income opportunities for small or diversified operations.

Chart 38: Number of farms engaged in alternative income agriculture enterprises



	OR	WA	ID	CA
Wind, digester or PV solar	342	217	147	1,956
Organics	799	1,075	273	3,235
Agri-tourism	376	342	135	665
Direct marketing	6,274	5428	2,076	7,068
Farm forest products/timber	1,456	933	465	546
Custom services for other growers	2,095	1,852	1,765	3,669
Conservation programs	1,756	3,722	3,285	668

Food Safety

We live in a country with an abundant supply of safe, nutritious food. It's delicious and fresh, waiting to be enjoyed, whether from the farmers' market or grocery store. However, it doesn't just happen. Abundant, safe food takes a team of farmers, ranchers, employees, veterinarians, scientists, and food safety professionals at the federal, state, and local levels of government.

At our dairy farm, we are visited by an ODA food safety inspector, a veterinarian who checks our cows to ensure they are healthy and happy, and a CAFO inspector who makes sure that manure nutrients are used in the best way for the land. The milk receives even more scrutiny with quality checks at both the farm and the processing plant. That sounds like a lot of regulation, but these steps ensure that each gallon of milk is as safe as possible and is produced in an environmentally friendly way.

All farmers and food producers are responsible for providing a high level of safe, nutritious products regardless of farm or food operation size or scale. Food safety is not an option—it's a priority.

Our united goal is to produce, deliver, and serve wholesome and safe agricultural products for each and every family.

Jerome Rosa

Safe food is smart food

Throughout all stages of the food system, everyone has a role to play in ensuring food is safe and wholesome to consume. This includes from seed to farm, through processing to the consumer, and the preparation and handling by consumers at home or in restaurants and other outlets.

State resources are critical in times of food recalls to pinpoint sources as quickly as possible, to protect potentially affected consumers, and to minimize financial damage to the rest of the industry from "guilt by association."

Comparing states in this arena is very difficult due to the difference in how food safety programs are configured and what agencies are involved. Food illness outbreaks are as likely to be caused by contamination during distribution as from the farm source. Hence, impacts can be anywhere food is distributed, not just at a single location. Also, food is sourced from all across the globe, year round. How the end product is handled and cooked can also be the cause of an outbreak. These and other factors all play a role in this complex array of present day food systems.

One program that cuts across states for food safety adherence at the farm, food processing, and packing levels in fresh produce is the USDA Good Agricultural Practices (GAP-farm level) and Good Handling Practices programs (GHP-handler/packer level).

GAP/GHP certification audits are conducted by third-party entities based on FDA's Guidelines to Minimize Microbial Contamination for Fresh Fruits and Vegetables. The practices are a set of parameters that growers can implement during growing, harvesting, sorting, packaging, and storing to reduce the possibility of microbial contamination.

Some process similar to GAP for growers will likely be part of the new FDA Food Safety Modernization Act requirements. A complete list of the criteria for growers to pass GAP certification can be found here: http://go.usa.gov/gQNm

Global GAP that transcends borders is also being widely adopted: http://www.globalgap.org

For growers to adhere to this level of management on a daily basis requires a dedicated staff and additional resources, especially in documentation and recording all activities, the ability to trace product to fields and through the chain of custody, as well as certification fees for third-party audits—in other words, costs increase for the grower. There may be a marketing return, or there may not.

A multitude of certification programs have emerged from large corporate buyers to address

food safety (including Walmart, Kroeger's, and many fast food companies). These evolve, and the specifics of what will be required as a minimum in the future remains uncertain.

But this much is certain—the time, attention, and resources devoted to food safety in farm production will be ratcheted up.

Conclusions

- Growers and food processors must adapt to new production safeguards and testing measures of the Food Safety Modernization Act (FSMA)—not only to maintain the reputation of a product in the market, but also to remain competitive financially with additional costs to meet the standards.
- State agency food regulators also need adequate resources to assist the industry and continually ensure safe food is available for the public.

Recommendations for policy makers

- Growers need technical assistance, development of best management practices, and possibly financial help for food safety efforts.
- Prioritize food safety in the state budget. The Oregon Department of Agriculture food safety inspections and commodity inspection audit programs help ensure that consumers enjoy a safe food supply. ODA programs also help growers of all size understand and comply with food safety codes and best management practices. This requires dedicated state resources and priority importance, affecting consumers everywhere Oregon products travel.

2012 Farm Bill Priorities

Priorities for Oregon AG

- **RESEARCH**—public funding of agriculture research returns great benefits to the public; Extension is essential to make research accessible to growers.
- **CONSERVATION**—strong Title II conservation programs and incentives for growers, especially around water quality and ecosystem benefits.
- **CROP INSURANCE**—replace most Title I programs (direct payments) with a strong safety net that protects growers from catastrophic disasters and wide market fluctuations and other risks; coverage for a variety of crops and whole farm income protection options.
- **MARKETING**—Strong export programs (MAPP, etc.) and local program support (farmer's markets, farm to school, etc.).
- **SPECIALTY CROP GRANTS**—continue with state block grants; very effective.
- **VALUE-ADDED PRODUCER GRANTS**—important to help growers diversify and add value-streams to their operations.
- **ENERGY EFFICIENCY AND RENEWABLES**—continue support for more biobased products, tax incentives, and agriculture market options.
- **FINANCIAL PROGRAMS**—Farm Service Agency loans serve a critical niche in agriculture lending, especially to small and medium-sized growers.
- **FOOD SAFETY**—assisting growers to meet standards of the new Food Safety Modernization Act, as well as continuing cooperative efforts with state agencies through appropriated resources.
- **INVASIVES**—growing problem that needs continual attention; prevention is less costly than eradication or control.

Non-Farm Bill priorities

- Estate tax elimination for agriculture, or reset to 2010 levels.
- Legal and available workforce.
- More resources for water capture and development projects.

Board of Agriculture Resolution

Big Tent, all Agriculture Needed/Welcome

At its quarterly meeting in June 2011, the State Board of Agriculture approved a policy resolution in support of diverse farm systems, scale (size), markets, and technologies—an approach commonly called "the big tent" because of its inclusiveness to the diversity found in today's Oregon agriculture. The resolution reads:

- Whereas a broad spectrum of production systems, certification programs, and technologies exist in agriculture (with many labels)—ranging from organic, natural, sustainable, Good Agriculture Practices (GAP), conventional, biotechnology, and many more;
- Whereas Oregon farms vary in scale, business structure, and length of time in operation—some new, some over a century in the same family farm business—all contributing to the mosaic of agriculture in our state;
- Whereas farmers have opportunities and responsibilities to many markets, including those nearby (local), regionally, and internationally, any of which may involve selling direct to consumers or wholesale, via contract or open market pricing;
- Whereas those engaged in production of agricultural crops or livestock are entrepreneurs, venturing their own knowledge, capital, resources, and ideals to bring products to market with the intent to make a profit;
- Whereas farmers should, of their choosing, be able to pursue and utilize all available legal technologies and agriculture production systems to grow crops and raise livestock while preserving the safety of our food supply;

- Whereas all growers have the responsibility for good stewardship of natural resources, and every farmer/rancher must make management decisions that can support such stewardship regardless of production system;
- Whereas good communication between neighboring farmers about practices and cropping choices is important to maintain crop integrity, resolve potential conflicts between neighboring operations, and help maintain successful farm operations;
- Whereas those engaged in agricultural pursuits recognize that improvements in production processes require research, technological advances, and infrastructures to support adoption of new methods;
- Whereas feeding and supplying a world population projected to increase from 7 billion to over 9 billion people in the next 30-40 years will require every available production methodology and technology, adapted to local conditions, that improves output while maintaining natural resources.

Therefore, the State Board of Agriculture supports

- Wise management of all production systems on farmlands and agriculture applications, striving for economic viability, natural resource stewardship, good neighbor and employee relations, and community connections.
- Growers retaining the legal and economic opportunity to choose production technologies and resources, size of operation, and business structures necessary to produce products that meet the markets they choose to serve.
- Growers using best management practices (BMPs) where needed to minimize conflict between production systems as necessary, such as required isolation or control areas, good neighbor (farm-to-farm) communications about crops to be grown, pinning systems that notify other growers of crops and production systems, and other methods of adequate management to minimize cross pollination or crop commingling, noise or nuisance impacts, and other potential interactions.
- State and federal programs that encourage a variety of agriculture production systems with appropriate research, infrastructure, tax policies and marketing support to engender new ideas; facilitate commerce; support efficiencies in inputs, production and yields; sustain natural resources; and provide financial and technical assistance when available and appropriate.