

Future of Farming Project – 2008

Competitive Advantages of Washington Agriculture – Current and Future

Introduction

One of the most crucial influences on the future prosperity of Washington State agriculture is its competitiveness in local, regional, national and international markets. While different commodities have greater or lesser dependence on different market segments, all face strong competitors in each segment.

The ability of Washington State agriculture to maintain or expand its share of different markets is dependent on both controllable and non-controllable factors. It must effectively manage controllable factors and adapt to non-controllable factors. This paper discusses what these factors are and what changes might be needed at the level of the individual farm or agribusiness, within commodity organizations and industry organizations, among supporting supply and marketing firms, and within government agencies at each level, to help enhance the competitiveness of Washington State agriculture into the future.

Key triggers of competitive advantage

There are many ways in which a firm or industry can gain a competitive advantage in the market place. The five most important are:

1. price (relative to competing suppliers of comparable products)
2. intrinsic qualities (e.g. taste, texture, milling quality, specific gravity)
3. service attributes (reliability, continuity, added services to customers)
4. reputation (either historic associations with district or state, or managed associations such as wine appellations)
5. extrinsic qualities (for example, meeting safety, health or environmental concerns)

A part-time grower, a full-time farm firm or an agricultural industry may use any combination of these factors to gain or retain a competitive advantage. However, competitive advantage on each of these factors is changing continually. For example, a new product may be placed on the market that has a lower price or a superior quality attribute to an existing Washington product. Washington State firms can respond either by reducing costs, by introducing a comparable quality attribute or by strengthening other aspects of their products. Competitive advantage is not a steady state. Rather it is a continually moving target where the bar for excellence is constantly being raised.

Sources of competitive advantage for Washington agriculture

Washington State agriculture is composed of firms of every shape and size, from part-time farmers to large, integrated production, processing and marketing operations. It produces a highly diverse range of products in very diverse production sub-regions, including the dryland prairies of Eastern Washington, the irrigated areas of Central Washington, the maritime valleys of Western Washington and extensive rangelands across the state. Potential future products are limited only by the imagination.

Thus, the sources of competitive advantage vary somewhat by commodity and sub-region. However, there are still many common sources of competitive advantage that can be either hindered or nurtured by production practices, organizational behaviors, or public policies. Key sources of competitive advantage are:

1. location, relative to potential markets
2. natural resources (land, soil, climate, water, energy)
3. human resources (entrepreneurs, managers, workers)
4. internal efficiencies of farms or agribusinesses
5. related industry organizations (commissions, associations, etc.)
6. infrastructure (farm roads, rail, highway, transportation services, ports)
7. science and technology (USDA, WSU, etc)
8. system efficiencies (supply, marketing and financial networks)

Each of these sources is discussed in more detail below.

Location is a two-edged sword. Much of Washington State agriculture is located in rural areas where the competition for land is limited and land costs are relatively low. However, the in-state market for many commodities is relatively small. Washington State agriculture is located 2,000 miles or more from most of the largest markets in the United States. On the other hand, Washington State has an advantage in location over much of the rest of North America in supplying the densely populated, land-poor markets of the Asia-Pacific region. Changes in transportation costs can alter the advantages and disadvantages of Washington State's location. The tripling of world oil prices since 2004 has driven up the delivered cost of many Washington State products.

Washington State agriculture has many natural resource advantages. The soil and climate in the different regions are ideally suited to the cultivation of certain crops; grains in the Eastern counties, intensive crops in the center of the state, and cool season crops in the western counties. In the irrigated central district, major rivers have been harnessed to provide abundant water and cheap electricity. The state's agriculture can meet consistently high quality standards at competitive unit costs both to serve fresh market needs and to support a diverse food processing industry.

Washington State agriculture has attracted the capable human resources needed to drive its competitiveness. Its growers have been entrepreneurial in trying new crops or in expanding into packing, processing, marketing and exporting activities. Many family farms are now in their third or fourth generation, with most, younger members having acquired at least an undergraduate degree in agriculture or a related field from Washington State University or other regional universities and colleges. Many managers of larger farm and agribusiness organizations have received similar education and training. Until recently, there was a plentiful supply of skilled and dedicated workers, mostly drawn from immigrants who had settled in the state or from temporary migrants. However, that pool of skilled labor is now under threat due to changes in U.S. immigration policies.

The key corps of entrepreneurs, managers and workers has enabled most Washington State farms and agribusinesses to continually improve the internal efficiencies of their

operations. Scientists at Washington State University and at USDA facilities across the state have played a major role in helping agriculture adapt the latest technologies, processes and systems to Washington State conditions.

A diverse array of industry organizations also helps to advance Washington agriculture. There are 25 agricultural commodity commissions that used their authority to raise assessments of \$27.1 million from growers in 2007 to fund research and promotion. However, those assessments amounted to less than one half of one percent of the value of the state's agricultural output. There are at least 38 grower membership associations representing individual commodities. There are three general farm organizations with voluntary memberships that deal with cross-commodity issues. There are also numerous specialized organizations that deal with food processing, transportation, trade, labor, conservation, development or other pertinent issues. When these organizations speak with one voice, they can be very effective in advancing agricultural causes. However, because of their different commodity bases, regional locations or philosophical perspectives, unanimity is often difficult to achieve. The commonality of agricultural problems and agricultural needs is not sufficiently recognized.

While internal efficiencies are the primary bases for competitiveness, they would be hampered without the existence of a statewide publicly funded infrastructure to support production and marketing. The vital role of the state's irrigation systems has already been mentioned. However, a network of farm and county roads, state and federal highways, railroads, transportation companies, seaports and airports have been crucial in getting the state's products to distant markets on time and in good condition. The smooth operation of that system is now threatened by increasing congestion, delayed maintenance, missing rail and road links and shortage of funding.

Equally important to the industry's success is the private infrastructure that has developed to service the state's agriculture. Supply firms are crucial in making the latest technology available to farms and agribusinesses. Marketing firms scour the world for opportunities to sell Washington agricultural products. Other specialized firms provide expertise in law, finance, insurance, information technology, logistics, freight forwarding and other services needed to successfully complete in-state, domestic U.S. and international transactions.

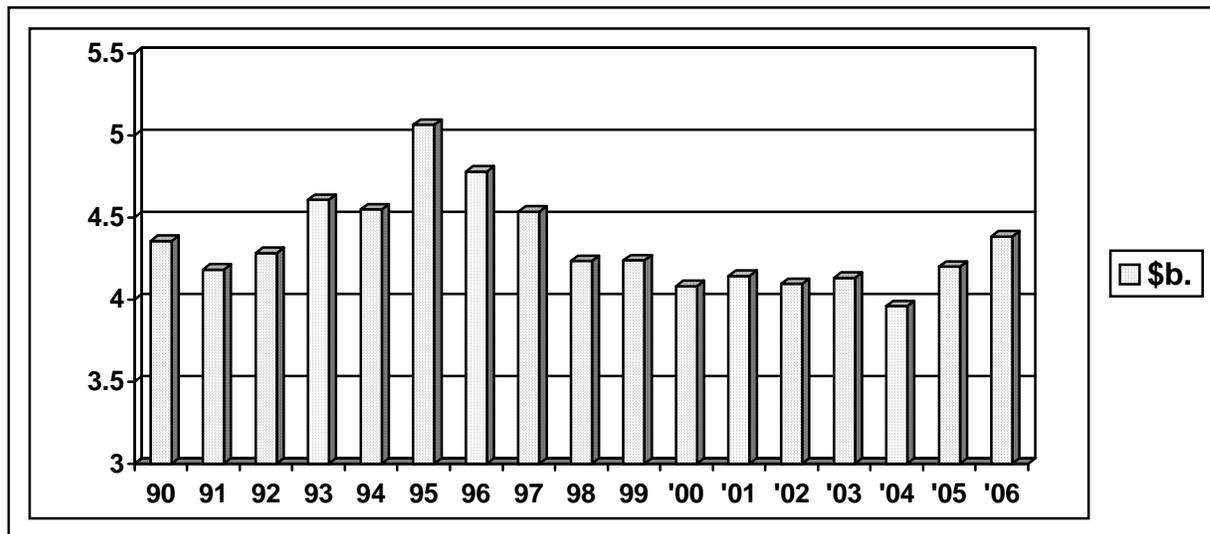
While these different sources of competitive advantage are individually important, even more important is their ability to work together to enhance the productivity and profitability of the state's agriculture. For example, as transportation costs to market increase, offsetting reductions in production costs may be needed to maintain the state's competitiveness. As the supply of labor decreases or quality standards are increased, science and technology needs to be tapped to find low-cost solutions. Because competition never stands still, each entity needs to constantly hone its own efforts to increase competitiveness and be aware that it must work with other entities to improve the overall competitiveness of the state's agriculture.

Assessing current performance

The narrative above suggests that Washington State agriculture has in place all the main ingredients for competitiveness. However, some more objective measures of the state's agriculture are needed to assess current performance, identify areas for improvement and set goals for future performance. Selected data presented here examine the performance of all state agriculture and of major commodities since 1990.

The value of all Washington State agricultural production for the period, 1990-2006, is shown in figure 1 at 1990 prices. In real terms, there was little real growth in total Washington agriculture in the period. The value of state production in real terms rose briefly above \$5 billion in 1995. In every other year, it was below that level, and in nine of 16 years it was below the 1990 level. The value was particularly depressed in the period between 2000 and 2004, after the full effects of the Asian financial crisis hit Washington agricultural exports. Government payments have been excluded from the data series in figure 1. They averaged \$244.5 million per year between 1997 and 2006. Most of the payments have benefited grain producers, but have done little to increase the revenues of other segments of Washington State agriculture.

Figure 1. Value of Production, Washington State Agriculture, 1990-2006 (\$ billion)



The number of farms in Washington State has fallen sharply since the late 1990s (table 1). Almost all commodities have been affected. While the number of farms has fallen, the average size of holdings has increased as farm operations have grown larger. Farmers have sought to combat rising costs and falling prices by generating larger revenues and reducing unit costs through economies of scale.

Table 1 presents data for average costs, yields and farm prices for major commodities for the three-year periods, 1990-92, 1996-98 and 2004-06. In general, costs have risen much more rapidly than either average yields or average grower prices. Cost increases for labor, fuel and fertilizer have been most notable. For the 5 major commodities shown, average increases in yields have been low, less than 1 percent annually for potatoes, hay and apples, and less than 1.5 percent for wheat and asparagus. Even the levels of yield increases attained in asparagus have not been sufficient to prevent the movement of much of the state's asparagus production off-shore. Asparagus area has fallen from 30,000 acres in 1990 to 9,000 acres in 2006.

Table 1: Key Performance Characteristics of Washington Agriculture, 1990-2006

Item	Description	Units	1990-92	1996-98	2004-06	2004-06 v 1990-92 (% change)
Structure						
Farms		#	37,000	39,000	34,500	- 6.8
Farm size	acres	#	432	403	439	+ 1.6
Costs						
Labor wages	Pacific	\$/hr	6.22	8.70	10.41	+ 67.4
Chick starter		\$/ton	210	304	253	+ 15.5
Dairy feed	14% protein	\$/ton	165	190	202	+ 22.4
Unleaded gas	bulk deliver	\$/gal	0.86	1.37	2.37	+ 175.6
Ammonia	anhydrous	\$/ton	322	397	564	+ 75.2
Yields						
All wheat		Bu/ac	52.24	64.03	62.88	+ 20.4
Potatoes	Fall	Cwt/ac	525	578	597	+ 13.7
All hay		Ton/ac	3.84	4.03	4.22	+ 9.9
Asparagus		Cwt/ac	34.3	36.0	42.0	+ 22.4
Apples		Ton/ac	16.49	16.90	18.58	+ 12.7
Prices						
CPI	1990=100		103.7	121.8	148.0	+ 42.7
All wheat		\$/bu	3.42	3.37	3.83	+ 12.0
Potatoes	all	\$/cwt	4.67	4.82	5.58	+ 19.5
All hay		\$/ton	84.67	110.33	117.67	+ 39.0
Apples	fresh	¢/lb	22.2	18.7	23.0	+ 3.6
All milk		\$/cwt	12.73	14.37	14.47	+ 13.7

Average prices, in general, have risen more slowly since 1990-92 than has the U.S. consumer price index. The real declines in average prices have been most severe for wheat, barley, fresh apples and milk. The price of all hay came closest to matching the rise in the consumer price index. The average price of fresh apples was 16 percent lower in 1996-98 than in 1990-92, reflecting the impact of the Asian financial crisis on exports of that commodity. In no major commodity did the combined effect of increased yields and increased prices offset the general rise in consumer prices. The prices of all commodities lost ground relative to rising costs of labor, fuel and agricultural chemicals.

Another potential indicator of competitive performance is the trend in the state's exports of major commodities. While the state remains a major exporter of fruits, grains and processed potatoes, the share of total production going to the export market has been static in the last decade. This reflects a series of economic setbacks in former important markets and an increase in low-cost competition in many commodities. For example, China has become a major exporter of fresh and processed apples and pears, while Russia, the Ukraine and other former Soviet countries have regained their historic position as major grain exporters. In the case of fresh apples and fresh pears, Washington State has become dangerously dependent for its export sales on its two NAFTA partners, Canada and Mexico.

Two other major threats to the state's export competitiveness are the potential shortages of labor to harvest the intensive, irrigated fruits and vegetables, and the increased concentration of buying power in the hands of giant, multinational retailers. These retailers are willing to source product from anywhere in the world. To get their business, Washington state firms need to be able to deliver product anywhere it is needed at a competitive price while meeting the retailers' escalating requirements for assurances on food safety, worker treatment, environmental protection, etc. Washington State has some advantages relative to its global competitors in its access to capital, technology, management and skilled workers. However, to continue to attract those resources, it needs a profitable industry, strong industry organizations, healthy supporting industries and continued advances in science and technology.

Effects of current policies on competitiveness

Current federal, state and local policies have mixed effects on the competitiveness of Washington agriculture. On the one hand, regulations of federal agencies such as the FDA, EPA and USDA, and of state regulatory agencies and inspection services, provide warranties to customers that Washington State agricultural products are produced in a safe, healthy, environmentally-benign manner. On the other hand, these regulations have become increasingly burdensome in time and effort. They are costly to meet and often lack transparency and consistency. Large farms and agribusinesses can cope more easily with the complex regulatory environment. However, many smaller farms and agribusinesses have cited burdensome regulations as their major reason for exiting the industry. County and city governments also impose various taxes, fees and regulations on agricultural activities. As urbanization encroaches on farmland, there are pressures for further restrictions on traditional agricultural practices.

Federal farm programs provide a safety net for the state's grain producers. However, especially when market prices are low, farmers have an incentive to "farm the program" rather than adjust their operations to lower costs, improve quality or meet changing market needs. In addition, U.S. farm subsidies have been cited as impeding World Trade Organization efforts to liberalize global agricultural trade. Not alone does this block increased grain exports, but it also means that many other state products face persistently high trade barriers.

Another phenomenon that has had a growing impact on agricultural producers is the increasing scrutiny of agriculture by non-governmental organizations (NGOs) such as Greenpeace, the Environmental Working Group, the National Resources Defense Council, and other similar groups. These groups are well-organized, skilled in using the media to publicize their goals, politically astute, and willing to litigate to achieve their ends. They put pressure on governments to change laws and on large retailers to demand a wide array of practices from their suppliers. Retailers have responded by demanding that their suppliers meet sets of standards such as those developed by GlobalGAP, SQF or ISO. While these retail "mandates" do not have the force of law, suppliers have little choice but to conform if they wish to continue to do business with those retailers. When different large retailers in different countries demand different standards, it creates additional costs and complexity in exporting agricultural products. Suppliers from developed countries such as the United States also complain that they are often put at a disadvantage when the standards demanded of them are not applied as rigorously to suppliers from developing countries.

Strategies for improving the competitive advantages of Washington agriculture

Just as many entities have contributed to the current level of competitiveness of Washington agriculture, so strategies to further strengthen that competitiveness will need to encompass many activities. Among the most critical strategies will be:

1. Conducting on-going research and market analysis into the types of products and product attributes that will be needed to keep Washington State agriculture competitive in local, regional, national and international markets. This should include both renewing existing products and discovering innovative products that can benefit from the state's unique natural environment. Washington State agriculture has a proven track record of success in introducing new products.
2. Assuring that Washington State agriculture gets access to the critical natural resources of land, soil, water and energy, at reasonable terms, and without unreasonable restrictions on their use.
3. Developing a system for recruiting qualified entrepreneurs, managers and workers into Washington State agriculture at every level, and providing the needed continuing education to keep these players at the forefront of science, technology, business management and marketing.
4. The basic building block for the competitiveness of Washington State agriculture in fresh, semi-processed and processed products will continue to be the internal efficiencies of its farms and agribusinesses. County, state and federal governments can play a key role in providing incentives that recognize

the importance of a progressive agriculture to the economic development of rural areas and of the entire state.

5. Strong industry organizations of many kinds are needed to provide support for the activities of farmers and agribusinesses. Some, like commodity commissions and marketing orders, require supportive federal or state legislation. These laws need to be reviewed periodically to ensure that they are truly enhancing the competitiveness of the affected commodities. Other industry organizations carry out many important roles in processing, transportation, trade, legislation, etc. Their roles need to be recognized and supported by governments at all levels.
6. World-class infrastructure is required to help make Washington State agriculture as efficient as possible and to help deliver product to diverse markets at the lowest possible cost and in the best possible condition. Irrigation systems, power and telecommunication grids, roads, rail, transportation, ports, farmers markets, etc., need to be frequently reassessed to see how they can be better maintained and enhanced in the interest of furthering agricultural competitiveness.
7. Science and technology have played a crucial role in helping Washington State agriculture overcome disadvantages in location, labor or other costs. More and more technology now emanates from the private sector, and from outside the agricultural industry. The research, extension and education arms of the USDA, WSU and community colleges continue to have a vital role in adapting new technologies to the conditions and needs of Washington State agriculture. In addition, much of the needed scientific discovery in the state's agriculture is in areas that are too limited or too specialized for large private companies. As the pace of scientific discovery continues to quicken, the scientific and technological support for Washington State agriculture needs to be regularly assessed in terms of its capabilities and effectiveness, and changes need to be made to enhance that effectiveness.
8. The overall competitiveness of Washington State agriculture is strongly affected by the system of supporting supply, marketing and service firms in the major producing districts. Such regional clusters of economic activity are recognized as vital to the success of any specialized commodity or business. The role of these clusters of support firms needs to be recognized and encouraged by appropriate county and state policies.
9. The price and availability of labor remains critical to the domestic and international competitiveness of the state's intensive crops and food processing operations. If present federal and state labor policies continue to drift, an adequate labor supply for the state's agriculture may be in jeopardy. As a matter of high priority, the state of Washington needs to determine the drivers of current trends in the agricultural labor force and develop a proactive policy to ensure an adequate labor supply for years into the future.
10. Regulations, taxes, licenses and other mandates from federal, state, county and local governments are having a disincentive effect on the agricultural industry. A comprehensive assessment of the cumulative effects of these multiple mandates needs to be conducted to see which are actually furthering their

original goals, what negative side effects have resulted, and what changes could be made to remove duplication and increase agricultural efficiency while still meeting broad societal goals.

11. Major retailers have assumed quasi-governmental powers in issuing mandates to suppliers that go far beyond traditional concerns about price and quality. Some retailers are beginning to compete for the consumer's favor by imposing ever-stricter requirements on their suppliers. Often those requirements are based on partial or flawed science and impose unwarranted costs on both suppliers and consumers but are not challenged by suppliers for fear of loss of business. Retailer mandates need to be reviewed and assessed as would any government policy, in terms of their stated goals, their unintended side effects, and their actual effectiveness. The reviews need to be based on sound science and proper risk assessment.

Strategies should be based on objective assessments

Much of the current agricultural system in the state of Washington has evolved over time through the interplay of many different forces. There is a real danger that parts of the system are now becoming counter-productive. They are working to reduce or negate the tremendous advantages in natural and human resources and supporting infrastructure that the state's agriculture has enjoyed.

Changes clearly need to be made. However, changes should be based on professional, objective assessments. The broad agricultural industry in the state must first agree on the nature and extent of its challenges before it can agree on corrective actions.

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