

Review of the Food Processing Industry in Washington
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Introduction

The Washington food processing industry is a large economic sector that works in tandem with the State's farmers. Virtually every activity which extends the shelf life of food is a processing function, and food processing is a vital component of agricultural enterprise. Even crops that are generally sold in fresh form, such as apples and milk, rely on processing to balance supply with demand and to ensure that markets are maintained for certain crop varieties and grades that are more desirable for processed foods than fresh products.

Food processors are made up of many different organizational forms. These include farmers who directly own processing facilities for their crops, growers organized in producer and marketing cooperatives, and small, medium and large independent food processors who purchase crops from farmers.

This report is principally an assessment of *primary* food processing in the State. While food processing can be very broadly defined to include any activity that changes the form of food, the emphasis of this report is on the first level of food processing that prepares food in a form other than fresh marketing of plant and animal crops grown on the farm. Primary food processing is distinguished from secondary food processing. Secondary processing occurs when food is taken through a second or third stage of processing before it is consumed. Primary and secondary processing are sometimes hard to separate for analysis purposes. The key point is that Washington has a large and diverse food processing industry that relies on the state's farmers, livestock producers, commercial fishers and others who grow and harvest many distinctive foods.

Numerous processing methods are used to transform raw agricultural products to the foods that meet the preservation, taste, texture, appearance, and packaging needs of the food industry. Washington's crop diversity and the extension of crop varieties give unique attributes to foods and this adds elements of complexity to the processing function. The differing preferences of food manufacturers, retailers, and the ultimate consumers further support the large and technically advanced processing industry in Washington.

The fortunes of farmers and processors have always been closely associated with each other. This is illustrated in the recent downturn period in 2000 to 2004 when the real (inflation adjusted) value of Washington agricultural production was in decline. The farm-level downturn coincided with the closure of many food processing plants in Washington and across the Pacific Northwest.

Competitive advantages in growing Washington crops are linked to the processing sector. Availability of water and energy, in combination with climatic conditions are fundamental for crop production. Raw farm products are rarely transported very far before they are frozen, canned, dehydrated or preserved in some other form.

Main Subsectors of Food Processing

The composition of the food processing industry is best illustrated using employment to weight the relative size and economic importance of various components of Washington's food processing industry (see Table 1). Washington is fortunate to have a highly diverse industry. The four largest sub-sectors (in order of employment) are: fruit and vegetable, seafood, meat and bakery products production. Together these sub-sectors constitute about two-thirds of the total industry's employment. While employment is a useful indicator, it should also be noted that some sectors such as dairy products and grain milling generate significant value of output with relatively few jobs. These industry sectors are directly linked to many farm-level production enterprises. The many small value-added food processing sectors also add diversity and strength to the industry.

Wine production is one industry segment that is classified outside of food processing but is growing rapidly and is closely associated for the farm sector. In 2006 the state's wineries employed about 1,550 persons. This adds another large boost to the farm sector and the Washington economy.

Table 1
Covered Employment by Major Type of Food Processing
in Washington, 2006

| Sector | Average Annual Employment | Percent of Total |
|---|---------------------------|------------------|
| Animal Foods | 702 | 2.1% |
| Grain & Oilseed Milling Products | 200 | 0.6% |
| Sugar and Confectionary Products | 858 | 2.6% |
| Fruit and Vegetable Preserves & Specialty Foods | 10,142 | 30.4% |
| Dairy Products | 1,028 | 3.1% |
| Meat Products and Meat Packaging Products | 5,297 | 15.9% |
| Seafood Products Prepared, Canned and Packaged | 6,592 | 19.7% |
| Bakery and Tortilla Products | 4,437 | 13.3% |
| Foods Not Elsewhere Specified or Included | 4,134 | 12.4% |
| Total | 33,390 | 100.0% |

Notes: 1) These categories follow the North American Industry Classification System.

Foods not elsewhere specified or included cover such categories as the processing of some snack foods, dressing and other prepared sauces, spices and extracts and other miscellaneous categories.

2) Covered employment refers to employment where workers have unemployment insurance.

Source: Washington Department of Employment Security.

The Wave of Global Competition

Global competitiveness is a major contributor to the changed environment of agriculture and food processing. New competitors who supply fruit, vegetable, meat and other processed foods are giving the region's processors very direct competition. These competitors are from the Asian countries, Australia/New Zealand, and the European Union, to name a few regions that are seeking new markets in the U.S. Not only do countries in these regions compete for U.S. markets against Washington processors, they are also competing for traditional Northwest export markets such as Japan and Canada.

The U.S. remains a relatively open market for imports and the strong U.S. dollar era of the late 1990's to 2004 helped international competitors gain access to U.S. customers. Imports had a lower price in U.S. dollar terms and therefore were very price competitive in this time period. Although recently the U.S. dollar has weakened considerably these competitors have become well established and are entrenched in the U.S. market.

Another significant challenge for Washington processors is the steeply rising cost for transporting their products to major, distant metropolitan markets in the U.S. Much of the food product volumes sent to California, the Mid-West and even the East Coast from Washington are delivered by trucks. Imbalances in freight moving east versus west (less frozen and refrigerated freight is west-bound compared to east-bound freight) increase the expense of attracting trucks and trailers for outbound Washington freight. Driver shortages and more recently the rapid escalation on fuel prices have also harmed the competitive position of the Washington food shippers.

Export markets for most Washington food producers have been difficult in the last decade especially in the major category of processed fruits and vegetables. The exit of some financially weak firms has improved the outlook for remaining businesses. However, fuel price hikes, port congestion in certain locations, periodic container shortages and other transportation-related costs and bottlenecks have all been recent constraints that keep pressure on Washington food exports.

Another shift in the competitive environment is rising regional costs experienced by Washington producers and processors. Washington's traditional advantages from abundant and inexpensive water for irrigation and in-plant processing, low-cost hydroelectric power and lower-than-average land costs have all eroded relative to the competition in other countries. There is a squeeze on profit margins for Pacific Northwest processors. Industry leaders are realizing that their future is tied to efficiencies that reduce the use of inputs. This is critical for lowering the cost of production but it also gains favor with the growing number of customers that want sustainably produced food products. Innovation and production efficiency have become vital aspects of the Washington food processing industry.

Recent Trends in the Major Processing Sectors

Fruit and Vegetable Processing

Major segments of Washington food processing have become mature businesses. Yet for reasons described previously the processors need to re-tool to gain efficiencies while meeting consumer product requirements. Very few new stand alone fruit or vegetable processing plants have been built in the last ten years in Washington but there is on-going modernization and expansion of existing facilities.

Many fruit and vegetable processing plants use freezing or canning techniques to process the crops. These plants are often over 20 years old and the oldest, least modern and most inefficient plants have been major casualties during the recent plant closure period. Plant closures were necessary because there was excessive processing capacity in Washington and other Northwest states.

Fruit and vegetable processors have also found that mass production of commodity-style, undifferentiated products necessitates that they follow a low price business model. This is not viable for most Washington processors. Rather, processors focus on value-added products that meet current and changing customer preferences. There is a premium for flexibility in producing the desired forms and volumes customers want while also adopting lean manufacturing practices.

Lean manufacturing entails producing the right product at the right time for customers while processors also keep a minimal supply of production inputs. In this business strategy the plants also keep minimal warehoused inventory of finished products before shipping out orders. Adapting to lean manufacturing does not mean that processors are downsizing. Eastern Washington has major vegetable processors that are expanding via plant acquisition and by expanding their own plants because there are economies of scale for large volume processing.

Western Washington fruit processing is dominated by berry fruits, including raspberries, blueberries and strawberries. Strawberry production however has declined such that most of this crop is now sold as fresh in-season fruit. Small and medium size plants are dominant processors of raspberries and blueberries. This is mostly a function of vertical integration where larger growers handle the processing of their own crops and may supplement their processing volume with purchased fruit from other growers. Efforts are under way in Northwest Washington to establish new processing facilities that will be controlled by growers but this effort is in its infancy.

Vegetable production has been in decline in Western Washington for many years and inevitably this means processing has also been declining. In the plant closure era of 2000 to 2005 several processors that had plants in Eastern Washington closed their west side facilities in order to consolidate processing on the east side of the state. One major vegetable processor remains on the west side.

Dairy Product Processing

The dairy industry has historically been centered in Western Washington, but dairy processors have closed their operations at a rapid rate over the last 20 years. In step with the loss of dairy farms, processing of fluid milk and milk products has been declining. Most recently two long-time family milk processing plants in Pierce County closed. One of these was the largest family operated dairy on the Westside. Western Washington has experienced expansion of small artisan cheese and specialty dairy processing on small farms that have added processing facilities but these are not sufficient to replace the larger facilities that have closed. In total there are 66 dairy processors in Washington.¹ This includes small raw milk producers who are licensed to sell raw milk and cheese.

¹ This is based on the latest dairy handler and processors license data from WSDA. Many of these processors and handlers are small producers who sell milk, and this data includes 22 dairy handlers and processors who sell raw cow or goat milk and 15 firms that are licensed to sell cheese and other

Western Washington remains the principal location of Darigold, a large farmer-based cooperative that has steadily built its brand and market share. Darigold also operates a facility in Eastern Washington and has dairy processing plants in Idaho and Oregon.

Meat Processing

Meat packing is dominated by large national firms across the U.S. and this is also true in Washington. Currently there are 13 federally inspected meat slaughter facilities in the State. Two of these are exclusively processing fresh fryer chickens and only process birds from farms with whom the processors contract for fryer production. These large processors are both located in Western Washington and each is owned by firms headquartered outside of Washington.

Of the 11 packers that primarily slaughter beef, pork and lamb, six are in Western Washington and five are on the Eastside. The Eastside has two very dominant packers by volume and eastern Washington accounts for about 80 percent of the processing volume. According to USDA data there is an average of about 84,000 head of livestock slaughtered per month. This includes primarily cattle, hogs, and sheep, with cattle being predominant.

However, many fed cattle are shipped into Washington from Idaho, Alberta and other locations outside the state. Local cattlemen who raise beef calves are constrained in finding marketing channels for their animals. The feedlot segment of the meat industry is also highly concentrated.

As indicated above, the poultry production is nearly exclusively comprised of large volume grower businesses who operate with contracts to raise for the large processors. Federal law dictates that the Washington State Department of Agriculture can only license a poultry processor if they produce less than 20,000 birds per year. A small number of these licenses have been granted. Additionally WSDA allows temporary slaughter permit for poultry producers to slaughter up to 1,000 pasture raised birds for direct farm sales. Otherwise chicken production facilities must be state licensed which allows for the product to be sold in-state at farmers markets, restaurants and retail food stores.

Seafood Processing

Coastal processing of seafood has been an historical fixture in the Washington food industry, and it remains a key feature in the Puget Sound area. Ocean processing (on board “processor” ships) and restrictions on the catch of major species is reducing the seafood catch that is processed “shore-side”. Consequently seafood processing employment is falling.

However, the value of processed seafood is rising and this sector also lends support to other food processing sectors. For example, Puget Sound area cold storage used extensively for the seafood trade is important for warehousing and handling frozen fruit and vegetable products. The primary seafood processors are consolidating in Washington, as they are all along the west coast. However Washington also is gaining some medium size value-added processors along with a strong contingent of smaller value-added processors.

Table 2 gives a snapshot of the number of food processing firms by general type of product they process and indicates the percentage share of Washington compared to the total

processed dairy products from raw milk. Many of these are small operations that produce the milk as well as process and handle it for sale to their customers.

processing firms in the Northwest states of Washington, Oregon and Idaho. It shows that Washington has a major share of the companies in many product categories of processing among the Pacific Northwest states.

| <p style="text-align: center;">Table 2 Number of Food Processing Companies by Type of Product* December 2006</p> | | |
|---|------------|---|
| Type of Product | Washington | Washington as Percent Of WA, OR & ID |
| Flour Mills & Commercial Bakery | 35 | 53% |
| Dairy (Handlers & Processors) | 15 | 33% |
| Fruit | 43 | 55% |
| Potato | 13 | 43% |
| Other Vegetable (Non-Potato) | 15 | 41% |
| Seafood & Fish | 45 | 73% |
| Specialty/NEC** | 59 | 43% |
| Wineries | 25 | 48% |

* Companies with multiple product types are counted in each type they produce. When data was available, companies were included if they have 20 or more employees or \$1.0 million or more in sales.

** NEC: Not elsewhere classified.

Source: Prepared for the Northwest Food Processors Association, May 2007 by Globalwise Inc.

Farmer Access to Processing

Individual food processors have many kinds of raw product purchase arrangements with farmers and livestock producers. Meat packers as well as many fruit and vegetable processors have contracts with growers and they often do not buy “on the spot” from the general farm population, except in unusually short supply conditions. Few processors accept perishable supplies on a spot basis since they tightly schedule harvested crops for arrival and processing during the peak packing season. Processors also have grade and minimum volume requirements, and processors use field staff working with the growers to schedule planting and monitor the crops over the growing season. All of these actions limit the opportunity for new growers to establish supply relationships with processors in any given year. Some processors buy on the open market but they generally do this with suppliers they have worked with previously. As processors work to increase efficiency they sometimes prefer to purchase from larger, more established farmers. As a result, smaller

farmers find that they have a harder time securing a home for their products with processors. One response is for growers to vertically integrate, as discussed below.

Vertical Integration of Farm Production and Processing

Combining farm production with processing is a vertical integration strategy. Tracking firms that make up the Northwest food processing industry has shown that some farmers are adding processing activities to complement their production operations. The incentive is that farmers can capture a greater profit by processing a large share of the crops they produce rather than selling crops to independent processors. Most of the vertical integration is occurring in Eastern Washington where large farms have acquired existing processing plants but there are a few instances of farmers establishing new processing plants.

Farmers also seek co-ownership of packaging and processing facilities or marketing alliances. This is a means for smaller and medium size farmers to more directly sell food products for consumers who want local fresh and processed products. This has appeal for farmers located close to a sizable population base, particularly in Western Washington. Farmers with high value crops and livestock can earn premium returns by selling in fresh market channel sales and segmenting an increasing share of production to value-added processed products. Growers with small acreages are also experimenting with increasing the range of crops they produce on a smaller land base to attract a loyal customer base.

Benchmark Analysis

Since 2002 the Northwest Food Processors Association (NWFPA) has benchmarked the Washington, Oregon and Idaho industry.² NWFPA benchmark evaluation covers Oregon and Idaho along with Washington and its findings are relevant and give useful insight.

Several benchmark findings stand out. First, in response to the challenging conditions of the past 10 to 15 years food processors are actively responding by increasing productivity. Across the region, the number of jobs has decreased but average wages are steadily increasing and total processed food production has increased in several categories. The industry is using more capital and substituting for labor to increase output with less labor input. Even more attention to increasing productivity is seen as essential.

Food processors have emphasized operations that afford their employees full-time, year-round work. Seasonal food processing labor is still much higher than in non-food manufacturing businesses but it has been trending downward and is now about 12 percent of the industry's total work force.

The trend of greater productivity is one contributing factor to the larger firm sizes and the consolidation of firms. There are an estimated 250 food processing companies in Washington as measured by NWFPA membership and definitions.³ Many are small and medium size firms that make a significant production, employment and innovation contributions to the industry. There also are larger firms that are growing their business

² See [Economic Performance of the Northwest Food Processing Industry: Trends and Analysis from the Benchmark Data](#) prepared for the Northwest Food Processors Association by Globalwise, Inc.

³ NWFPA membership includes all major categories of processors except meat packers, soft drink manufacturers and coffee roasters. Also NWFPA tracks firms with greater than 20 employees or annual sales of over \$1.0 million.

share by expanding their own plants, purchasing other operations, creating joint ventures, or merging their business with others.

Issues to Address in the Next 20 Years

Innovation and Productivity

The cornerstone for a healthy food processing industry is for businesses to achieve constant investment in R & D of new products, improve product quality, gain price competitiveness and implement process innovation. Forward thinking companies are making independent strides, but there are many more fundamental activities that are needed than single companies can fund. Organizations such as commodity commissions and trade groups like NWFPA can play a pivotal role and are stepping forward. Partnerships and public support from the state legislature and state agencies are valuable for gaining major advantages with new processing techniques, plant operations and removing unnecessary bottlenecks and barriers to the industry. Another important source of advantage is to ensure that cluster support industries are supported so that the services and products they provide stay within the state to bolster the economy and remain available for processors.

Labor Force Needs

The processing industry relies on a skilled and well trained workforce to compete on a global basis. Attrition in the food processing workforce is a constant reality since workers have increased mobility and job knowledge as they seek advancement. This leads to some loss of workers in the processing industry as they move elsewhere to higher paying jobs. Preparing new workers with appropriate skill sets is a source of competitive advantage for Washington. Workforce programs need to match up with the latest job positions in the industry.

Water

The principal water related need from a food processing perspective is additional water storage. This promotes the water needs for environmental protection and municipal demands during low water periods. Washington State government has been proactive in addressing water storage issues and there will undoubtedly be many chances in the future where agricultural interests can partner with the State and other water users for more effective water resource planning.

Regarding waste water treatment at food processing plants, it is vital for processing industry viability that land application of waste water continues in the future. There are excellent partnership opportunities for the industry, universities and State government to conduct research and development that determines safe and cost-effective land application methods.

Transportation Planning and Infrastructure

To promote unimpeded food trade flows, transportation improvements at actual and potential points of congestion are essential for a robust Washington food processing industry. Of course this effort will also support the growth of other manufacturing sectors in Washington. Some of these congestion points are at the intermodal points in the system such as port container yards in the Puget Sound. An expanded and streamlined rail system in Washington and beyond the State's borders will also enhance the shipping of the industry's production to both domestic and export markets.

Gaps in Information

Measuring progress in the food industry is hampered by a lack of information on sales, accurate estimates of value-added processing, and even the costs for key inputs such as energy. More detailed knowledge of job creation would also help the industry evaluate its progress over time. This can be accomplished by surveys of processors and cooperative agreements with agencies such as Employment Security and local economic development authorities. The industry can be more proactive and responsive to actual conditions if this information base is accurately secured and frequently updated.

Concluding Comments

Washington's food processing sector is intertwined with the State's farm-level production. In a direct way, via cooperatives of growers for processing and marketing, and by vertical integration, farmers regularly perform both the producer and the processor functions. Neither farming/ranching nor food processing can prosper unless there is profitability and growth in the other sector. The Washington industry has a strong presence in the State in terms of jobs and income. Fortunately many processors are stepping forward to position themselves to meet the challenges ahead.

The past ten years have been a time of major challenges for this industry. Some contraction as evidenced by plant closures and business consolidation has occurred. In 2008, the industry is showing signs of stability and the future looks brighter than the recent past. However, since this industry is fixed in a keenly, globally competitive environment, new challenges will remain just ahead. The high degree of competition means there is an ever greater need for businesses to partner with government to address the major obstacles. Food industry leaders point to the need for innovation in products and plant processes. Leaders also call for key infrastructure enhancements such as a more efficient transportation system and greater investment in the State's water storage capacity. The next twenty years promise to offer new ways for the food processing industry to partner with State government to move forward and succeed.