

More Than Just Wheat: Adding Value To Your Crop

Rodney B. Holcomb

Agribusiness Economist, OSU Food and Agricultural Products Center,, Stillwater, Oklahoma

The frozen dough market grew 27 percent in the period 1992-95 and is classified as one of the fastest growing segments among all bakery products.

Hard red winter (HRW) wheat, which comprises approximately 99% of the wheat grown in Oklahoma (Oklahoma Dept. of Agriculture, USDA-NASS, 1990-1996), is typically used in the manufacture of white pan breads, hamburger and hotdog buns, tortillas, pizza crusts (often blended with spring wheat flour), and sweet rolls. The protein levels and dough elasticity of HRW flour are slightly less than those of hard red spring (HRS) flour, which may be a disadvantage in the production of some types of baked items and frozen dough products. However, in many years the wheat belt of Oklahoma produces HRW wheat in the 11.5-13.5 percent protein range, and much of this wheat can provide the desired qualities for frozen dough products.

For the purpose of comparison, consider the following three value-added options for Oklahoma's HRW wheat: commodity flour, tortillas/flatbreads, and refrigerated/frozen dough. It is possible to make all of these alternatives using only HRW wheat. Each alternative may also be a processing alternative for Oklahoma's agricultural producer if market and competitive advantages exist.

Commodity Flour

Growth in the commodity flour market has been small, especially in Oklahoma. Oklahoma has four operating flour mills, of which three are located in north central Oklahoma. These four mills have a combined capacity of about 31,400 hundred weight (cwt.) of flour per day (Oklahoma Dept. of Commerce, 1996), almost exclusively using HRW wheat. The state's baking industry has expanded some in the past few years, but most

of these commercial bakers are utilizing soft wheat flours imported from other states, not the HRW wheat flour generated by existing Oklahoma mills.

Kansas provides the nation with almost ten percent of all domestically-milled flour, most of which is made from HRW wheat (USDOC, Bureau of the Census, 1998). This competitive pressure from a bordering state has further continued to limit the market opportunities for Oklahoma flour milling. A new mill being built near Ft. Worth, Texas, will also attract much of the HRW wheat from southwestern Oklahoma and provide additional competitive pressure for any proposed Oklahoma mill.

Tortillas/Flatbreads

The tortilla/flatbreads industry, which may be the fastest growing segment in the U.S. bakery industry, has realized considerable market growth from consumer desires for flavored and fat-free tortilla varieties. The Tortilla Industry Association states that the overall market for tortillas in 1996 was \$2.87 billion, representing an annual increase of approximately twelve percent more than 1994 figures. In 1996, the western U. S. continued to generate the largest proportion of sales revenue, approximately thirty percent. The Southeast accounted for 26 percent of the 1996 tortilla sales, and the north central region 25 percent (Tortilla Industry Association, 1998).

Tortillas have extended far beyond the Latin American market that used to dictate tortilla sales. It is estimated that non-Latinos consume 60% of the tortilla products manufactured in the United States. Flour tortillas have dominated the market over corn tortillas in the last two years by a proportion

of 2:1. The Tortilla Industry Association estimates that Americans consumed approximately 75 billion tortillas in 1998, not including tortilla chips. A consumption increase of 54 percent is expected during the next five years (Tortilla Industry Association, 1998).

Frozen Dough/Bakery Product

Possibly the largest growth area for value-added wheat-based products is in non-bread frozen bakery products (SIC 2053 "Frozen Bakery Products, Except Bread"). This category includes such items as pizza dough and bulk dough for use by retail food outlets and in-store delis. According to the U.S. Department of Commerce (1992-1998), the value of shipments from domestic SIC 2053 manufacturers increased by 51.7 percent from 1992 (approx. \$1.67 billion) to 1996 (approx. \$2.54 billion). The "value-added" component of those shipments (i.e., the portion of the product's value associated with the manufacturing process) increased by 47.3 percent, from \$919.2 million in 1992 to \$1.35 billion in 1996. As shown by the value-added cooperatives from the Upper Midwest, this is a high-growth industry with rapidly expanding markets in the southeastern and southwestern United States.

In a 1997 report, FIND/SVP (1997a), a market research company for consumer products, indicates that biscuit dough accounts for 41 percent of refrigerated/frozen dough product sales. Biscuit dough sales are expected to have an increase of 6.5 percent annually, with forecasted sales of \$2.2 billion by the year 2000. Rolls and sweet goods, additional alternatives for refrigerated/frozen dough processing, are predicted to show market growth of 9.6% and 16.8% (respectively) between 1993 and 2000 (Faridi and Faubion, 1995). One draw of rolls and sweet goods may be the various forms in which they can be purchased by final consumers (refrigerated dough, frozen dough, par-baked frozen dough, brown-and-serve) and easily baked at home.

Fewer than 15 marketers compete in frozen and refrigerated dough products on a national level, and most dough market segments are dominated by fewer than five players. The frozen dough market grew 27 percent in the period 1992-95 and is classified as one of the fastest-growing segments among all bakery products. The top four firms in this industry are Rich Products Corp., Country Home Bakery, Inc., Hazewood Farms Bakeries, and Pillsbury Co. These firms only control 24% of the overall market, indicating less entry resistance than most segments of the bakery industry (Lou and Wilson, 1998). However, the technological advances made in refrigerated/frozen dough processing, along with the generally higher costs of handling refrigerated/frozen products, result in high market-entry costs.

The VAP Example

In February 1998, Food and Agricultural Products Center (FAPC) representatives met with a group of roughly 25 Woods County wheat farmers, local businessmen, and local bankers in Alva. This meeting, initiated by the Woods Co. Economic Development Committee, was set to discuss opportunities for building a flour mill to process the region's hard red winter (HRW) wheat. A FAPC research project had recently examined opportunities for additional Oklahoma flour milling, but the findings suggested that high regional competition and proximity to large bakeries would limit the opportunities for a successful venture in Woods County. The Alva group and FAPC agreed to examine other opportunities for other wheat-based processing opportunities.

In March 1998, FAPC representatives, representatives of the Oklahoma Department of Agriculture (ODA), and FAPC-recommended food industry experts met once again with the Alva group. The industry experts provided suggestions for processing opportunities and a possible format for organizing a producer-

In all, over two years were required to adequately plan and establish this project, which will cost nearly \$17 million by the time full-scale production begins in September 2000.

owned business entity. The Alva group decided to investigate information provided by these experts, FAPC, and ODA over the next 2 months, at which time a strategic planning session would be held. This information included FAPC-provided historical wheat quality information, product market information, and industry growth estimates to be used in examining processing possibilities.

At the two-day strategic planning retreat in May 1998, all parties met once again in Alva to discuss the various factors that would be pros and cons of any processing venture in northwest Oklahoma. The regional infrastructure (roads, utilities, etc.), employment, support industries (trucking, inputs, services, etc.), and local leadership assets were inventoried. Industry competition and market growth for various products were discussed. In the end, the group decided to further examine three product possibilities that seemed to be a good fit, given the wheat quality and business environment of the region. A request for proposals (RFP) was developed, and FAPC and ODA agreed to submit these proposals to industry members that might be interested in partnering with regional producers to build a processing enterprise in Woods County. FAPC further agreed to review any proposals received and provide objective commentary.

During the next few months, the Alva group formed a limited liability company entitled Value Added Partners, LLC, (VAP) to serve as the business entity overseeing the development of any food processing activity in Woods County. Based upon the proposals submitted and the comments from FAPC, this LLC decided to contract with N.C. Doty & Associates out of Fargo, North Dakota, to help establish a food-processing venture. With FAPC providing a significant portion of the market and industry research at no charge, Value Added Partners agreed to contract with N.C. Doty & Associates for the feasibility study and business planning of a frozen dough

processing operation in late 1998.

Based upon the wheat-quality information provided by FAPC, Value Added Partners and N.C. Doty & Associates set out to research the technology and equipment providers that could generate a wide variety of pre-proofed frozen dough from Oklahoma HRW wheat. Fritsch USA, the American arm of the German-based Fritsch Company, was determined to be the best possible equipment provider after an assessment of their equipment at a distribution point in Olathe, Kansas, and attending an equipment show in Germany. While Fritsch and Doty lined up potential clients for pre-proofed frozen dough products, FAPC researched all aspects of the frozen pizza and pizza crust industries (the fastest growing markets for pre-proofed frozen dough). This information was used by the LLC to determine their comparative advantages in dough processing. The information, along with financial assessments developed jointly by FAPC and Doty, constituted the feasibility study and business plan for the venture.

From the feasibility study and business plan, VAP was developed and over \$7.5 million was raised within a 3-month period. While money continued to come in from participating agricultural producers, VAP purchased an abandoned Wal-Mart facility in Alva to house the processing operations and placed a down payment on the equipment. Pilot-scale equipment was also purchased to meet the demands of contracted clients while the full-scale facility is being completed.

In all, over two years were required to adequately plan and establish this project, which will cost nearly \$17 million by the time full-scale production begins in September 2000. Unfortunately, it took a drastic drop in wheat prices for such an operation to be considered. With proper planning and resource commitments, other such entities could develop in Oklahoma.

References

Faridi, H., and J.M. Faubion. "Wheat End Uses Around the World." Presentation to the American Association of Cereal Chemists, St. Paul, MN, 1995.

FIND/SVP. *MarketLooks: Frozen and Refrigerated Dough Products*. FIND/SVP MarketLooks Report ML0004, February 1997a.

FIND/SVP. *MarketLooks: Tortillas*. FIND/SVP MarketLooks Report ML0183, February 1997c.

Lou, J. and W.W. Wilson. "Value-Added Wheat Products: Analysis of Markets and Competition." Agricultural Economics Report No. 386, Department of Agricultural Economics, North Dakota State University, April 1998.

Oklahoma Department of Agriculture and USDA National Agricultural Statistics Service, "Oklahoma Agricultural Statistics," USDA-NASS, various issues (1990-1996).

Oklahoma Department of Commerce, "Current Business Report," Oklahoma, 1996.

Tortilla Industry Association. *1996 Tortilla Market Research Study*. <http://www.tortilla-info.com>, 1998.

U.S. Department of Commerce, Bureau of the Census. *Annual Survey of Manufactures*, 1990-1996 issues. Washington, D.C.: U.S. Government Printing Office, 1992-98.

U.S. Department of Commerce, Bureau of the Census. *Manufacturing Profiles: 1996*, MP/96, U.S. Government Printing Office, Washington, D.C., 1998.

Marketing Experiences on a Small Vegetable Farm

Alex Hitt

Peregrine Farm, Graham, North Carolina

Peregrine Farm began as a Pick-Your-Own (PYO) blackberry and raspberry operation, with two acres of each. This was after extensive market research on PYO operations and their requirements of population, distance from population, and other factors. The first problem was that while raspberries will grow in North Carolina, they are not really well adapted. The second problem was getting all of the berries picked. We were successful in our advertising, in getting numbers of cars, and people to the farm, but they were not picking the poundage of fruit needed. The first marketing lesson was that our population was increasingly two-income families, and they did not have time to pick or preserve large quantities of berries.

During this initial three-year period we also experienced a crop failure due to low temperatures. This combined with the above market shift led us to begin to diversify both in crops and markets. In 1986 we began picking berries and selling them to both small stores and at farmers' market. At the same time we began a small production of mixed

vegetables and cut flowers for farmers' market. Farmers' market was, and continues to be, a great market research vehicle, as well as the majority of our income. The immediate feedback on varieties, kinds of crops, quality, etc., are invaluable to the future direction of our operation.

The first discovery was that people were crazy for cut flowers, and that became the tail that wagged the dog for several years, as we tried to learn about production of cut flowers and to increase production to meet demand. In 1988 our major grocery store account opened and cut flowers, in mixed bouquets, really boomed in that market also. By 1992 we were delivering bouquets to four stores and growing for farmers' market. Since that time we have cut back bouquets to the stores for several reasons. This is primarily due to the labor-intensive nature of making bouquets and the increased sales at farmers' market of single stems.

Vegetables were a harder nut to crack, as to what people really wanted. Farmers' market helped but because of the volume of vegetables at market it was more difficult to

If they can't eat it in a salad or on their ice cream or cereal, we don't grow it!

We have learned that all markets are different and the most important thing to do is to learn what the market wants and then service it relentlessly. Listen to what your customers are telling you and what they want, then grow it for them.

tell what really sold well and why. Part of the answer came from selling to a few high-end restaurants who not only demanded high quality but also were on the cutting edge of new crops coming in either from California or Europe. Once we met their needs for quality and volume, they were great sources of ideas about new crops to try. By the time we learned all of the tricks in producing a new crop, it was now popular in the grocery store and we were ready to increase production to meet that market niche if we wanted to.

In 1990 Alex finally was able to become full time on the farm where Betsy had been all these early years. Two things happened. First we ended our PYO berry operation and sold just in town. At the same time we began to change over the thornless blackberries for earlier and sweeter thorny berries. Second, Alex began, the first of three winters, working part-time in the produce department of the largest store that we sold to. This store's customers were the very customers that we sold to at farmers' market. The insights into the local market and its peculiarities were indispensable. The volumes and sales patterns of different crops became very apparent when you handle hundreds of cases of produce a week.

Now eighteen growing seasons later our marketing consists of twice-a-week deliveries to one grocery store and one restaurant, as well as a twice a week farmers' market. Increasingly, we are moving more of our business to farmers' market for many reasons. The first is that the prices are retail. The second is that the volumes can vary and the pressure of having a certain volume on a certain day is not there, as they are in the wholesale market. Third, the quality of life and enjoyment for us are much higher selling at market when we get immediate response from our customers. We also sell at one of the premium markets in the country, with customers who have high levels of income and education. We are also only twenty minutes from our market. These are all

factors that enable us to make high-volume retail sales at market.

While we are reducing our sales to the grocery stores, we will still sell a certain amount to at least one store for years to come. Certain crops, such as lettuce, that we custom grow just for them, we will continue to do because of the profitability and the relative ease of volume production. Alex still does all of the deliveries himself because of the importance of the contact with the produce buyers. It is very difficult to get feedback from grocery store sales, impossible if you never see and talk to the people who buy and handle your product.

In conclusion, we have learned that all markets are different and the most important thing to do is to learn what the market wants and then service it relentlessly. Listen to what your customers are telling you and what they want, then grow it for them. They will reluctantly, at best, buy what you think they want! Try and sell as close to the end-user as you can. The prices will be higher and the feedback that guides your business will be greater. In our case we sell as much at farmers' market as we can and only grow foods that don't have to be cooked (two income families don't have time to cook). If they can't eat it in a salad or on their ice cream or cereal we don't grow it!