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Dakota Growers Pasta: Vertical Integration in Durum Wheat and the Pasta Manufacturing Industry

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Dakota Growers Pasta

Borden Foods announced that it would close five of its 10 plants in North America, including the two we are seeking to acquire in Minneapolis, Minnesota. We believe that there's a big opportunity with Borden shrinking its store brand business. If consumption continues to increase, it is going to give us a chance to grow our business. We've been very successful in aligning ourselves with major supermarkets and food service companies that have a very aggressive sales strategy. Of course, as they're growing, we grow because when we have a supply agreement with them, we can take advantage of their increased sales. Actually, this year (1998), we are anticipating as much as a 10 percent growth just within our core customer base.

Tim Dodd was General Manager of Dakota Growers Pasta (DGP), an integrated pasta company headquartered in Carrington, North Dakota. Tim and the board of directors reviewed a proposal in July 1998 to purchase two pasta plants formerly owned by Borden that would add another 200 million pounds of pasta capacity to DGP's existing 240 million pounds. Tim was putting together his remarks on the subject for the board. He needed to present both points of view concerning the acquisition decision.

Tim Dodd was well-known in the durum milling and pasta industry. He had been involved in virtually every integrated durum milling and pasta operation during his career. In addition, durum wheat producers found him very trustworthy, which was valuable during the formation of DGP. Both he and Gary Mackintosh, DGP's national sales manager who had helped get DGP started, felt strongly that locating DGP in Carrington, North Dakota, made sense economically, and its rural location would help to attract the right kind of labor needed to run an integrated durum milling and pasta plant. Tim appeared to be a risk taker to many who had followed his career, but those who knew him well discovered that he had established strong and credible relationships with his customers and other key players in this industry. His ability to access information through these relationships had played a key role in his success.

I started with International Multifoods in 1977 after graduating with a degree in grain science from Kansas State University and was responsible for the first integrated durum milling and pasta production plant in North America, the Noodles by Leonardo start-up at Cando, North Dakota. Then, I supervised the construction of a “state-of-the-art” flour mill in Texas before coming over to American Italian Pasta Company in 1988, where I ran the manufacturing operations at Excelsior Springs. Finally, my family and I went back to North Dakota and started DGP.

Pasta Consumption and Markets

Pasta consumption in the United States was relatively stable between 1967 and 1984 at approximately 6 to 7 pounds of durum wheat-based food products (pasta) per capita.[1] Since then, the U.S. pasta industry consumption rose about 1 pound per year, reaching a maximum of 14.0 pounds per capita in 1994, and then decreasing slightly (Exhibit 1).

The U.S. Department of Agriculture noted that there were four primary reasons for the per capita increase in demand for pasta: changing lifestyles, increased availability of pasta sauces, increased attention to healthy eating, and increased numbers of Italian restaurants.[2] In addition, the number of American households with two working parents increased, leading to changes in where and how meals were prepared and eaten. Meals that were healthful, easy, and relatively quick to prepare had become commonplace, and pasta fit that description. The abundance of prepared sauces had served as a “complementary catalyst” and had improved the quality and variety of the choices available for consumption.

The increase of Italian-style restaurants fueled the growth in the food service sector of the pasta industry. Italian food had become a mainstream food, evident by the growth of the number of Italian restaurants. Reasons for this trend were that consumers were eating outside of the home more often; they were eating healthful foods; and per capita incomes were increasing. Americans spent 46 percent of their food expenditures on away-from-home meals in 1998, up from 34 percent in 1970 and 39 percent in 1980.

A study by the National Pasta Association found that consumers typically had three to five packages of dry pasta products on their shelves at any one time. Spaghetti was by far the most favorite pasta dish (40 percent) cited by consumers, followed by lasagna (12 percent), and macaroni and cheese (6 percent).[3] Spaghetti was the most widely sold pasta shape, followed by elbow macaroni, noodles, and other different shapes of pasta (Exhibit 2).

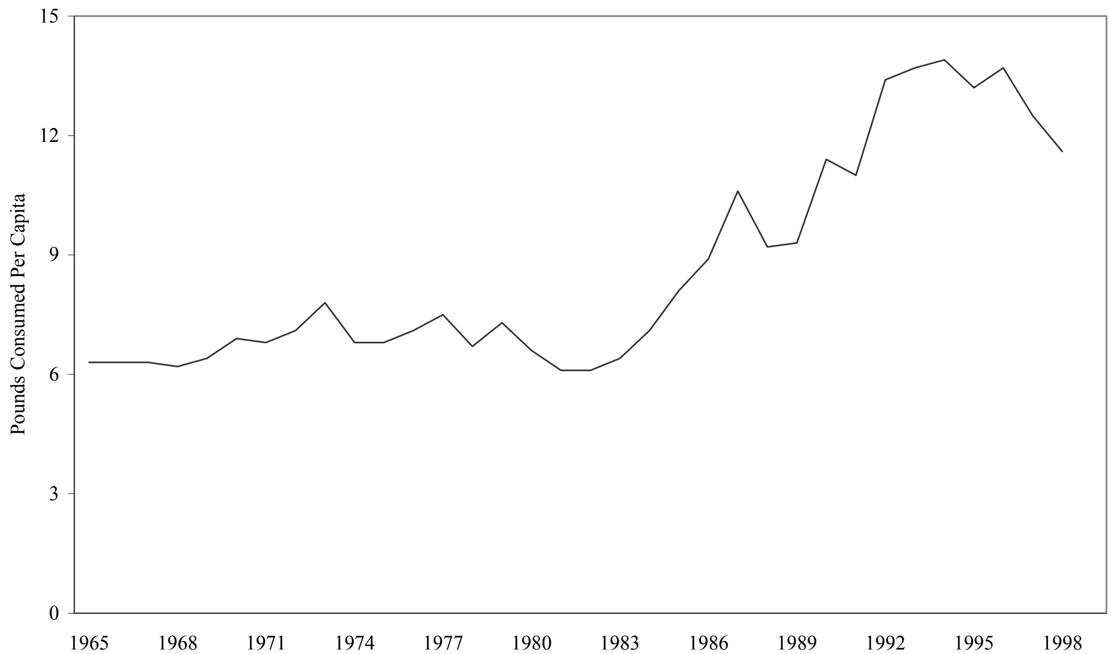
The plateau and slight decline in consumption was attributable to several things. First, it was suspected that the USDA was having measurement problems. The use of older conversion factors for new processes for developing pasta may have overestimated pasta consumption in the mid-1990s. Another reason was that although pasta consumption had increased because it was regarded as a “healthful” food that could be prepared quickly and easily, the food industry had developed other such foods, and consumers might have substituted away from pasta. Finally, the denominator in the consumption figure was population. Pasta was consumed primarily by single households or families. As the U.S. population increased and aged, the proportion of those eating pasta may have declined as a proportion of the total population.

Pasta Market Segments

Five billion pounds of pasta (4.5 billion in dry pasta and 0.5 billion in frozen and fresh pasta) were consumed in 1998 compared to about 4 billion pounds in 1992. The 1998 total value was

$2.6 billion. There were four principal dry pasta market segments: ingredient (43 percent), private and brand label retail (37 percent of the market), food service (10 percent), and government bids (10 percent).

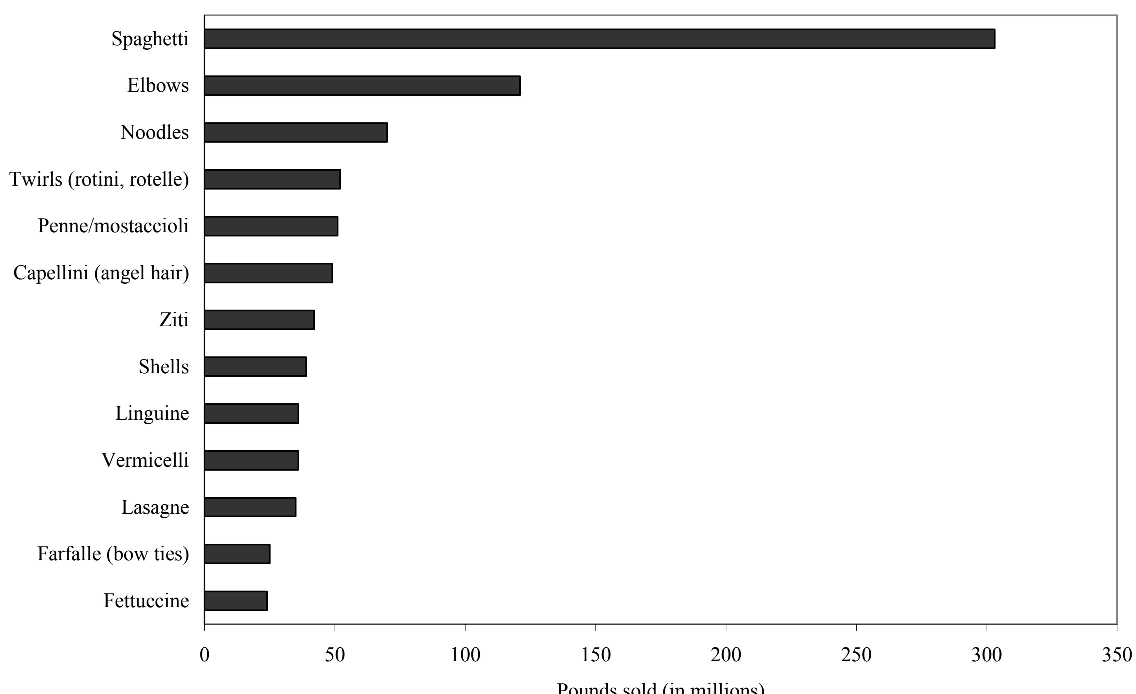
Exhibit 1. Consumption of Semolina and Durum Flour Products, 1965 to 1998[a]



[a]Consumption is equal to wholesale disappearance of pasta product.

Source: Putnam and Allshouse

Exhibit 2. Favorite Shapes of Pasta Purchased by U.S. Consumers in 1998

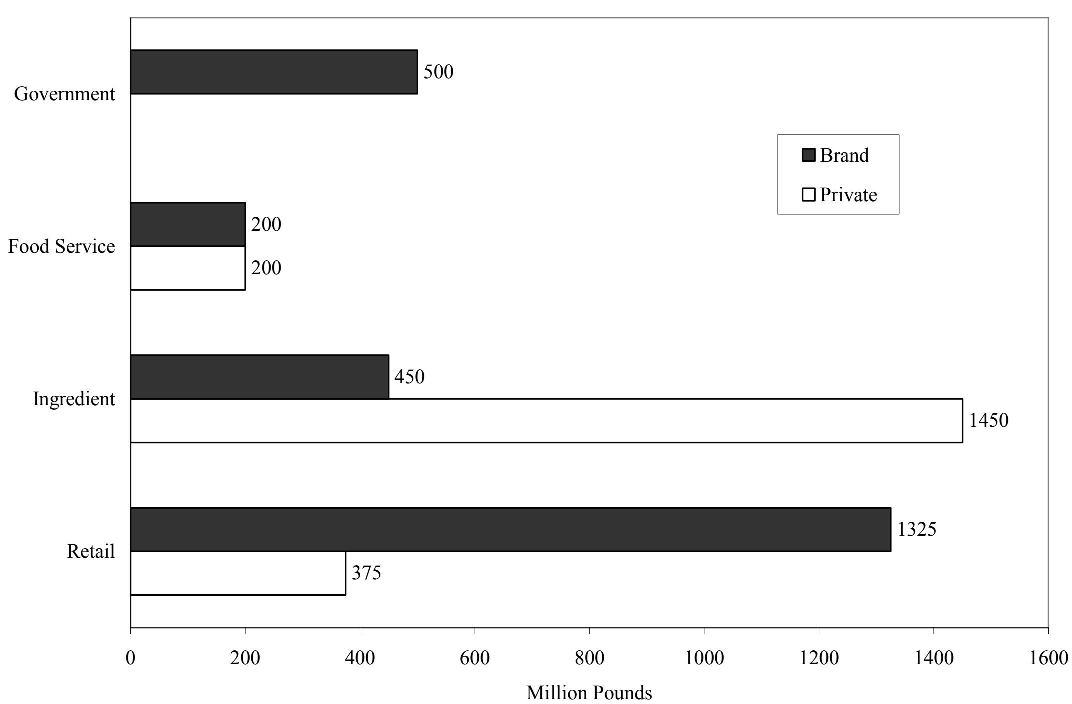


Source: National Pasta Association

Within each segment, there were both private label and brand label products (Exhibit 3). Private label products were products manufactured by a firm that had another firm's label on it. For example, a company such as Mueller's that had brand assets but no manufacturing assets would contract its brand production with a company that had manufacturing assets, such as American Italian Pasta Company. Within the retail market segment, private label pasta had been growing at a faster rate than brand label pasta: Private labels had increased from 19 percent to almost 24 percent over the 1994 to 1998 time period. In the ingredient market segment, 75 percent was manufactured by firms for their own internal needs, with the remainder being purchased on the quality specifications needed in their products. About half the food service market segment was private label, and the government market segment was considered brand label.

This industry had undergone change as large pasta firms, which had produced both private label and brand label, had exited private label production to focus strictly on their core brands. Some retailers preferred private label because of higher margins and greater control of merchandising. Although there was no direct evidence, retailers and pasta manufacturers believed that consumers preferred "Italian" brand names and regarded imported Italian pasta as higher quality. Thus, some firms were beginning to develop domestic pasta with an Italian brand name. The perceived quality of a brand was related to its image as well as product characteristics such as shorter cooking time, ease of cleaning (e.g., less stickiness inside a pan), and innovative products that were easy to prepare and convenient to use by consumers. Through lower cost technology, new entrants in the pasta industry had focused on innovative products and manufactured them as private label products for other firms that had brands. Thus, private label brands were becoming more competitive because they had higher quality product attributes and were priced competitively.

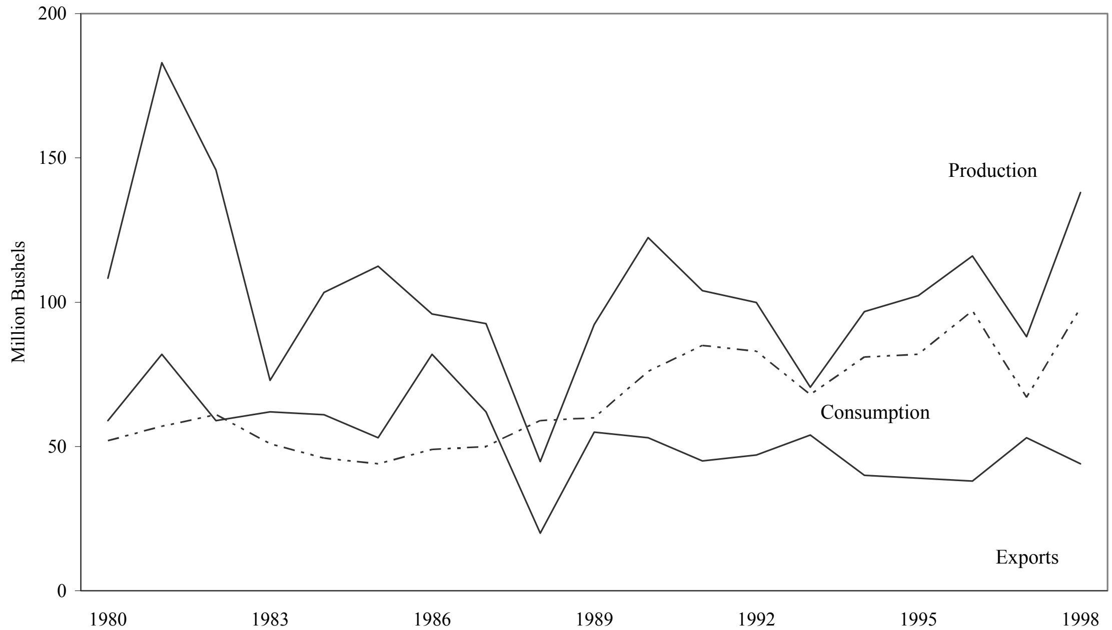
Exhibit 3. Dry Pasta Market Segments in 1999



The Durum Milling and Pasta Industries

The pasta production chain was divided into three different stages: durum wheat, semolina flour, and pasta product. Production had increased as consumption increased; exports remained fairly constant over time (Exhibit 4). Approximately 67 million bushels of durum wheat were milled into more than 3 billion pounds of semolina (a granular product used to make pasta) and durum wheat flour in 1998 (Exhibit 5).[4] The majority of value was added through further processing. Exports and shrinkage accounted for the difference.

Exhibit 4. U.S. Durum Wheat Production, Consumption, Exports, and Stocks 1980 to 1998



Source: Wheat Outlook Situation and Yearbook

Exhibit 5. The Pasta Value Chain

Durum Product → **Semolina Product** → **Pasta Production** → **Distribution** → **Retail Sales**

Durum Product

Producers supply durum wheat. The 1997 average price was $4.65 per bushel.

Semolina Product

Durum wheat was milled into semolina flour. The average price of semolina was $12.60 per 100 pounds in 1997.

Pasta Production

Semolina flour was manufactured into pasta for retail, food service, or ingredient use. The Bureau of Census reported that the value of durum wheat purchased by pasta plants was $1,045,198,000 and *Milling and Baking News* estimated that 64,663,000 bushels of durum wheat were milled in 1997.

Distribution

The Bureau of Census reported that the value of pasta shipments was $1,766,358 in 1997.

Retail Sales

Pasta was sold at retail for about $1.25 per pound.

Durum Wheat Production
Durum wheat was the only wheat that could be used for pasta due to its high protein percentage, which is higher than any other type of wheat. Poor-quality durum resulted in pasta noodles that broke easily causing problems in packaging. North Dakota, eastern Montana, northwest Minnesota, southern Alberta, and southern Saskatchewan were the primary production regions due to cool nights and warm but not hot summers, which were ideal for durum wheat. Although durum wheat was also grown in Arizona and California, the northern Great Plains states were expected to remain production leaders in the future.

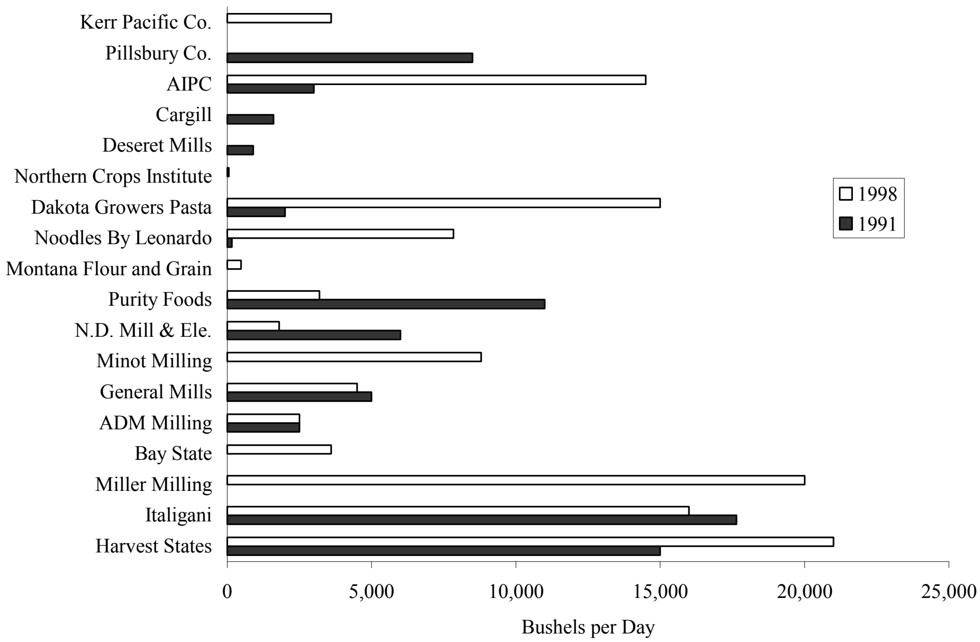
Durum Milling Leads to Semolina Flour and Pasta Manufacturing
Producers delivered their durum wheat to a durum milling plant. There it was sampled, weighed, precleaned, and loaded into the grain silos. Within these silos, the wheat was preblended and conveyed into the mill, where it was cleaned and then dampened to the appropriate moisture level needed for milling. The wheat was then ground, sifted, and purified into high-quality semolina flour. In addition to semolina, other products were created, including granulars, first clear (higher grade) flour, second clear (lower grade) flour, semolina/durum flour blends, and mill feed. Mill feed and second clear flour were sold as livestock feed to neighboring livestock producers. A 60 pound bushel of wheat was milled into approximately 36 pounds of semolina product, 6 pounds of flour, and 18 pounds of mill feed product.

The semolina was blended with first clear flour and used to make pasta, which was basically a mixing, extrusion, and drying process. Pasta "dough" was extruded through dies that created individual shapes. The entire process was computerized for maximum efficiency and control.

Durum Milling Industry
There were 13 major companies that milled durum wheat in the United States. There had been significant change over the 1991 to 1998 time period (Exhibit 6).Well-known firms had exited durum milling (for example, Pillsbury, Cargill) and new firms had entered (for example, American Italian Pasta Company, Dakota Growers Pasta). By the late 1990s, Italgrani USA, Harvest States Cooperatives, and Miller Milling Company comprised about 60 percent of total U.S. durum milling capacity. Durum milling plants had traditionally been located near durum wheat production or in regions with favorable rail transportation access to North Dakota. Milling capacity increases had kept pace with consumption in the early 1990s but outgrew consumption by 1995. Then, capacity began to decline as older and higher cost plants began to be shut down (Exhibit 7). By the late 1990s, capacity was concentrated in Minnesota, North Dakota, and Midwestern states such as Missouri that were on a direct rail line to eastern North Dakota (Exhibit 8).[5]

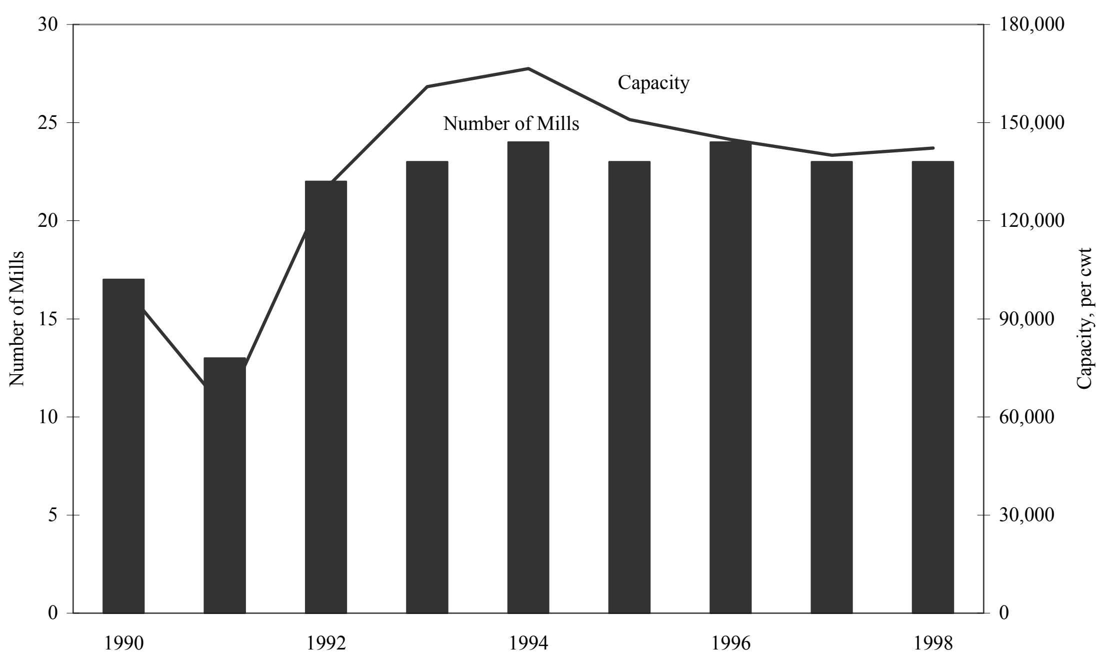
Dry Pasta Industry
There were 141 pasta plants that manufactured dry pasta in the United States, but 67 accounted for the majority of sales in 1998.[6] The industry changed as vertically integrated firms such as AIPC, which was a new entrant with little market share in 1991, had the largest capacity in 1998 (Exhibit 9). Hershey Foods, American Italian Pasta Company (AIPC), Borden Food Holdings Company, DGP, Philadelphia Macaroni Company, A. Zerega Sons, Inc., and Gooch Foods (owned by Archer Daniel Midland) were the main U.S. pasta manufacturers with about 55 percent market share.

Exhibit 6. Original Durum Milling Capacity in 1991 and 1998, by Firm



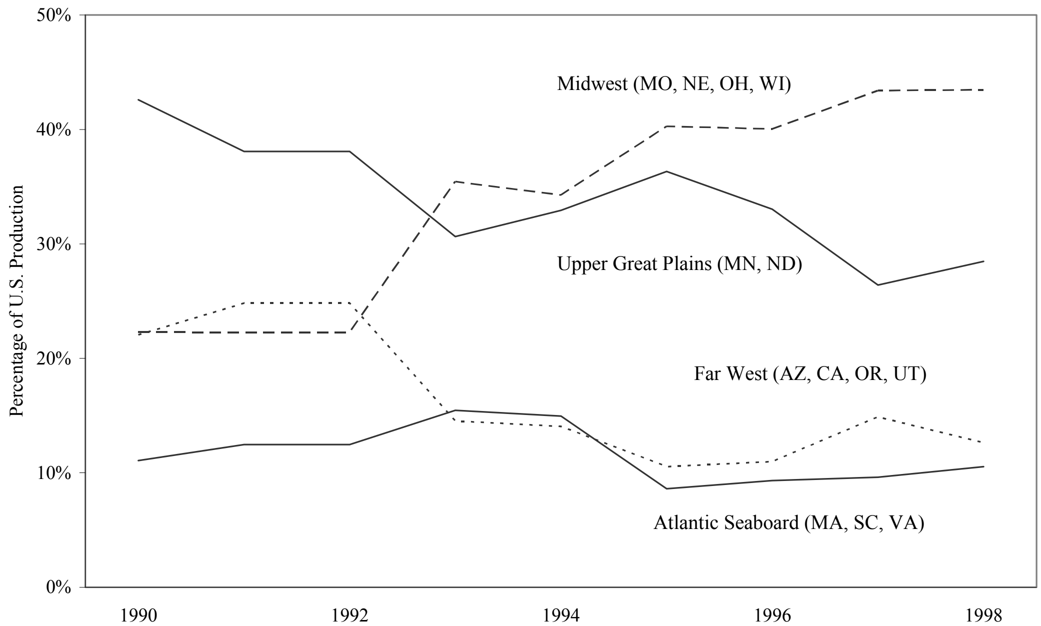
Source: Industry Annual Report, *Milling and Baking News*

Exhibit 7. Durum Milling Industry Capacity and Number of Mills, 1990-1998



Source: Industry Annual Report, *Milling and Baking News*

Exhibit 8. Durum Milling Capacity by U.S. Geographic Region, 1990 to 1998



Source: Industry Annual Report, *Milling and Baking News*

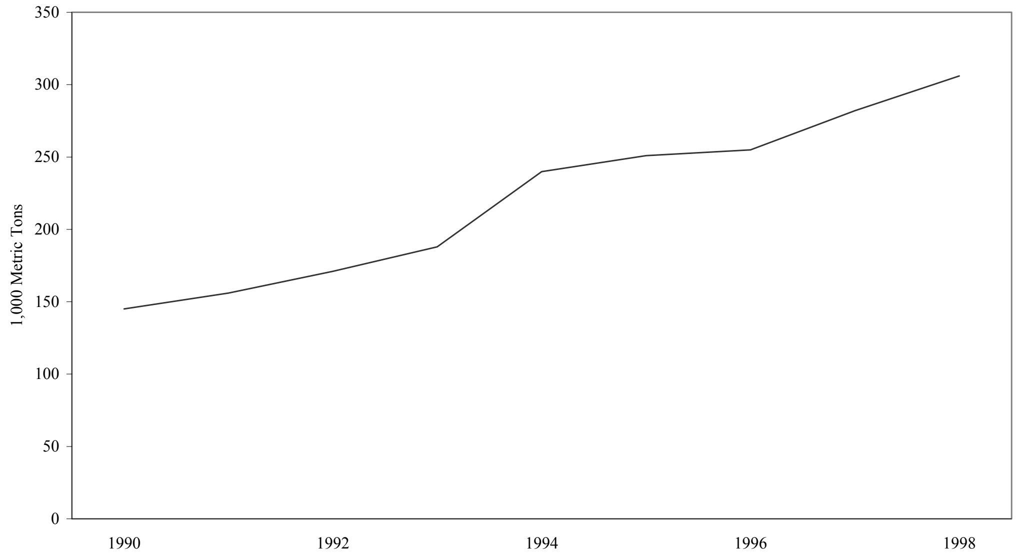
Exhibit 9. United States Pasta Annual Production Capacity in 1998[a]

Firm	Capacity, million pounds
American Italian Pasta Company	800
Hershey Pasta Group	688
Borden Food Holdings	350
Dakota Growers Pasta	270
Primo Piatto	200
Barilla	200

[a]Assumed all plant expansions occurred.

Another 25 percent of market share was owned by Kraft Foods, General Foods, Inc., American Home Foods Products, Con Agra, Inc., Pillsbury, Campbell Soup Company, and Stouffers Corporation; these companies produced pasta for their internal needs. Finally, an Italian pasta manufacturer Barilla, had recently built a plant in Iowa.[7] Pasta imports had increased in the 1990s and then decreased when a trade ruling found that several Italian pasta companies were importing U.S. durum wheat and selling pasta to the United States at prices below their marginal costs (i.e., dumping pasta). Imports represented another 10 percent in 1998 (Exhibit 10).[8] Total domestic capacity was estimated at 3.8 billion pounds per year.

Exhibit 10. Volume of Imported Pasta and Noodle Products, 1990 to 1998



Source: Foreign Agricultural Trade of the U.S.

Price Volatility

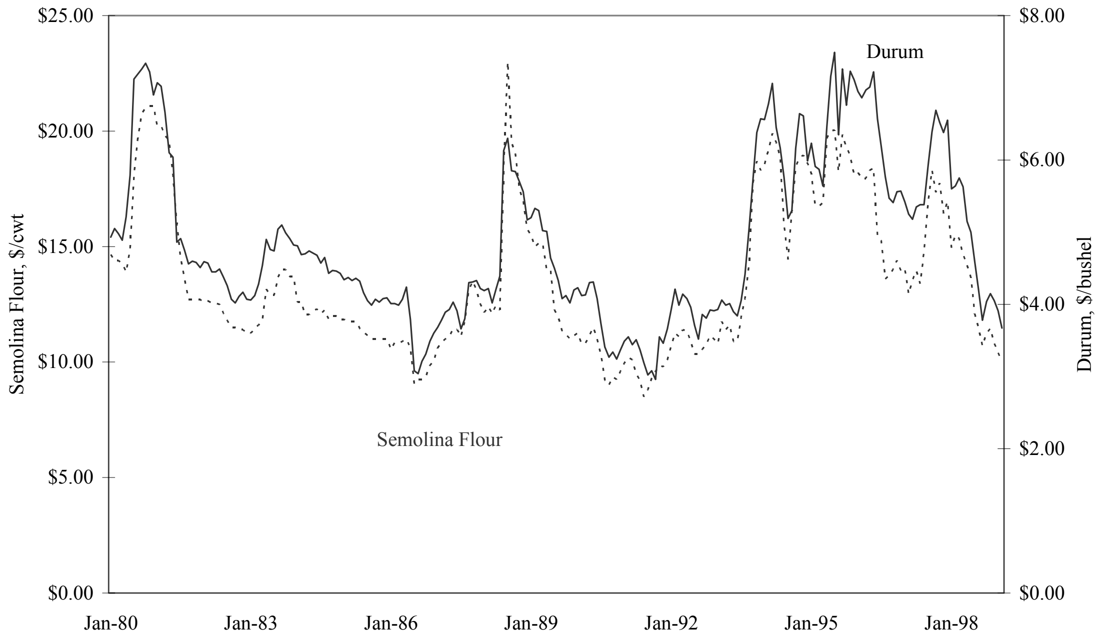
The change in durum milling capacity and geographic location, coupled with imports, had increased durum wheat and semolina flour price volatility in the late 1990s (Exhibit 11).[9] The Minneapolis Grain Exchange had established a durum futures contract in February 1998 but it was not widely used due to lack of liquidity. Durum wheat prices rose because of increased demand for pasta and lower production yields in North Dakota due to disease problems (Exhibit 12). In addition, the increase in milling capacity in the late 1990s had helped increase demand for durum wheat, which increased durum prices. As durum and semolina flour prices rose and pasta demand began to plateau, pasta manufacturers found it more difficult to pass along higher input costs, and their margins began to decline (e.g., pasta prices declined). With all the projected expansion, it was believed that, by 1999, durum milling capacity would be greater than pasta demand.

Competition in the Pasta Industry

American Italian Pasta Company

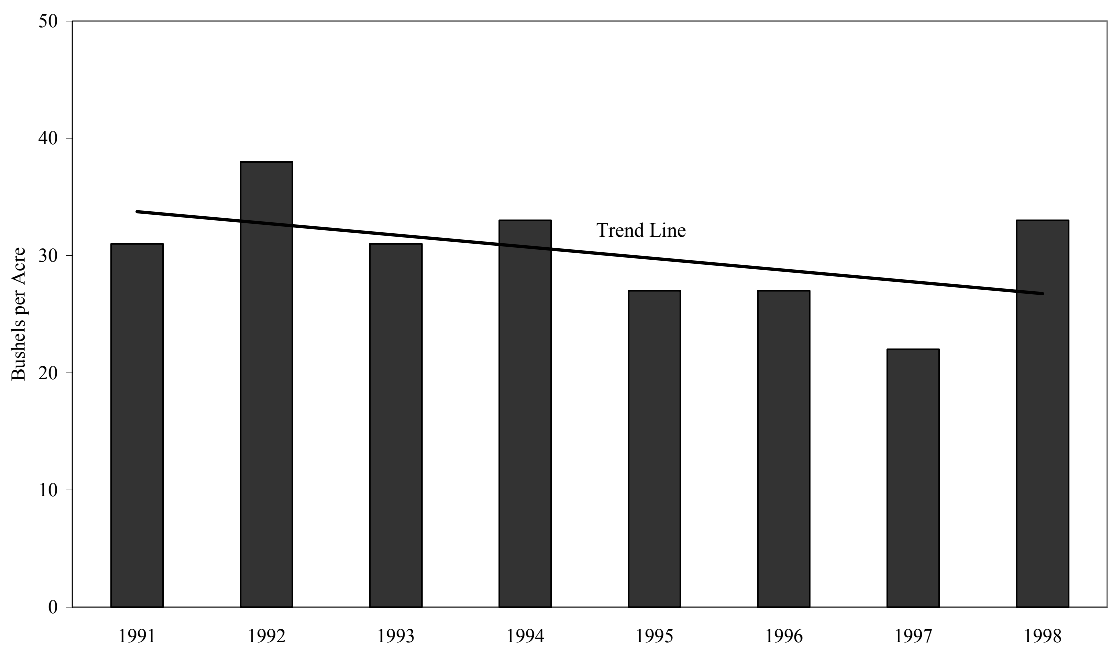
American Italian Pasta Company (AIPC) was formed in 1988 and had vertically integrated plants in Excelsior Springs, Missouri and Columbia, South Carolina. A new pasta plant was located in Kenosha, Wisconsin, next to Harvest States Cooperatives durum milling plant (Exhibit 13). One AIPC customer (25 percent of sales) was Mueller's (owned by Bestfoods, which had exited the pasta industry in 1998). Mueller's accounted for almost 200 million pounds and was the largest brand in the United States. In 1995, it began marketing an all natural, flavored pasta under the brand name Pasta LaBella, which was sold to retailers and through Sysco Corporation (27 percent of sales), the largest marketer and distributor of food service products. Other customers included Wal-Mart's Sam's Club stores (20 percent of sales) and private labels for 15 of the 16 largest grocery retailers. Its brands included American Italian, AIPC, and Pasta LaBella.

Exhibit 11. Minneapolis Semolina Flour and Durum Prices, 1980 to 1998



Source: Ingredient Prices, *Milling and Baking News*

Exhibit 12. North Dakota Durum Wheat Yields, 1991 to 1998



Source: USDA Wheat Situation and Yearbook

Its relationship with Wal-Mart enabled AIPC to sell its pasta on a cost plus basis (production cost plus specified profit per pound). It had a strong reputation in category management of its brands and used Nielsen's supermarket data to help provide expertise to its customers regarding new products. It had also developed electronic data interchange (EDI) systems with its customers to better forecast demand and inventory. There was considerable speculation that AIPC was contemplating building a plant in Italy and importing Italian pasta into the United States for its customers who wanted Italian pasta.

Exhibit 13. American Italian Pasta Growers Company Selected Financial Data (in thousands), 1993 to 1998

	1993	1994	1995	1996	1997	1998
Net Revenue	$47,872	$69,465	$92,903	$121,149	$129,143	$189,390
Net Income	6,699	2,182	476	(3,490)	5,057	15,314
Dividends/share	.64	.21	.05	(.33)	.42	1.03
Total Assets	66,337	93,629	135,424	141,688	158,175	259,381
Long Term Debt	40,024	62,375	97,452	93,284	100,137	48,519
Members' Equity	16,973	19,401	20,067	15,688	42,984	176,784

Source: AIPC 10-K reports

Hershey Pasta Group

Hershey's brands had approximately 27 percent market share in the brand retail market, with three of the top six brands in the United States in 1998 (Exhibit 14). Hershey Foods had entered the pasta industry in 1966 with the purchase of San Giorgio brand and had acquired various other brands over the years. Skinner Macaroni was acquired in 1979, American Beauty was acquired from Pillsbury in 1984, and Ronzoni was purchased from Kraft (General Foods) in 1990. Hershey Pasta Group's brands held the highest retail market share in 22 (12 of the top 20 markets) of the top 64 markets, second highest market share in another 25 markets, and third highest market share in an additional 18 markets. However, Hershey Pasta Group was not a core part of Hershey Foods' business, and in 1996, it had combined its pasta sales force with its general foods force and significantly reduced its marketing and promotional expenses.

Exhibit 14. Hershey's Pasta Division Selected Financial Data (in thousands),1994 to 1998

	1994	1995	1996	1997	1998
Net Revenue	$397,770	$419,090	$407,370	$386,218	$373,096
Net Income[a]	17,126	18,437	18,693	25,157	25,914
Dividends/share[a]	-	-	-	-	-
Total Assets	293,678	259,731	246,563	231,920	225,017
Long Term Debt[a]	-	-	-	-	-
Members' Equity	234,450	194,155	183,698	162,777	166,944

[a]Net income did not incur debt or interest expense as a division of Hershey Foods Corporation and no dividends were declared. No 1993 data was available.
Source: Hershey 10-K reports.

Almost 70 percent of its semolina needs was purchased from Miller Milling Company, which had total capacity of 688 million pounds with locations in Winchester, Virginia; Lebanon, Pennsylvania; Omaha, Nebraska; Fresno, California; Louisville, Kentucky; and Kansas City, Missouri. Miller Milling Company had established mills alongside the Virginia and Lebanon pasta plants, enabling these two plants to be vertically integrated. However, approximately 30 percent of its total capacity was not being used at the current time.

Borden Food Holdings Corporation
Borden Food Holdings Corporation was a privately held chemical and food company. It had recently sold six of its 10 pasta plants but had signed short-term supply agreements with each. Its major brands were Prince, Creamette, Catelli, Merlino's, and Anthony. It was the largest pasta sauce manufacturer in the United States. No financial information was released on its pasta foods.

Other Pasta Companies
There were several privately held companies (for example, Philadelphia Macaroni Company, A. Zerega Sons, Inc.) that did not publicly release information and little was known about their markets. Durum millers and pasta plant competitors in North Dakota included Philadelphia Macaroni's Conte Luna plant in Grand Forks (specialty pasta) and their Minot Milling plant (durum milling) in Minot; Noodles by Leonardo in Cando and Devil's Lake (integrated durum milling and pasta); and Farmers Choice Pasta at Leeds (specialty pasta). A new entrant, Prairie Pasta Producers at Minot, was expected to be an integrated milling and pasta plant and D&B Specialty Foods in Grand Forks, Minnesota was going to be a specialty pasta plant.[10]

Competitive Rivalry
Firms competed in this industry through five principal methods: (1) degree of capacity utilization (achieve lowest average cost production); (2) product distribution costs; (3) service costs; (4) ability to provide consistent quality to customer specifications; and (5) durum wheat prices. AIPC and DGP had almost 100 percent capacity utilization due to their supply management agreements with their customers. Access to favorable rail transportation had helped new entrants (AIPC, DGP) achieve low distribution costs. The use of EDI had also helped AIPC, DGP, and Hershey's Pasta Group to provide marketing services to their customers. In addition, high durum wheat prices in recent years resulted in semolina flour accounting for 30 to 40 percent of total pasta cost of goods sold. Dakota Growers Pasta and AIPC had been able to achieve success through access to high-quality durum wheat despite low yields and poor quality; this allowed them to provide consistent quality at low average cost.

Dakota Growers Pasta
The 1,084 members of DGP were durum wheat producers who operated in the states of North Dakota, Minnesota, and Montana. DGP's mission was to help its members become more profitable:

> *Dakota Growers Pasta was founded on the dream to provide farmers with the means to secure a future for themselves and their families.*
>
> *To succeed in this endeavor, our owners and employees pledge to always apply the "Quality Assured" idea in everything we do. We believe that the customer is our single most important asset and that we must constantly strive to improve and to do it better than the day before.*
>
> *We take great pride and care in everything we do, because it is our past as well as our future.*

Dakota Growers Pasta was organized as a cooperative.[11] Cooperatives were a unique organization form compared to C corporations, limited liability companies, partnerships and proprietorships. Most of DGP's competitors were C corporations. Cooperatives were common in agriculture-related industries but much less common in other industries. Non-agricultural cooperatives included credit unions, mutual insurance companies, rural electric utilities, and telephone cooperatives. Essentially, cooperatives were business organizations whose members were also the users of the cooperative's business or services.

In DGP's case, durum wheat producers were the users. The users were the voting members who controlled the co-op, the owners who provided the equity capital, and the patrons who received the benefits of use, including (1) a market or buyer for their durum wheat and (2) a share of the profits based on use or patronage. Profits or net income was usually distributed as patronage refunds per bushel.

Many farmers had provided equity to organize and finance cooperatives, because in many cases, private investor equity or competitive markets for farm products were not available (commonly called market failure) during the early 1900s. Then, in the early 1990s, another wave of cooperative formation started in North Dakota and Minnesota and moved south into South Dakota, Nebraska, and Kansas. Producers invested over $2 billion in processing beyond grain handling including corn wet milling, pasta, and soybean processing plants in North Dakota, South Dakota, Minnesota, Nebraska, and Kansas. Tim had recited the story of DGP's formation at a countless number of meetings.

> *The farmers had been talking about it for years and years. Farmers wanted to see more of a profit from the durum they grow. In 1991, a group of them decided to see if their ideas could be put into action. A feasibility study was quickly undertaken, and an interim board of directors was elected. Then, the real sales pitch began as that core group of farmers began selling stock to their peers. Producers paid $125 to join the cooperative as a member and paid $3.85 (par value) per share, which represents an obligation to deliver one bushel of durum wheat. The $3.85 just happens to be the historical per bushel average for North Dakota durum wheat.*

Dakota Growers Pasta was organized in late 1991 as a closed membership cooperative. Producer-users or members were required to purchase one share of stock for each bushel of durum wheat they wanted to sell annually to DGP. The total number of shares sold matched the capacity of the mill. Shares in the first stock offering were priced at $3.85 each, and they conveyed a right and an obligation to deliver durum wheat as specified in the "Growers Agreement."

The DGP members' "Growers Agreement" obligated each member to deliver a set amount of durum wheat to the Company from their own production, based on the number of shares they had purchased. If the member could not supply the wheat with the desired quality, DGP would purchase the wheat on behalf of the member and charge them the current market price. The member was exposed to price risk, as they must purchase durum wheat to be delivered to the company on behalf of the member. A growers agreement gave Dakota Growers a competitive advantage because it allowed them to source high-quality durum wheat. The stock was an asset that could be traded or exchanged between members at a privately negotiated price. This meant the stock price could appreciate or depreciate in value from the initial issue price or subsequent exchange price. However, DGP always carried the stock on its books at its nominal issue or book price.

Plant Description
Tim was one of the first in the industry to recognize that vertical integration meant opportunity.

> *The beauty of it is that we are integrated all the way through. We are a highly efficient pasta plant because we work directly with growers, keeping them informed about what we need and integrating them in the milling and manufacturing. They have a real stake in the end product.*

Dakota Growers Pasta owned and operated a state-of-the-art durum wheat mill and pasta production facility in Carrington, North Dakota; the facility was completed in 1994. The cooperative had gone through many changes since its inception (Exhibit 15). The company used its semolina in its own pasta production process. The vertically integrated facility consisted of a grain elevator; a mill; four pasta production lines, two of which manufactured short goods (such as macaroni) and two of which produced long goods (such as spaghetti); and a warehouse to store the finished goods.

The elevator had a storage capacity of 370,000 bushels (2 weeks' storage); the mill had capacity to grind 3.2 million bushels each year; and the pasta production complex had the ability to manufacture 240 million pounds of pasta annually. The company's flexible packaging operation could pack the pasta into boxes or film that ranged in size from 7 1/4 ounces to 2,000 pounds. The facility was constructed to accommodate a future expansion of double the current milling capacity and the addition of one pasta production line without any further plant construction other than the purchase and installation of the necessary equipment.

The cost savings from integration provided a competitive advantage relative to other firms. Dakota Growers Pasta had become successful in a very short period of time (Exhibits 16 and 17). Members had received patronage refunds (sometimes called patronage dividends) in 1996, 1997, and 1998. For example, in 1996 patronage refunds were $.30 per bushel (Exhibit 18). In addition, a three for two equity stock split had been declared in July 1997. The company had been profitable over its brief history by increasing the value that members received for their durum wheat relative to nonmembers in North Dakota who had not invested in DGP. Because the plant had lower costs relative to others in the industry, it had increased market share and, therefore, net income. The total increase in value can be seen in Exhibit 18, where the sum of purchase price, patronage refund, and stock appreciation is greater than the average cash price for the durum wheat.

Exhibit 15. Dakota Growers Pasta Timeline of Activities, 1991 to 1998

Year	Transaction
1990	North Dakota durum wheat farmers contributed cash for a feasibility study of an integrated durum milling/pasta manufacturing plant.

1991	Results came back positive (15% return on investment over and above the ten year durum wheat average price per bushel of $3.85). Tom Dodd was hired as General Manager and Gary Mackintosh as National Sales Manager in December.
January-February 1992	1200 durum wheat farmers from western Minnesota, North Dakota, and northeastern Montana pledged $12.5 million in equity towards a $40 million durum mill and pasta plant in Carrington, North Dakota.
July 1995	Completion of its first year of operation with 3.2 million bushels of durum milling capacity and 120 million pounds of pasta (almost perfectly aligned as 36 pounds of semolina in a bushel of durum wheat yields 115.2 bushels of semolina flour for pasta).
October 1995	Board of Directors decided to double durum wheat capacity.
February 1996	1085 producers contributed over $9.7 million in equity towards the expansion.
Summer 1996	Durum mill expansion (6 million bushels of durum per year).
Summer 1997	Pasta plant expansion was completed (240 million pounds).
Fall 1998	Analyzed possible acquisition of Primo Piatto (200 million pounds of pasta) and to expand Carrington facility to 12 million bushels of durum milling per year and add an additional 30 million pounds of pasta capacity.

Source: DGP 10-K reports.

Exhibit 16. Dakota Growers Pasta Selected Financial Data (in thousands), 1993 to 1998

	1993	1994	1995	1996	1997	1998[b]
Net Revenue	0	19,706	40,441	49,558	69,339	124,869
Net Income	(423)	(206)	1,436	2,618	6,926	4,559
Dividends/share	0	0	0	.30	.485	.51
Total Assets	24,818	45,215	47.842	49,894	68,739	124,534
Long Term Debt	11,557	28,477	29,097	19,752	30,218	66,056
Members' Equity	12,183	12,107	13,497	24,866	29,956	36,875

[a]Dakota Growers Pasta was formed December 16, 1991 and was in development stage through July 31, 1993. Full operations began January 1, 1994.
[b]Assumed acquisition occurred.
Source: DGP 10-K reports.

Market Segments

In the beginning, Tim focused mainly on the private label business because that was the quickest way to enter this industry.

> *We had no plans to market our own label, but our members and employees began asking to purchase the product they had a part in producing. So we put our brand, Pasta Growers, on the market, but most of our sales increase has been in the private label*

business. We market in three different segments. The retail segment consists primarily of brand and store-brand pasta. We've introduced three labels since we entered the brand arena. Again, that takes a lot of capital and so we are just slowly starting to pursue that. We also market pasta in the food service sector to the large food service companies. Most of them are the major, private label food service distributors that create a lot of high volume for us. They're interested in very high-quality pasta at very reasonable prices, of course. Our third market for pasta is the ingredient sector, which consists of food processors that use our product as an ingredient in their process. These would be similar to value-added products such as Hamburger Helper™ or Healthy Choice™.

During the plant's first 2 years, it produced, among other things, pasta for other companies that were short on inventory due to unexpected demand or shortage of durum wheat (this was called co-packing). However, DGP's sales increased to where co-packing was less than 1 percent of sales. The retail private label and ingredient market segments comprised the bulk of DGP's sales. Branded pasta products represented an important market segment for the company. Approximately 50 percent of its business in 1997 was retail (primarily private label), followed by 25 percent in food service, and 25 percent in ingredient market segments. The majority of DGP sales were under private label although it had its own label, Dakota Growers, as well as Pasta Sanita and Zia Briosa.

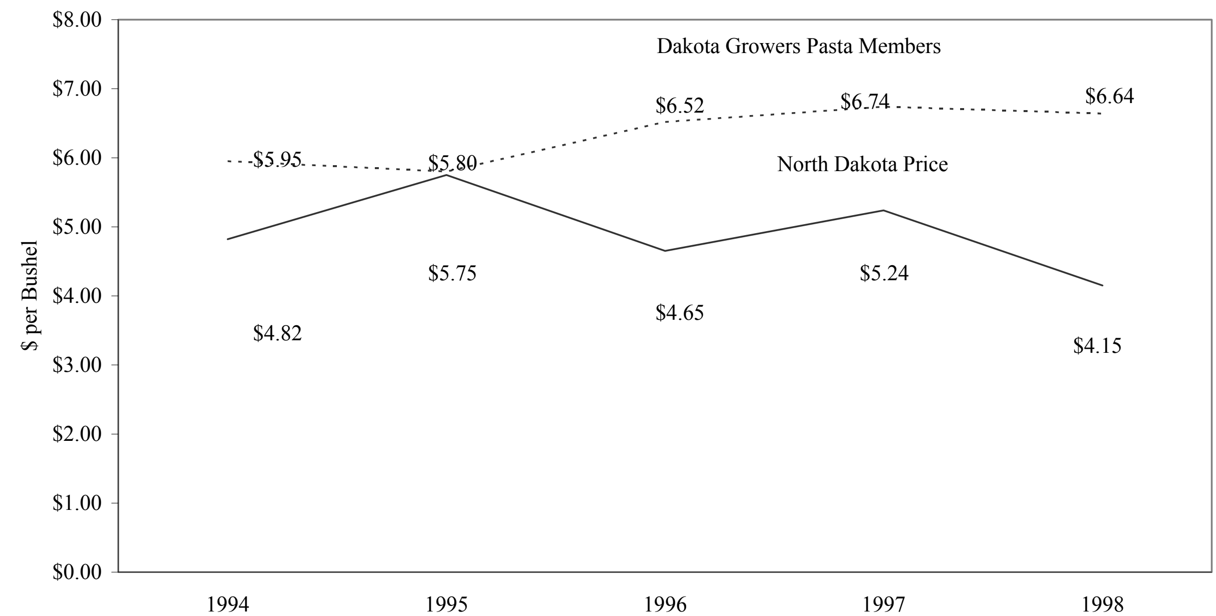
Exhibit 17. Dakota Growers Pasta Condensed Balance Sheets, 1996 to 1998 (in thousands)[a]

Assets	1998	1997	1996
Current Assets			
Cash and Cash Equivalents	$182	$5	$1,448
Receivables	13,146	8,287	5,917
Inventories	21,935	8,700	6,737
Prepaid Expenses	3,915	536	150
Total Current Assets	39,178	17,528	13,532
Property and Equipment (Net)	81,137	48,472	33,584
Investment in St. Paul Bank for Cooperatives	2,086	1,804	1,710
Other Assets	2,136	883	1,068
Total Assets	$124,537	$68,739	$49,894
Current Liabilities			
Notes Payable and Current Portion of Long-Term Debt	$4,033	$2,634	$72
Accounts Payable	5,748	3,432	2,889
Excess Outstanding Checks Over Cash on Deposit	2,336	2,457	0
Accrued Grower Payments	1,354	1,116	1,845
Accrued Liabilities	2,894	1,560	542
Total Current Liabilities	16,365	11,199	5,348
Long-Term Debt, Net of Current Portion	66,056	27,131	18,860
Deferred Income Taxes	4,900		
Other Liabilities	88		
Total Liabilities	87,409	38,330	24,208
Redeemable Preferred Stock	253	453	820
Members' Investment			

Convertible Preferred Stock	2,304		
Membership Stock	137	135	135
Equity Stock	18,390	18,881	18,881
Additional Paid In Capital	4,101	3,610	3,610
Accumulated Allocated Earnings	2,914	413	0
Accumulated Unallocated Earnings	9,029	6,917	2,240
Total Members' Investment	36,875	29,956	24,866
Total Liabilities and Members' Investment	$124,537	$68,739	$49,894

[a]Figures for 1998 are projected assuming the acquisition occurred.

Exhibit 18. Durum Wheat Prices for DGP Members vs. Average North Dakota Price, 1994 to 1998[a]



Source: DGP annual reports

[a]The DGP price represents the purchase price, patronage refund, and stock appreciation on a per bushel basis

Critical Issues for 1999

In the fall of 1997, Borden Food Holdings abruptly announced that the firm intended to close six of its 10 North America pasta plants. The company wanted to focus on its core food businesses, one of which was pasta sauce. A partnership, consisting of Borden's employees, purchased two of the plants located in New Hope, Minnesota and Minneapolis, Minnesota and formed Primo Piatto ("First Course" in Italian) in August 1997. The plants produced 200 million pounds of pasta per year and had a 3-year contract with Borden. However, it was soon apparent that Primo Piatto might require a partner or sell to DGP. Dakota Growers Pasta was supplying Primo Piatto semolina until DGP's own pasta line expansion was completed, and then it would use the semolina internally. The expansion was set for completion in the fall of 1998. Primo Piatto contacted Tim Dodd about a possible partnership. Tim and the board of directors were considering several issues, including future growth, branding, and shareholder profitability.

Future Growth
Dakota Growers Pasta had grown so fast that the Carrington plant was already running at maximum capacity. The firm would not be able to sustain any new growth without additional capacity. The marketing and sales staff felt strongly that additional sales could be obtained if production could be increased. However, these new sales opportunities were in the southeastern United States, and the Carrington location was not ideally situated to serve this expanding market. Obtaining additional durum wheat from its members was not a problem because the typical member only had enough shares to market an average of 10 percent of his or her total production.

The organic pasta market was another possibility for future growth. Consumption of organic products was increasing at about 20 percent annually in the late 1990s. Several customers had asked for organic products in the past but there was never enough volume. The new acquisition would make Dakota Growers more flexible. Several members had expressed a willingness to try and grow organic durum.

Private Label vs. Brand Label Retail Markets
Prior to the 1960s, the pasta industry was dominated by regional brands, usually family-owned and located in regional population centers. During the 1960s and 1970s, large national firms such as Pillsbury, Hershey, General Foods, Borden, and Coca-Cola purchased these smaller regional firms. In the late 1980s and early 1990s, some of these companies sold off their pasta interests, leading to further consolidation. Throughout this entire period of consolidation, regional brand names remained the retail leaders, although they were owned by these national firms. Price competition among retail brands had lowered the average price of retail brand pasta within the past 2 years. Thus, the price differential between private label pasta and brand label pasta declined, slowing private label pasta growth. Tim expected that if the acquisition occurred, DGP's distribution of sales would increase to 60 percent retail, 20 percent ingredient, and 20 percent food service. Most, but not all, of this market share would still be private label.

Tim Dodd wondered about competing in the brand label pasta market versus continuing to grow in the private label market. If DGP moved to the brand label market, it would have to upgrade its image and perhaps even change its brand identity. It would be important to know what its market share would be after the acquisition occurred and whether its competitors would change. Its members had long wanted to see DGP's own brand in retail stores outside of North Dakota. However, Tim had warned the board that their initial entry into the pasta industry had to be private label because of the entrenched competition. Tim believed that the acquisition would provide enough capacity that it might be conceivable to further develop their brand in the brand label market. Finally, he and the board had discussed the possibility of investigating a joint venture or similar alliance with an Italian pasta manufacturer as a way to further develop their Italian image.

Shareholder Profitability
Additional capital would be needed to support any capacity expansion or brand product development. Yield losses caused by the wheat scab disease had pushed durum production further away from the plant. This was increasing the members' durum procurement costs. Over the past decade, wet summers had led to mold forming in the wheat, which had affected yields. Dakota Growers Pasta procured over 6 million bushels of durum per year. Lower yields and increased costs had also reduced its member producer's profits, which might dampen their ability to provide additional equity for the acquisition and increased marketing expenses associated with

branding. Although DGP had returned profits to its members, the durum wheat sold through DGP was typically a small percentage of their total farm output. Low profits in agriculture in general meant that future equity capital might be hard to find. New capacity in the industry also meant that firms had to be very competitive on price.

Dakota Growers Pasta was contemplating hiring a plant breeder to begin developing durum wheat varieties that were not only resistant to scab disease but also had quality attributes desired by their customers. This would increase costs. Tim believed that the equity was there for an expansion. Tim knew all of his members. Many were good managers who had used risk management tools including crop insurance, crop diversification, and contracting to shield them from much of the low profitability seen in the rest of the industry.

However, it was a concern. Durum wheat was grown in a crop rotation with other crops such as sugar beets, malt barley, potatoes, corn, and spring wheat. Some DGP members who participated in the success of DGP were also investors in other closed cooperatives to process sugar beets (American Crystal Sugar), high fructose corn syrup (ProGold), and frozen bread dough (United Spring Bakers). American Crystal Sugar was under financial stress, ProGold was suffering major losses in producer equity, and United Spring Bakers was still searching for a plant location.[12]

Details About the Acquisition

Tim had told the Board the advantages of Primo Piatto.

> *Primo Piatto has its own market that it was satisfying. These two plants have continued to produce private label brands, including some for our customers. It is an attractive acquisition in that sense, but we will need to be more proactive in the research and development of new meal solutions, creative pasta shapes, and more packaging ideas. Primo Piatto brings some of that experience. This should give us about 470 million pounds of pasta per year (240 of existing capacity, 200 through the acquisition, and 30 of additional expansion). We will be perfectly matched if we add the capacity at Carrington. We will be able to mill enough semolina to produce pasta without having to source from anyone else. In addition, we will be on a direct rail-link from Carrington to Minneapolis. Total integration has been the key to our success. This will quadruple our original capacity, and we can still add 10 percent more capacity at both pasta manufacturing plants, if need be, in the future.*

Tim looked down at the figures from his accountants. The Primo Piatto acquisition would cost \$13.3 million, \$11 million of it in cash, with the remainder consisting of preferred stock in DGP. DGP's accountants had projected sales with the acquisition (Exhibits 19 and 20). Another \$1.5 million would be needed to update the software and link the two Minneapolis plants with the Carrington plant. Because DGP was perfectly integrated, any increase in pasta capacity would require an increase in durum milling capacity in order to remain integrated. The economies of scale were such that DGP would have to add another 6 million bushels of durum milling capacity (i.e., DGP would have to double its existing durum milling capacity). However, it would also leave DGP with excess semolina flour. To remain perfectly integrated, DGP would have to add pasta capacity at Carrington because the two Primo Piatto plants had no room for expansion. The scale economies for pasta production were lower, but there was room for a 30-million-pound expansion at Carrington. They would also need more storage capacity at Carrington (620,000 bushels compared to the existing 370,000). Storage costs were estimated at \$3.09 per bushel. The milling and pasta expansion would be an $11 million investment, and the total cost of the acquisition investments would be $25.8 million (plus storage costs).

Thus, DGP would acquire 200 million pounds of pasta production capacity and add another 30 million pounds at Carrington for an overall total of 470 million pounds. In addition, DGP would add another 6 million bushels of durum milling capacity at Carrington. This would enable it to remain perfectly integrated.

By using the delivery right stock sale and growers agreement, DGP would ensure that enough durum wheat could be procured to supply all three plants' needs. Primo Piatto enabled DGP to increase its research base for packaging and new products that would help develop differentiated products. In addition, the acquisition would give DGP a larger sales and marketing staff.

Exhibit 19. Primo Piatto Balance Sheet, May 29 (date of inception) to September 30, 1997 (in thousands)

ASSETS	
Current assets	
Cash	$1,697
Accounts receivable	4,785
Inventories	2,388
Prepaid expenses	122
Deferred tax asset	28
Total current assets	9,021
Property, plant, and equipment (net)	10,964
Deferred financing cost (net)	54
Total assets	$20,040
Liabilities and Stockholder's Equity	
Current liabilities	
Current portion of long-term debt	$3,877
Accounts payable	3,445
Accrued expenses	665
Total current liabilities	7,987
Long-term debt	11,595
Deferred tax liability	48
Total liabilities	19,630
Stockholders' equity	
Common stock	224
Retained earnings	186
Total stockholders' equity	410
Total liabilities and stockholders equity	$20,040

Source: DGP 10-K reports

Exhibit 20. Primo Piatto Income Statement, May 29 (date of inception) to September 30, 1997 (in thousands)

Net Sales	$5,915
Cost of sales	4915
Gross profit	1000
Selling and administrative	555
Operating income	444
Other expense	
Interest expense	133
Other	2
Total other expense	135
Income before taxes	309
Income taxes (includes deferrable)	123
Net income	$186

Source: DGP

Conclusion

Tim summed up what the acquisition would mean for DGP.

> *Our strategy is to increase our brands. We've got three brands on the market now. We're marketing Zia Briosa with the Costco stores. A second label that is the Pasta Grower label in the upper Midwest, that's targeted more toward Minnesota, North Dakota, and South Dakota. In the discount stores, we have a label that's called Pasta Sanita. It's our strategy to increase our brand presence. That takes a lot of capital if you're going to go out and actually buy those markets. So you have to be able to have deep pockets to compete.*

Tim Dodd and the DGP board of directors planned to discuss the acquisition in light of all the changes going on in the pasta industry. Tim felt that the acquisition made perfect sense and was in keeping with DGP's vertical integration strategy. He believed that the board's main questions would be related to the future profitability of DGP with respect to where the industry was going, overall effect on market share, and what competitive rivalry might look like in the future.

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