



**Evaluation of Opportunities for Marketing the Milk
from Dairy Farms in the Salmon, Idaho Area**

By

**Jeff Kronenberg, Jim Nelson, Shannon Williams and Wilson
Gray***

**Report to the City of Salmon, Idaho
June 2002**

Departmental Working Paper Series

A.E. Extension Series No. 02-07

**Department of Agricultural Economics
and Rural Sociology**

College of Agricultural and Life Sciences
University of Idaho
Moscow, Idaho 83844-2334



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EXECUTIVE SUMMARY

Evaluation of Opportunities for Marketing the Milk from Dairy Farms in the Salmon, Idaho Area

In October of 2001 a cheese plant located in Salmon, Idaho was closed. The five dairy farms currently producing milk in the area are now paying \$1 per cwt. to haul their milk to a processing plant in Rexburg, Idaho (157 miles away). This seems to be a fair and competitive hauling charge, but may make dairy farming unprofitable for most of the producers.

City of Salmon officials asked University of Idaho scientists to evaluate alternative market opportunities for utilization of the output of the Salmon area dairies, with the objective of protecting as much as possible of the dairy industry related economic base of the area. This report documents the results of that effort.

Three options for making cheese from Salmon area milk that are discussed in some detail in this report are production of ethnic cheeses (Hispanic, feta, chevre). All of these cheeses have very strong market positions due to the fact that they are all experiencing big increases in annual sales. Preliminary estimates of costs and revenues indicate that local production operations for any of these cheeses may be profitable.

Another option for local processing of Salmon area milk that is discussed in this report is on-farm concentration of raw milk. This technology seems to have profit potential for farmers only if area milk production is increased to at least 75,000 cwt. per day, and preferably to 150,000 cwt. per day. This preferred level of production to support -farm concentration of raw milk is about 500% of current Salmon area production and about 280% of production expected in the area in fall 2002.

A fifth option for local processing of Salmon area milk that is discussed some in this report is local production of numerous specialty cheeses for marketing as high dollar "specialty farmstead cheeses." This option might be a very reasonable (and profitable) long term goal for a Salmon cheese production facility. Since fast growing ethnic cheese markets appear to be rather profitable and rather easy to get into, they will probably become much more competitive in the future. As that happens, a well run and well managed Salmon cheese plant could "move on" to high dollar "specialty farmstead cheeses," capitalizing on the pristine, scenic and romantic "old west" environment of the Salmon area, and focusing on high income communities (Sun Valley, Jackson) and "boutique" food outlets in high income neighborhoods of cities.

Based on information reported herein, opening another cheese plant, or some other facility to process local milk in Salmon, Idaho does not seem to be an unrealistic idea. However, much more analysis of costs for alternative scenarios should be carried out before final decisions are made and money is invested in plant and equipment.

Evaluation of Opportunities for Marketing the Milk from Dairy Farms in the Salmon, Idaho Area

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Introduction and Background Information

Salmon, Idaho is a town of 3,122 people¹ in Lemhi County, near the Montana border in East-central Idaho. It is possibly the most remote county seat community in Idaho (140 miles south of Missoula, MT; 149 miles southeast of Butte, MT; 164 miles northwest of Idaho Falls, Idaho). Salmon is surrounded by the Bitterroot mountains. The only highway out of Salmon that does not cross mountains is the highway to Idaho Falls.

The population of the City of Salmon increased by about 6% from 1990 to 2000. The population of Lemhi County increased by about 13% over the same time period. There is concern among local leadership that population is growing, but labor force is growing much more slowly, or even declining. County labor force showed a 7% decline from 1999 to 2000.² The primary economic bases of the area are agriculture, mining and timber.

Dairy production and processing has been an important part of the economic base of the Salmon, Idaho area for many years. The City of Salmon has been the location of a cheese plant since the 1970's. This plant has been a critical element of the Salmon area dairy industry, serving as the primary buyer of the milk from local dairy farmers. The plant has belonged to three different companies since its establishment. It was closed in October of 2001.

At the time of the closing of the plant, and still at the present time, there were/are five dairy farmers in the Salmon area, producing a total of about 198,000 cwt. of milk. Prior to the plant closing, it was buying all of their milk. Since the plant closing, they have been shipping their milk about 160 miles to Rexburg, at a cost of \$1 per cwt. Preliminary analysis of farmer financial situations indicates that this shipping cost will make most, if not all, of the Salmon area dairy farms economically infeasible (unprofitable) over time.

City of Salmon officials determined that, at the time of the closing of the cheese plant, there were a total of about 50 local jobs directly associated with the plant and the dairy farms. These community officials asked University of Idaho scientists to evaluate alternative market opportunities for utilization of the output of the Salmon area dairies, with the objective of protecting as much as possible of the dairy industry related economic base of the area. This report documents the results of that effort.

¹ Idaho Department of Commerce, Community Profiles.

² Idaho Department of Commerce, County Profiles.

Specific Objectives of This Report

Specific objectives of this report, as agreed to by the authors and officials of the City of Salmon are as follows:

1. Present market research information on potentially profitable dairy products, including cheese, which can be processed at a Salmon facility.
 - a. Identify possible niche markets and describe in detail the products that make up each market.
 - b. Evaluate historical demands for products in each market.
 - c. Consider any foreseeable market changes which would make these historical demands different in the future.
 - d. Determine expected prices for products considered.
2. Evaluate the suitability of the "old Salmon cheese plant building" as a potential site for a new plant.
3. Present estimates, based on industry coefficients, of expected general costs for producing and marketing the products considered.
4. Utilize information from step 2 (above) to develop general "pre-feasibility" information about which products (if any) have the most potential for profitability. This information should be valuable for purposes of making decisions about which alternatives to focus on with full blown technical and economic feasibility studies.

Salmon Area Dairy Farm Situation

Salmon area dairy farmers (and most dairy farmers in the U.S.) are paid for their milk based on a base milk price, determined in national or regional markets, adjusted for fat content, protein content and quality factors. Quality factors include direct microscopic somatic cell count for the milk (SCC), standard plate count for the milk (SPC), results of sediment tests (1=very good, 2=good, 3=probation), and whether the dairy is Grade A or Grade B. The values associated with various levels of fat and proteins in milk vary depending on the uses to which the milk will be put. These factors are generally combined into complex formulas, which are different for different milk markets (locations, planned uses for the milk, etc.).³

In the Salmon area at this time (June 2002), the following guidelines apply to milk pricing:

- Base milk price is about \$10.30 per cwt.
- Fat content above 3.5% increases price by about \$0.16 - \$0.17 for each 1/10th of a percentage point (3.6% fat milk is worth about \$0.17 more per cwt. than is 3.5% fat milk).
- Fat content below 3.5% decreases price by about \$0.16 - \$0.17 for each 1/10th of a percentage point.
- Protein content above 3.2% increases price by about \$0.15 - \$0.16 for each 1/10th of a percentage point.

³ Information from personnel at Nelson Ricks Creamery, Rexburg, Idaho.

- Protein content below 3.2% decreases price by about \$0.15 - \$0.16 for each 1/10th of a percentage point.
- SCC of 1-100,000 increases price by \$0.30; SCC of 100,001-150,000 increases price by \$0.20; SCC of 150,001-300,000 increases price by \$0.15; SCC of 300,001-400,000 increases price by \$0.05; SCC of 400,001-500,000 results in no price increase; SCC of 400,001 and greater decreases price by \$0.35.
- Grade A dairy designation increases price by \$0.70.
- SPC of greater than 25,000 or Sediment Tests Results of 3 result in no bonuses or premiums.

So, for a Grade A dairy farm in the Salmon area, producing milk with fat of 3.6%, protein of 3.4%, SCC of 75,000, SPC of 900 and Sediment Test Results of 1, current milk price per cwt. would be about:

$$\$10.30 \text{ (base)} + \$0.17 \text{ (fat)} + \$0.32 \text{ (protein)} + \$0.30 \text{ (SCC)} + \$0.70 \text{ (Grade A)} = \$11.79$$

In addition, Salmon area dairy farmers are currently paying \$1 per cwt. to haul their milk to its point of sale (Rexburg, Idaho), which would make the effective price to the farmer in the above example \$10.79.

Aggregated information collected by the authors on Salmon area dairy farms, and the milk produced on these farms, is presented in Table 1. This aggregated information includes information from 5 dairy farms. One of the farms is a Class B dairy; the others are Class A. The first row of numbers in the table includes estimated information for June 2002. The second row of numbers in the table indicates the expected situation in Fall 2002, by which time planned output (number of cows milked) for one of the dairy farms considered will be substantially increased. Quality information reported in Table 1 was estimated by weighting available information on Standard Plate Counts (SPC), Somatic Cell Counts (SCC), Fat % and Protein % from each dairy farm, according to their output.

Table 1. Salmon Area Dairies, Estimated Production Information

| | # Cows Milked/Day | Daily lbs./Cow | CWT./Yr. | SPC | SCC | Fat % | Protein % |
|-----------|----------------------|-------------------|----------|--------|---------|-------|-----------|
| June 2002 | 500 | 60 | 110,522 | 18,791 | 316,022 | 3.55 | 3.21 |
| Fall 2002 | 880 | 60 | 197,903 | 11,073 | 356,214 | 3.51 | 3.16 |

Niche Markets for Dairy Products

One of the objectives of this project is to identify possible niche markets that a Salmon cheese plant might target. The rationale that the authors used for identifying such markets is outlined below:

- Consider specialty cheeses because markets for commodity cheese (mostly cheddar) are dominated by large, very efficient, extremely price competitive producers.
- Consider cheeses with expanding markets.
- Consider cheeses with high marketing margins.
- Consider cheeses whose production involves relatively low technology processes (thus those which have relatively low production costs).
- Consider cheeses that have at least fairly long shelf lives. (Short shelf life cheeses result in spoilage and waste, thus higher marketing costs).
- Consider regional marketing opportunities (Pacific Northwest).
- Consider food service as well as retail marketing opportunities.
- Consider small, possibly organic, farmstead type marketing opportunities. Marketing strategies associated with such marketing opportunities might involve marketing the pristine, scenic, romantic environment of the Salmon area (“The Little Old Cowboy Cheese Maker from High in the Rocky Mountains”); and might focus on high income communities (Sun Valley, Jackson) and outlets in high income neighborhoods of cities.

Hispanic Cheeses⁴

One of the niche markets for cheeses that may be promising for a cheese plant in Salmon is Hispanic Cheeses. There are many different Hispanic cheeses, but two that are very popular and relatively easy to make are Queso Blanco and Queso Fresco. Queso Blanco is a traditional, fresh cheese (not aged), made from cow’s milk.

The name simply means, “white cheese”. It resembles a cross between Mozzarella and salty cottage cheese. The flavor of Queso Blanco is milky, creamy and lemon-fresh. It is good to cook with, because unlike American type cheeses, it will become soft and creamy when heated, but will not melt!

Queso Fresco is similar to Queso Blanco. It is also a fresh cheese, and is traditionally made from a mixture of cow’s and goat’s milk. However, it can be made with just cow’s milk. Queso Fresco has a grainy feel and very mild, fresh acidity. It is used for grilling and baking, and can also be used in salads. It softens, but does not melt when heated.

Production

Fresh Hispanic cheeses are traditionally produced from skimmed milk or whey and coagulated with lemon juice, although recently some creameries have begun making it with full-cream milk, coagulated with rennet. The curd is scaled and pressed to create an elastic texture which holds its shape when heated. The milk yield of fresh Hispanic cheeses is 11.6 lbs. of 51% moisture cheese per 100 lbs. of milk.

⁴ University of Nebraska – Lincoln. *The Specialty Cheese Market*. Food Processing Center, Institute of Agriculture and Natural Resources, Lincoln, October 2001.

So with Salmon area expected annual milk production by Fall 2002 (197,903 cwt.), a local cheese plant could produce about 2,295,675 lbs. It might be possible to get more output than this, since these cheeses are commonly made with less than full fat milk.

Market Overview

Ethnic cheese markets in general are growing rapidly in the U.S. The fastest growing ethnic market is the Hispanic community. The U.S. is already the fifth largest Hispanic marketplace in the world, and Hispanic population in the U.S. is projected to grow at ten times the rate of non-Hispanics over the next 50 years. Hispanic consumers have total estimated spending power of about \$421 billion. To serve this market, Hispanic style cheese production jumped 43% from 1996 to 2000.⁵ Hispanic cheese sales increased 26% (both volume and value) in the 12 months from mid-July 1999 to mid-July 2000.⁶ The majority of this cheese was produced in California, the number one state in Hispanic cheese production. Besides the West Coast, markets are also dramatically increasing in New York, Boston, and Detroit areas.⁷

The population of Hispanics is rapidly increasing in the Pacific Northwest. In 1990, 4% of the population of the Pacific Northwest states (Washington, Oregon, Idaho) was Hispanic (380,204 people). By 2000, there were many more people in the region, and a much higher proportion of them (8% or 818,513 people) were Hispanic.⁸ Yet little, if any Hispanic cheese production is currently taking place in the region.⁹

A very large producer of Hispanic cheeses operates out of southern California, and would probably provide formidable competition to a small producer. This would certainly be an issue if product from a Salmon plant was marketed in California. It might be a lesser issue for marketing in the Pacific Northwest and for food service (rather than retail) marketing.

Current Pricing

Example retail (grocery) price – 12 oz. Package \$4.99 (equivalent to \$6.65 per lb.)

Example food service pricing (restaurant trade) \$3.00 per lb.

Example pricing for food processors \$1.17 per lb.¹⁰

⁵ University of Nebraska – Lincoln. *The Specialty Cheese Market*. Food Processing Center, Institute of Agriculture and Natural Resources, Lincoln, October 2001.

⁶ Information Resources, Inc. 2001

⁷ www.josephfarms.com/newsletter, April, 2002.

⁸ U.S. Bureau of Census, *1990 Census* and *2000 Census*.

⁹ Steve Milligan, Cheese Broker, Encore Company, Seattle, 2002.

¹⁰ This pricing is based on the CME block market price for cheddar.

Feta Cheese

Feta cheese originated from Greece, and is a pickled white cheese ripened in a salt brine. It is solid and dry, but has a crumbly fissured texture. Feta is good in many cooked dishes and also as a topping for pasta, soups and salads.

Originally feta was made from sheep or goats' milk. Today about 75-80% of feta is made with pasteurized cow's milk. It is a very salty cheese (from the brining process), but can be soaked in fresh cold water or milk for a few minutes to make it less salty. Feta has a shelf life of up to one year.

Production

To produce feta cheese¹¹, raw milk is first pasteurized and standardized to a 5.0% fat using heavy cream. Lipolytic enzymes are next added for flavor development. The milk is then set at 90° F with a 2% active lactic starter and ripened for one hour. Single strength rennet is added to warm milk to form a firm curd in 30-45 minutes.

Next the curd is cut with knives and allowed to drain 20 minutes. The curds are transferred to molds and pressed at room temperature for 18-20 hours.

Formed blocks of cheese are then cut into smaller cubes and they are brined (23% NaCl) for one day at 50° F. Finally, product is placed in a container, covered with a 14% brine and sealed to exclude air. The cheese is then ripened 2-3 months at about 50° F before it is distributed for sale.

Yield of feta cheese is approximately 22-23 lbs of cheese per 100 lbs of 5% fat milk.

Market Overview

Feta has become a very popular "high end" international cheese product. Popular flavors include traditional, garlic and herb, and tomato basil.¹² It is sold in both chunk and crumbled forms. Feta represents a fast growing niche in the specialty cheese market. In 1999, retail dollar growth of feta jumped 15.8%. Feta sales in the US from July 15, 2000 to July 15, 2001 totaled \$73 million or a little over 10 million pounds. This represents an 11.4% increase in sales from the prior year. By volume (pounds), feta showed an 8.8% increase in sales from the prior year. Unit sales for feta were 29.3 million lbs. In 2000, food service sales of feta amounted to 55 million lbs. The average retail price per pound for feta was \$7.71.¹³

¹¹ Cheese and Fermented Milk Products. Frank V Kosikowski. 2nd edition 1978. F.V Kosikowski and Associates, Brooktondale, NY 14817

¹² Kip Gruell, Albertson's, Boise ID. 2002

¹³ International Dairy Foods Association. Cheese Market Research Project. Retail sales report. July 2001

Current Pricing

Example ranges for current feta retail (grocery) prices are as follows:

- crumbled 4 oz. \$2.40-2.79
- traditional chunk 6 oz. \$2.79-3.29

Example food service pricing (restaurant trade)

- traditional 16 oz. \$4.50

Example pricing structure for cheese manufacturers

Food service market

- traditional 10 lb case (2 units at 7.5 lbs each) \$1.44/lb¹⁴

Chevre Cheese

Chevre is French for goat's cheese. It is a soft, molded fresh cheese, and can also be made from cow's milk. Chevres make excellent dessert cheeses and are frequently served as snacks and used as ingredients in many types of entrées.

Production

Chevre is made by first pasteurizing milk at 145° F for 30 minutes. A 2% lactic acid starter is added, along with rennet. Milk is then incubated for 18 hours at 77° F for curd formation. Next the curd is removed into metal or plastic forms and allowed to mat for 18-24 hours. It is turned once, removed, and mechanically compressed.

Finally, the chevre is salted, packaged, and allowed to ripen in a sealed container for 2-3 months under refrigerated conditions. Finished product may be molded into many shapes and sizes, such as round patties, logs drums, pyramids, and long loaves. An example final composition of a chevre cheese (Fromage De La Mothe Chevre, France) is 26.5% fat, 50.07% total solids, 21.81% total protein and 2.23% salt. The shelf life of the product is approximately one year.

Market Overview

Chevre is an example of a popular farmstead or "artisan" type cheese. The annual volume of chevre cheese for the 12 month period ending July 15, 2001 was 23,991 lbs, up 29% from the previous year. Dollar sales for the year were \$257,860, up 24.5% from the previous year. The average price per pound nationwide was \$10.75.

¹⁴ This pricing is based on the CME block market price for cheddar (\$1.17/lb) plus an add-on for feta cheese.

Current Pricing

Example range for current chevre retail (grocery) prices.

- Chevre 4 oz. (goat milk) \$2.79-3.29

Example pricing for food service (restaurant) trade.

- Chevre 1 lb \$6.00

Other specialty cheeses and specialty cheese markets

Examples of other popular specialty cheeses include Gorgonzola, provolone, and asiago. Another market niche with large potential is whole milk, washed curd mozzarella for pizza (6 lb. Loaves or shredded). Currently there is only one key player in this market.

Cheese Costs of Production

Even with full information about inputs, equipment and processes, it is very difficult to estimate costs of production for a new manufacturing operation. This is true because unforeseen and unpredictable things happen. So it is practically impossible to estimate costs for a cheese production operation that is only loosely defined, and for which specific equipment, labor and operating input requirements are not determined. Still, some reasonable statements can be made about what might be reasonable costs for producing cheese in Salmon, Idaho; and even about potential profitability of such an operation.

The California Department of Food and Agriculture (CFDA) collects data on cheddar cheese processing costs in California. From this data they estimate cheddar cheese production costs for high efficiency, medium efficiency and low efficiency California cheddar cheese plants. The California data indicate that efficiency and size of plant are positively correlated (high cost plants tend to be smaller than low cost plants). CFDA data indicate that small (8 million to 9 million pounds per year), high cost cheddar cheese plants produce cheese for about \$0.31 per pound.¹⁵

Cheddar cheese is probably more costly to produce than is Hispanic cheese (high moisture, thus high yield, and no aging). It is probably about the same cost to produce as some of the specialty cheeses (feta, chevre), and more costly than other specialty cheeses (Gorgonzola, asiago, mozzarella).

¹⁵ www.cdffa.ca.gov/dairy

On-farm concentration of Raw Milk

Overview

On-farm concentration of raw milk refers to a process whereby Ultrafiltration (UF) or Reverse Osmosis (RO) equipment is used to concentrate raw milk by a factor of 3 (3X). An RO/UF facility is constructed either on-farm to service an individual producer or a group of producers; it may also be situated off-farm, but in the vicinity of a number of dairy producers.

Process

Cool milk (approximately 40°F) is passed through UF/RO membranes to yield a 3X *retentate* or concentrated retained liquid and milk components. The remaining liquid that passes through the filter is known as the *permeate* (in the UF process, the liquid also contains smaller molecule milk components). Raw milk must be of high quality (low S.P.C. and S.C.C) as any contaminating bacteria or somatic cells will become concentrated 3 times along with the milk during processing.

The retentate is chilled, and then shipped by tanker to a dairy processor. A typical process starts with 150,000 lbs. of raw milk using the output of a 2,000 head cow herd (75 lbs./head daily average) per day to yield 50,000 lbs. of concentrated milk (3x retentate). This amount of retentate provides enough product to fill one milk tanker (attachment). Alternatively, it is possible to process 75,000 lbs. of milk per day, and send out one full tanker of milk concentrate every other day.

Market

UF milk is currently marketed by North American Milk, a partnership of Select, TC Jacoby (Dairy Brokerage), and Membrane Systems Specialists (company that patented the UF/RO process).

North American milk markets UF milk to cheese manufacturers in the Midwest. In 1997, they sold the product of one operation; today North American sells concentrated milk from 16 RO/UF operations and still can't meet the needs of 5 large customers.

Concentrated milk is attractive to cheese makers due to enhanced productivity. For example, 100 lbs of milk makes approximately 10 lbs. of cheddar cheese. Using the same 100 lbs. of milk in a concentrated form (33.3 lbs. retentate) will yield 12 lbs. of cheese. In a cheese plant that works with 1 million lbs of incoming milk daily this results in a saving of \$0.02/lb. cheese, yielding a \$1 million savings annually.

Producers interested in on-farm concentration typically enter into an agreement with North American Milk to operate an UF/RO facility. North American provides the

technology and training for establishing the plant, while the producer(s) must pay to build and operate the facility. The approximate capital costs for the facility are \$1 million dollars.

Producers sell their milk to North American Milk based on class 3 cheese milk prices, plus an additional premium. The producer licenses the North American UF/RO technology for approximately \$0.20/cwt. milk. The overall net profit to the producer after plant operations and milk hauling costs is about \$0.25 to \$0.50/cwt. milk.

The concentrated milk is marketed by North American Milk to the final customer based on the original class 3 price for the raw milk (50,000 lb. tank = 1500,000 lbs. raw milk), plus a premium for the amount of protein in the original milk concentrate. For example, at 3.0% protein, 150,000 lbs. of raw milk yields 4,500 lbs. protein. At \$0.75/lb. premium, this yields a \$3,375.00 protein premium. Assuming a class 3 price of \$11.00/cwt., then the total sales price of 50,000 lbs. retentate is \$16,500 (\$11.00/cwt. x 1500cwt raw milk) + \$3,375 = \$19,875.00. This translates to gross revenue of \$13.25/cwt., which must cover costs of the milk concentration process and total returns to dairy farmers.

The Old Cheese Plant Building

The building that the plant was in is now vacant. However, it is poorly located, old and dilapidated. It would almost certainly be very expensive for a new cheese production operation to meet current health and environmental standards in that building. There are other, more desirable buildings and sites in the community, including a currently unoccupied beverage warehouse with large coolers. Therefore, it seems highly unlikely that it would be economically desirable to locate a new operation in the old building rather than at some alternative site.

Summary and Implications

Salmon, Idaho is a small, very remotely located county seat town in East-central Idaho. In October of 2001, a cheese plant located in Salmon was closed. As the primary buyer of milk for all of the dairy farms in the area (five farms at the time the plant closed), the plant was an important element in the economic base of Salmon and Lemhi County. The five dairy farms currently producing milk in the area are now paying \$1 per cwt. to haul their milk to a processing plant in Rexburg, Idaho (157 miles away). This seems to be a fair and competitive hauling charge, but may make dairy farming unprofitable for most of the producers.

City of Salmon officials determined that, at the time of the closing of the cheese plant, there were a total of about 50 local jobs directly associated with the plant and the dairy farms. These community officials asked University of Idaho scientists to evaluate alternative market opportunities for utilization of the output of the Salmon area dairies, with the objective of protecting as much as possible of the dairy industry related economic base of the area. This report documents the results of that effort.

Salmon area dairy farms are producing only about 110,500 cwt. of milk at the present time (June 2002). For any local milk processing operation in the Salmon area to be on strong economic footing, it will probably be necessary to have access to more milk than is currently available (larger plants are generally more efficient, so they have lower costs per unit of output). However, actions are already being taken to substantially expand one of the dairy herds in the area. This should result in area milk production of about 197,900 cwt. by fall 2002.

Some of the other dairy farmers in the area have interests in some expansion. Presumably, if profits can be made, other local farmers (ranchers) and dairymen from outside the area would be interested in producing milk in the Salmon area. The authors of this report are of the opinion that about 1,800 to 2,000 cows could be milked in the area without significant negative environmental impacts on the area. Such a level of dairy production (440,000 cwt. per year) would be about four times greater than current Salmon area production. However, the potential local impacts of such an expansion in dairy production should be studied very carefully before an effort to encourage such expansion is begun.

Three options for making cheese from Salmon area milk that are discussed in some detail in this report are production of Hispanic cheeses, production of feta cheese and production of chevre cheese. All of the cheeses mentioned above have very strong market positions due to the fact that they are all experiencing big increases in annual sales (increases conservatively estimated at from 10% to 25% per year). Preliminary estimates of costs and revenues indicate that local production operations for any of these cheeses may be profitable. Cheeses produced should be marketable to food manufacturers for at least \$1.17 per pound. About \$0.23 of this would go to broker commissions, leaving \$0.94 per pound to cover production costs. Very preliminary estimates indicate that it should be possible to produce these cheeses for less than \$0.50 per pound in a plant of appropriate size to handle the milk production expected in the Salmon area by fall 2002. Sales to restaurant trade and retail trade should be more profitable than sales to food manufacturers.

Another option for local processing of Salmon area milk that is discussed in this report is on-farm concentration of raw milk. This technology seems to have profit potential for farmers only if area milk production is increased to at least 75,000 cwt. per day, and preferably to 150,000 cwt. per day. Expected production by fall 2002 is only about 54,000 cwt. per day.

A fifth option for local processing of Salmon area milk that is discussed some in this report is local production of numerous specialty cheeses for marketing as high dollar "specialty farmstead cheeses." This would involve substantial cheese making expertise and substantial marketing expertise and effort. This option might be a very reasonable (and profitable) long term goal for a Salmon cheese production facility. Such an operation might initially focus on producing for the fast growing ethnic cheese markets discussed herein, while cheese makers and management develop experience and detailed

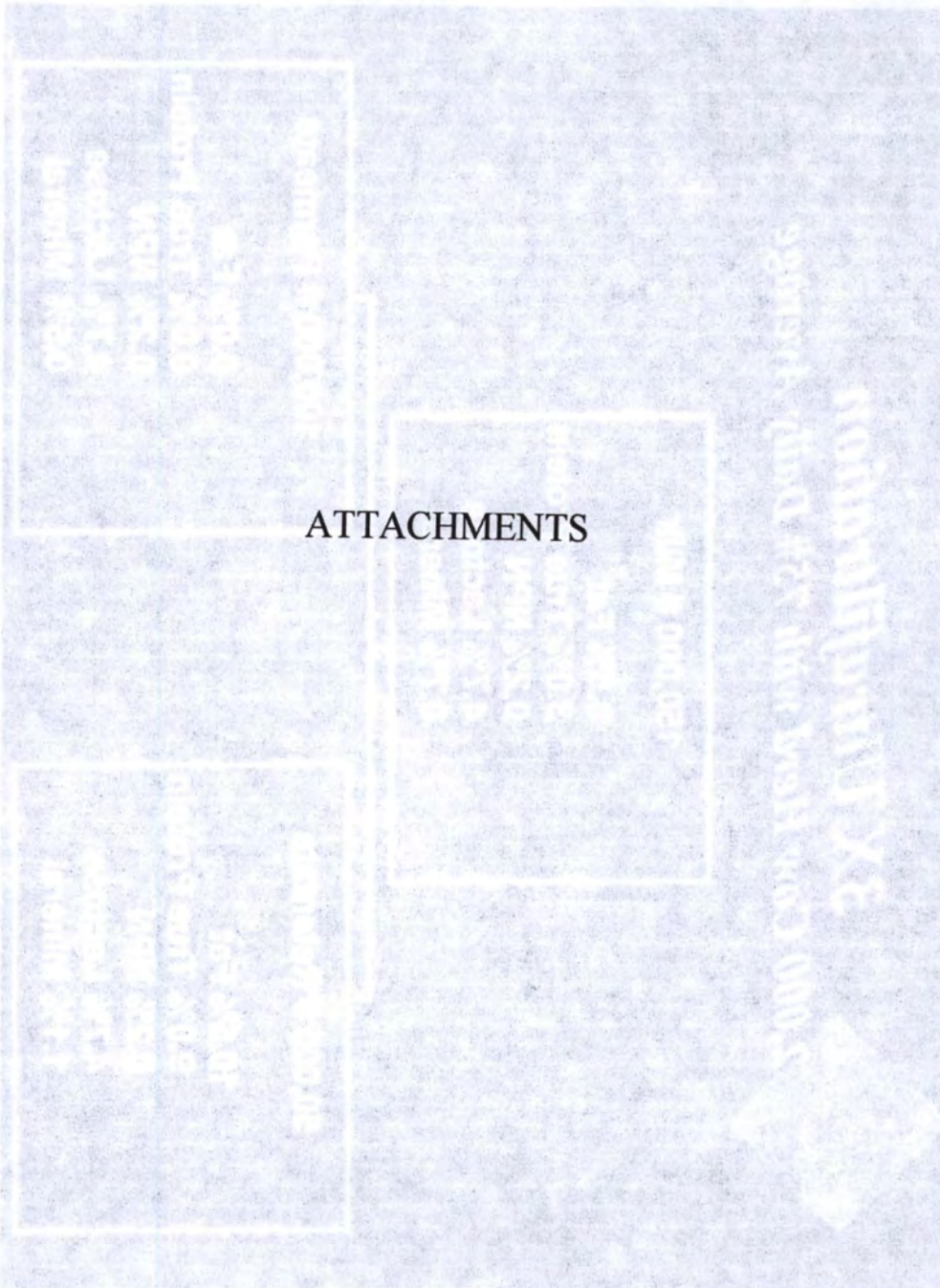
knowledge of the cheese industry. Since these fast growing ethnic cheese markets appear to be rather profitable and rather easy to get into, they will probably become much more competitive in the future. As that happens, a well run and well managed Salmon cheese plant could "move on" to high dollar "specialty farmstead cheeses," capitalizing on the pristine, scenic and romantic "old west" environment of the Salmon area, and focusing on high income communities (Sun Valley, Jackson) and "boutique" food outlets in high income neighborhoods of cities.

Based in information reported herein, opening another cheese plant, or some other facility to process local milk in Salmon, Idaho does not seem to be an unrealistic idea. However, much more analysis of costs for alternative scenarios should be carried out before final decisions are made and money is invested in plant and equipment. Such analysis should include specific cost estimates for building, staffing and operating plants. In addition, general agreements should be worked out with potential product brokers and buyers.

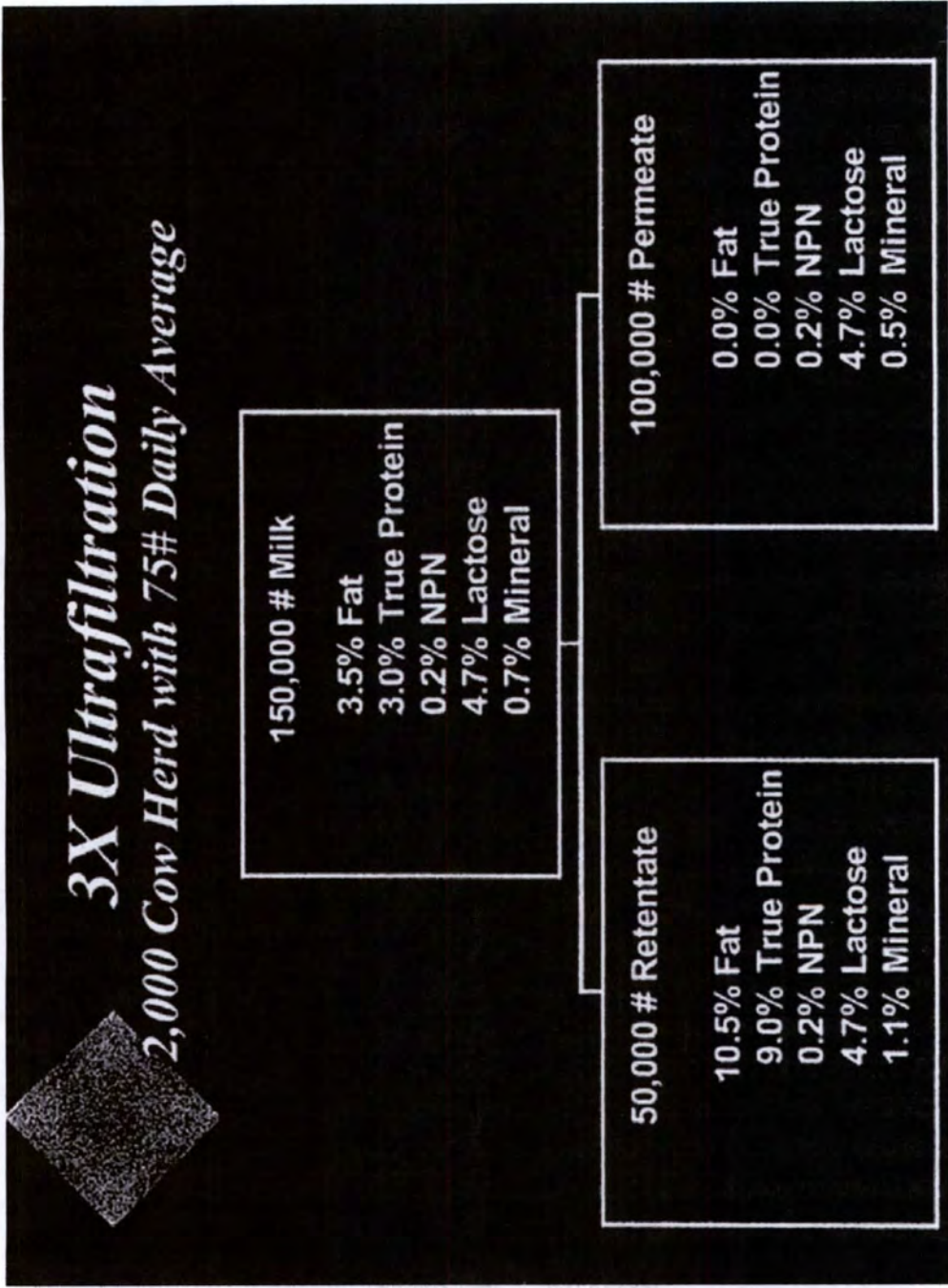
Acknowledgements

1. Steve Milligan, Encore Broker
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5. Jimmy Mitchel, Nelson Ricks Creamery

ATTACHMENTS



APPENDIX

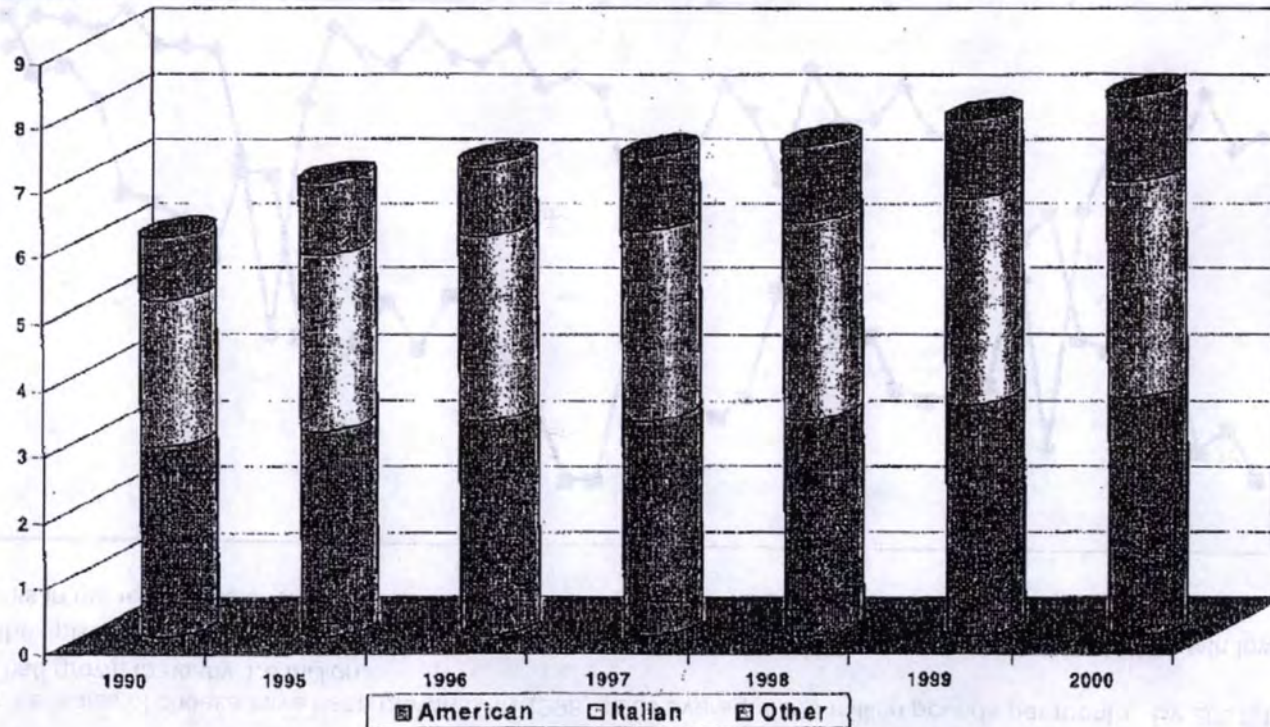


APPENDIX

TOTAL CHEESE PRODUCTION BY TYPE IN 2000

- **Total Cheese** production expanded by 4.6% to 8.25 billion pounds, in 2000 compared to 1999. Since 1990, total production has increased nearly 1.5 billion pounds.
- **Italian Cheese** has been the major driver of growth. Fifty percent of the increase in cheese production was **Italian Cheese**.
- Each of these categories is up at least 25% from its 1990 level.

Billion Pounds

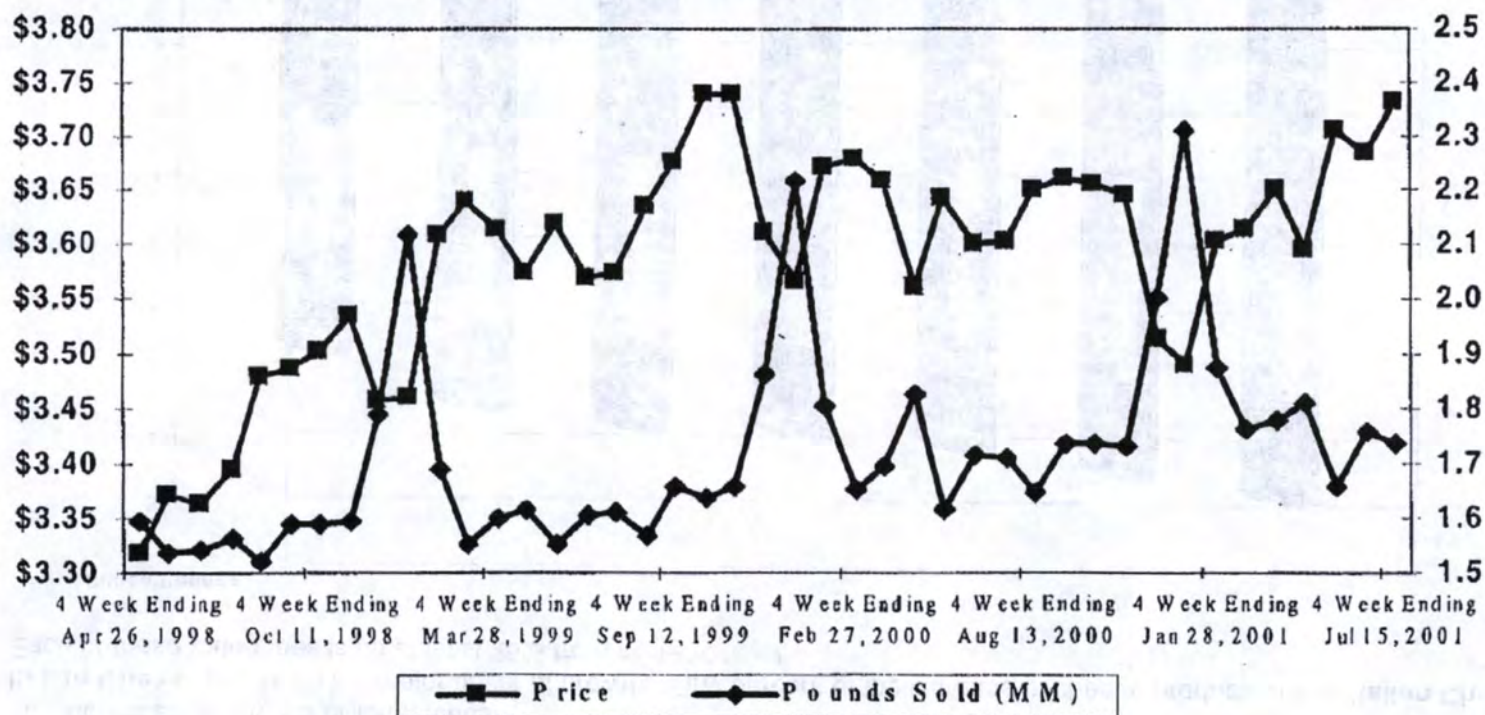


Source: USDA-NASS

APPENDIX

TOTAL SUPERMARKET SALES AND AVERAGE RETAIL PRICE FOR CHEESE

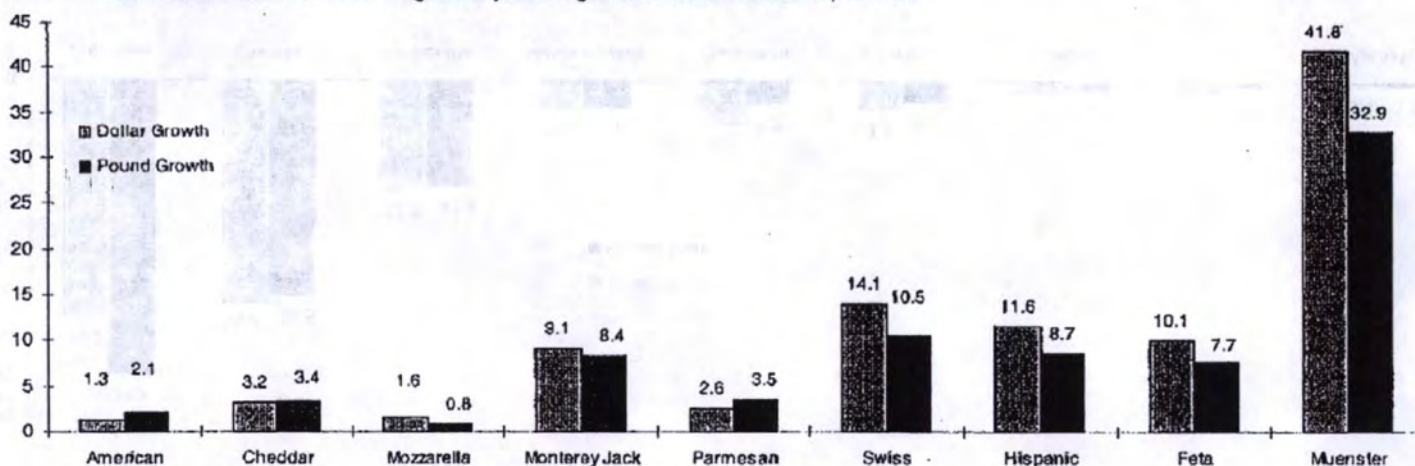
- Supermarket sales of cheese have been growing. In 1998, sales averaged 1.6 million pounds per month. By 2001, this average had grown to nearly 1.8 million.
- Each of the spikes in sales occur during the Holidays and end of the football season. But, they also coincide with lower prices.
- Movements in the retail price of cheese tend to result in retail sales moving in the opposite direction.



APPENDIX

CHEESE DOLLAR AND POUND TREND BY TYPE: YTD ENDING 7/15/2001

- The rise in sales applies to most popular Cheeses regardless of type. However, **Mozzarella** and **American Cheese** dollar sales growth rates are modest with sales roughly equal to last year.
- The majority of Cheese types also enjoyed impressive pound volume gains, with **Muenster** leading the way, with growth in the 30-40% range versus the same time last year. **Monterey Jack**, **Hispanic** and **Swiss** are in double-digit territory.
- The **American Cheese** segment pound growth is modest but positive.



Total U.S. Cheese Dollar Sales, YTD Ending 7/15/2001: \$4.1 Billion (Up 3.9%)

Total U.S. Cheese Pound Volume, YTD Ending 7/15/2001: \$1.1 Billion (Up 3.4%)

All figures based on sales in U.S. supercenters and foodstores with annual dollar volume over \$2 million.

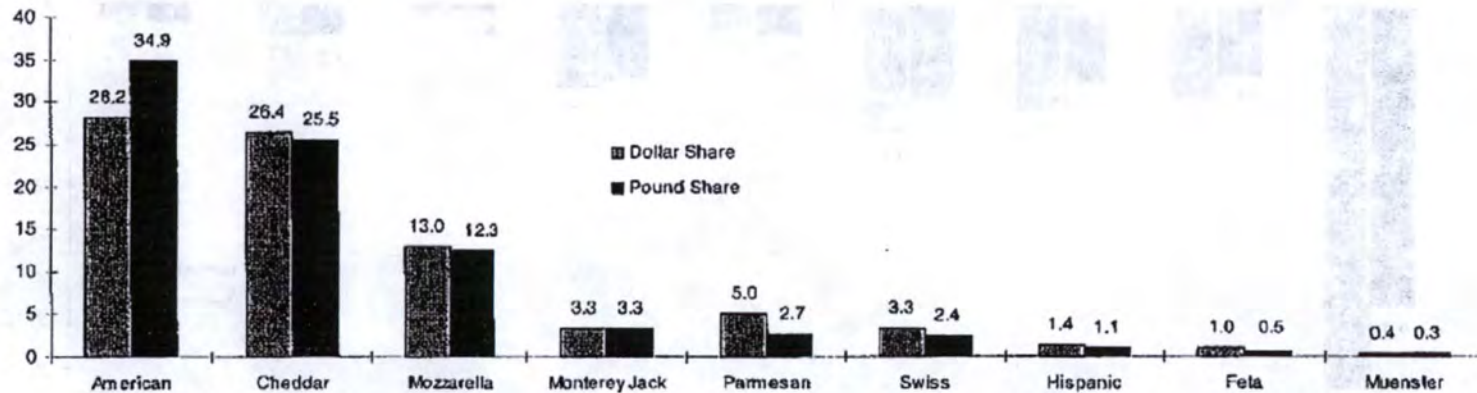
Sales growth/decline expressed as percent change versus a year ago.

Source: Information Resources, Inc.

APPENDIX

CHEESE DOLLAR AND POUND SHARE BY TYPE: YTD ENDING 7/15/2001

- **American, Cheddar and Mozzarella Cheeses** maintained the highest dollar and pound volume shares for the period ending 7/15/2001. **American Cheese** leads with the largest share of total Cheese pounds. Almost 35% of all supermarket pre-packaged Cheese pounds are of the **American** variety. Meanwhile, **Cheddar Cheese** make sup about a quarter of total sales and **Mozzarella** an eighth.
- Combined, the nine popular Cheese types charted below, make up 82% of total Cheese dollar sales and 83% of pound volume (not including random weight or Cream Cheese products).



Total U.S. Cheese Dollar Sales, YTD Ending 7/15/2001: \$4.1 Billion (Up 3.9%)

Total U.S. Cheese Pound Volume, YTD Ending 7/15/2001: \$1.1 Billion (Up 3.4%)

Figures based on sales in U.S. supercenters and foodstores with annual dollar volume over \$2 million.

Figures based on total cheese category excluding cream cheese.

Sales growth/decline expressed as percent change versus a year ago.

Source: Information Resources, Inc.

APPENDIX
CHEESE TOTAL U.S. TOPLINE - LATEST 52 WEEKS

TOTAL U.S. FOOD
 Current 52 Weeks ending Jul 15, 2001

| | Volume Sales | Volume Sales % Change Prior Year | Volume Share | Dollar Sales | Dollar Sales % Change Prior Year | Dollar Share | % Volume, Any Merchandising | Average Items per Store | Avg Price per Volume | Avg Price per Volume % Change Prior Year |
|-----------------------------------|---------------|--|--------------|-----------------|--|--------------|--------------------------------|-------------------------------|----------------------------|---|
| Total Cheese | 2,354,086,000 | 4.1 | | \$8,533,858,000 | 3.6 | | 36.9 | 156.8 | \$3.63 | -0.4 |
| CATEGORY - NON-CREAM CHEESE | 2,089,585,000 | 4.6 | 100.0 | \$7,726,094,000 | 4.0 | 100.0 | 37.3 | 278.3 | \$3.70 | -0.6 |
| NATURAL | 1,276,722,000 | 6.1 | 61.1 | \$5,175,852,000 | 5.3 | 67.0 | 36.6 | 209.3 | \$4.05 | -0.8 |
| PROCESSED | 770,383,900 | 2.5 | 36.9 | \$2,444,051,000 | 1.3 | 31.6 | 39.2 | 60.0 | \$3.17 | -1.1 |
| IMITATION | 42,479,040 | -2.0 | 2.0 | \$106,191,500 | 3.9 | 1.4 | 26.5 | 9.3 | \$2.50 | 6.1 |
| REGULAR FAT (EX CREAM) | 1,654,489,000 | 5.2 | 79.2 | \$6,024,934,000 | 4.6 | 78.0 | 39.0 | 3.3 | \$3.64 | -0.5 |
| REDUCED FAT (EX CREAM) | 374,579,400 | 4.7 | 17.9 | \$1,440,637,000 | 4.5 | 18.6 | 33.3 | 2.7 | \$3.85 | -0.1 |
| LOWFAT(EX CREAM) | 13,261,160 | -29.5 | 0.6 | \$56,390,330 | -34.5 | 0.7 | 19.0 | 1.1 | \$4.25 | -7.0 |
| FATFREE(EX CREAM) | 47,254,810 | -3.8 | 2.3 | \$204,132,500 | -2.6 | 2.6 | 15.0 | 1.6 | \$4.32 | 1.3 |
| TOTALCHUNK/LOAF | 658,958,200 | 3.1 | 31.5 | \$2,290,814,000 | 1.7 | 29.7 | 41.1 | 80.0 | \$3.48 | -1.3 |
| TOTAL CUBED | 13,949,420 | -3.6 | 0.7 | \$64,650,580 | -4.3 | 0.8 | 30.5 | 5.0 | \$4.63 | -0.6 |
| TOTAL GRATED/CRUMBLD | 62,072,000 | 4.3 | 3.0 | \$433,310,100 | 3.9 | 5.6 | 33.0 | 20.8 | \$6.98 | -0.3 |
| TOTAL SHREDDED | 451,641,200 | 8.4 | 21.6 | \$1,824,647,000 | 6.5 | 23.6 | 37.2 | 60.1 | \$4.04 | -1.7 |
| TOTAL SLICED | 665,960,100 | 4.2 | 31.9 | \$2,217,659,000 | 4.7 | 28.7 | 36.6 | 59.2 | \$3.33 | 0.4 |
| TOTAL SPREADS | 75,948,400 | 0.3 | 3.6 | \$364,630,500 | 2.1 | 4.7 | 27.8 | 30.4 | \$4.80 | 1.8 |
| TOTAL STRING/STICK | 61,090,110 | 4.7 | 2.9 | \$293,146,800 | 2.9 | 3.8 | 26.8 | 9.7 | \$4.80 | -1.8 |
| TOTAL ALL OTHER FORMS | 99,965,340 | 4.6 | 4.8 | \$237,236,200 | 7.0 | 3.1 | 35.3 | 13.8 | \$2.37 | 2.3 |
| TOTAL DOMESTIC | 2,078,454,000 | 4.5 | 99.5 | \$7,642,018,000 | 3.9 | 98.9 | 37.4 | 270.1 | \$3.68 | -0.6 |
| TOTALIMPORTED | 11,130,430 | 6.0 | 0.5 | \$84,076,000 | 7.7 | 1.1 | 19.4 | 9.7 | \$7.55 | 1.7 |
| TOTAL BRANDED NON CREAM CHEESE | 1,363,536,000 | 5.1 | 65.3 | \$5,399,661,000 | 4.7 | 69.9 | 36.3 | 223.8 | \$3.96 | -0.4 |
| TOTAL PRIV LABEL NON CREAM CHEESE | 726,049,000 | 3.6 | 34.7 | \$2,326,434,000 | 2.4 | 30.1 | 39.3 | 55.0 | \$3.20 | -1.2 |
| TOTALAMERICAN | 718,271,900 | 2.2 | 34.4 | \$2,150,069,000 | 1.0 | 27.8 | 40.0 | 42.1 | \$2.99 | -1.3 |
| TOTAL BLENDS | 113,910,100 | 10.7 | 5.5 | \$518,209,400 | 7.6 | 6.7 | 37.2 | 23.3 | \$4.55 | -2.8 |
| TOTAL BLUE CHEESE | 3,941,877 | 6.5 | 0.2 | \$38,000,820 | 9.0 | 0.5 | 9.8 | 4.1 | \$9.64 | 2.4 |
| TOTAL CHEDDAR | 541,438,200 | 5.2 | 25.9 | \$2,075,807,000 | 3.4 | 26.9 | 39.5 | 72.9 | \$3.83 | -1.8 |
| TOTAL FETA | 10,125,450 | 8.8 | 0.5 | \$73,022,170 | 11.4 | 0.9 | 17.1 | 8.9 | \$7.21 | 2.4 |
| TOTAL GOUDA | 1,384,369 | 1.0 | 0.1 | \$9,921,968 | 1.6 | 0.1 | 10.5 | 2.1 | \$7.17 | 0.6 |
| TOTAL HISPANIC | 23,269,530 | 14.9 | 1.1 | \$107,397,600 | 14.5 | 1.4 | 23.3 | 5.5 | \$4.62 | -0.4 |
| TOTAL MONTEREY JACK | 67,600,720 | 9.9 | 3.2 | \$251,378,600 | 8.2 | 3.3 | 37.3 | 11.1 | \$3.72 | -1.5 |
| TOTAL MOZZARELLA | 259,457,600 | 2.7 | 12.4 | \$1,004,217,000 | 1.9 | 13.0 | 35.3 | 32.0 | \$3.87 | -0.8 |
| TOTAL MUENSTER | 5,298,338 | 28.3 | 0.3 | \$25,813,210 | 36.1 | 0.3 | 25.0 | 2.5 | \$4.87 | 6.1 |
| TOTAL PARMESAN | 55,296,510 | 4.3 | 2.6 | \$389,513,000 | 3.8 | 5.0 | 33.4 | 13.1 | \$7.04 | -0.5 |
| TOTAL ROMANO | 3,083,663 | 3.7 | 0.1 | \$23,754,790 | 4.0 | 0.3 | 20.5 | 3.4 | \$7.70 | 0.3 |
| TOTAL SWISS | 50,180,510 | 12.3 | 2.4 | \$247,393,900 | 14.5 | 3.2 | 19.8 | 12.0 | \$4.93 | 2.0 |
| ACHUZA | 791 | 47.9 | 0.0 | \$6,007 | 50.1 | 0.0 | 0.0 | 1.0 | \$7.60 | 1.4 |

APPENDIX
CHEESE TOTAL U.S. TOPLINE - LATEST 52 WEEKS

TOTAL U.S.- FOOD
 Current 52 Weeks ending Jul 15, 2001

| | Volume Sales | Volume Sales % Change Prior Year | Volume Share | Dollar Sales | Dollar Sales % Change Prior Year | Dollar Share | % Volume, Any Merchandising | Average Items per Store | Avg Price per Volume | Avg Price per Volume % Change Prior Year |
|--------------------|--------------|----------------------------------|--------------|---------------|----------------------------------|--------------|-----------------------------|-------------------------|----------------------|--|
| ASADERO | 240,262 | -3.5 | 0.0 | \$1,099,011 | -2.0 | 0.0 | 11.2 | 1.2 | \$4.57 | 1.5 |
| ASIAGO | 400,828 | 31.4 | 0.0 | \$3,465,533 | 33.4 | 0.0 | 16.5 | 1.2 | \$8.65 | 1.5 |
| BEL PAESE | 0 | | 0.0 | \$0 | | 0.0 | 0.0 | 0.0 | | |
| BLUEFORT | 3,516 | -20.4 | 0.0 | \$63,814 | -2.3 | 0.0 | 22.3 | 1.0 | \$18.15 | 22.7 |
| BRICK | 213,155 | 15.6 | 0.0 | \$860,000 | 16.6 | 0.0 | 49.5 | 1.1 | \$4.03 | 0.8 |
| BRIE | 2,998,482 | 15.4 | 0.1 | \$28,748,160 | 16.6 | 0.4 | 11.9 | 4.5 | \$9.59 | 1.0 |
| CABLE | 0 | | 0.0 | \$0 | | 0.0 | 0.0 | 0.0 | | |
| CALICO | 4,378 | -32.0 | 0.0 | \$12,871 | -34.1 | 0.0 | 0.0 | 1.0 | \$2.94 | -3.1 |
| CAMEMBERT | 557,650 | -3.2 | 0.0 | \$5,098,953 | -2.4 | 0.1 | 9.3 | 1.6 | \$9.14 | 0.8 |
| CAMPERO | 13,450 | 144.5 | 0.0 | \$72,540 | 137.0 | 0.0 | 0.0 | 1.0 | \$5.39 | -3.1 |
| CASERO | 76,935 | -30.3 | 0.0 | \$326,339 | -26.6 | 0.0 | 1.0 | 1.0 | \$4.24 | 5.3 |
| CHEVRE | 23,991 | 28.9 | 0.0 | \$257,860 | 24.5 | 0.0 | 11.6 | 1.2 | \$10.75 | -3.4 |
| CHIHUAHUA | 275,038 | 13.8 | 0.0 | \$1,681,073 | 11.9 | 0.0 | 17.7 | 1.7 | \$6.11 | -1.6 |
| COLBY | 32,505,360 | 5.6 | 1.6 | \$110,801,900 | 3.4 | 1.4 | 38.6 | 4.4 | \$3.41 | -2.1 |
| COLBY JACK | 58,903,010 | 12.0 | 2.8 | \$226,797,900 | 11.3 | 2.9 | 41.2 | 7.9 | \$3.85 | -0.7 |
| COTIJA | 115,170 | 47.4 | 0.0 | \$608,943 | 44.7 | 0.0 | 3.8 | 1.1 | \$5.29 | -1.9 |
| CREMA AGRIA | 190,397 | 34.0 | 0.0 | \$589,459 | 24.4 | 0.0 | 12.1 | 1.0 | \$3.10 | -7.2 |
| CREMA EL SALVADORE | 7,904 | 249.3 | 0.0 | \$25,780 | 235.6 | 0.0 | 0.0 | 1.0 | \$3.26 | -3.9 |
| CREMA MEXICANA | 145,526 | 13.7 | 0.0 | \$571,390 | 19.1 | 0.0 | 17.0 | 1.1 | \$3.93 | 4.8 |
| CREME FRAICHE | 36,528 | 7431.2 | 0.0 | \$272,759 | 7446.0 | 0.0 | 2.4 | 1.0 | \$7.47 | 0.2 |
| CUAJADA | 112,545 | 11.8 | 0.0 | \$608,759 | 13.6 | 0.0 | 2.6 | 1.8 | \$5.41 | 1.6 |
| EDAM | 527,275 | 0.6 | 0.0 | \$3,579,807 | -0.2 | 0.0 | 11.1 | 1.5 | \$6.79 | -0.7 |
| EMEK | 2,147 | 35.7 | 0.0 | \$7,526 | 35.1 | 0.0 | 0.0 | 1.0 | \$3.51 | -0.4 |
| EMMENTHALER | 36,192 | 8.5 | 0.0 | \$188,328 | 9.9 | 0.0 | 14.4 | 1.0 | \$5.20 | 1.3 |
| ENCHILADO | 38,765 | -20.4 | 0.0 | \$204,780 | -16.4 | 0.0 | 1.1 | 1.0 | \$5.28 | 5.0 |
| ESTILLO RANCHO | 205,269 | 22.8 | 0.0 | \$1,030,551 | 9.6 | 0.0 | 2.2 | 1.0 | \$5.02 | -10.8 |
| FARMER | 1,564,885 | -1.0 | 0.1 | \$6,803,121 | -0.3 | 0.1 | 14.2 | 1.4 | \$4.35 | 0.6 |
| FONDUE | 107,656 | 16.5 | 0.0 | \$708,411 | 18.5 | 0.0 | 11.6 | 1.0 | \$6.58 | 1.7 |
| FONTINA | 6,387 | -13.6 | 0.0 | \$71,430 | -10.5 | 0.0 | 0.0 | 1.0 | \$11.18 | 3.6 |
| FONTINELLA | 81,504 | 8.7 | 0.0 | \$598,822 | 8.7 | 0.0 | 5.3 | 1.0 | \$7.35 | 0.0 |
| GJETOST | 79,647 | 1.6 | 0.0 | \$655,546 | 4.9 | 0.0 | 1.1 | 1.0 | \$8.23 | 3.2 |
| GLOUCESTER | 0 | -100.0 | 0.0 | \$0 | -100.0 | 0.0 | 0.0 | 0.0 | | |
| GOAT CHEESE | 1,823,689 | 2.6 | 0.1 | \$24,165,810 | 5.1 | 0.3 | 7.5 | 5.0 | \$13.25 | 2.4 |
| GORGONZOLA | 385,454 | 51.5 | 0.0 | \$3,677,642 | 57.1 | 0.0 | 12.3 | 1.3 | \$9.54 | 3.7 |
| GOURNAY | 1,934,161 | 6.9 | 0.1 | \$24,014,820 | 6.8 | 0.3 | 21.2 | 3.2 | \$12.42 | -0.1 |

APPENDIX
CHEESE TOTAL U.S. TOPLINE - LATEST 52 WEEKS

TOTAL U.S. FOOD
 Current 52 Weeks ending Jul 15, 2001

| | Volume Sales | Volume Sales % Change Prior Year | Volume Share | Dollar Sales | Dollar Sales % Change Prior Year | Dollar Share | % Volume, Any Merchandising | Average Items per Store | Avg Price per Volume | Avg Pnce per Volume % Change Prior Year |
|----------------------|--------------|----------------------------------|--------------|--------------|----------------------------------|--------------|-----------------------------|-------------------------|----------------------|---|
| GRANULAR | 14 | -68.8 | 0.0 | \$68 | -78.7 | 0.0 | 0.0 | 1.0 | \$4.76 | -31.8 |
| GRUYERE | 306,889 | -7.7 | 0.0 | \$2,363,521 | -5.6 | 0.0 | 15.6 | 1.6 | \$7.70 | 2.3 |
| HALLOUMI | 2 | -99.8 | 0.0 | \$12 | -99.8 | 0.0 | 0.0 | 1.0 | \$7.25 | -26.9 |
| HAVARTI | 738,091 | -11.5 | 0.0 | \$5,051,680 | -1.3 | 0.1 | 13.6 | 2.4 | \$6.84 | 11.5 |
| HOOP | 8,491 | -21.8 | 0.0 | \$48,281 | -20.2 | 0.0 | 0.1 | 1.0 | \$5.69 | 2.1 |
| ITALIAN | 530,821 | -34.8 | 0.0 | \$2,531,269 | -33.8 | 0.0 | 27.3 | 1.2 | \$4.77 | 1.5 |
| JARDIN | 273,511 | -7.0 | 0.0 | \$2,808,556 | -6.6 | 0.0 | 21.4 | 1.0 | \$10.27 | 0.5 |
| JARLESBERG | 354,135 | 76.4 | 0.0 | \$3,210,162 | 72.7 | 0.0 | 4.5 | 1.7 | \$9.06 | -2.1 |
| JOCOQUE | 8,506 | -19.0 | 0.0 | \$32,375 | -20.4 | 0.0 | 1.2 | 1.0 | \$3.81 | -1.7 |
| KAESE | 4,682 | -39.0 | 0.0 | \$32,104 | -38.0 | 0.0 | 2.4 | 1.0 | \$6.86 | 1.6 |
| KASSERI | 34,399 | 4.6 | 0.0 | \$299,710 | 7.4 | 0.0 | 7.0 | 1.0 | \$8.71 | 2.6 |
| KOCHKAISE | 840 | -12.8 | 0.0 | \$3,808 | -10.9 | 0.0 | 0.0 | 1.0 | \$4.53 | 2.2 |
| LIMBURGER | 493,601 | -4.5 | 0.0 | \$3,300,174 | -2.2 | 0.0 | 1.6 | 1.4 | \$6.69 | 2.4 |
| LONGHORN | 8,057 | -90.9 | 0.0 | \$20,933 | -93.5 | 0.0 | 1.4 | 1.0 | \$2.80 | -27.9 |
| MANTEQUILLA | 28,112 | -19.4 | 0.0 | \$110,925 | -15.1 | 0.0 | 0.0 | 1.0 | \$3.95 | 5.3 |
| MASCARPONE | 419,991 | 26.4 | 0.0 | \$3,147,855 | 24.8 | 0.0 | 9.4 | 1.2 | \$7.50 | -1.3 |
| MEXICAN | 4,233,373 | 28.4 | 0.2 | \$20,419,810 | 23.2 | 0.3 | 31.3 | 1.2 | \$4.82 | -4.1 |
| MONTICO | 1,759 | 884.0 | 0.0 | \$6,494 | 554.4 | 0.0 | 28.8 | 1.0 | \$3.69 | -33.5 |
| OAXACHA | 330,049 | 20.3 | 0.0 | \$1,837,715 | 22.9 | 0.0 | 10.3 | 1.3 | \$5.57 | 2.2 |
| PANELA | 14,922 | -22.5 | 0.0 | \$67,398 | -19.7 | 0.0 | 0.0 | 1.0 | \$4.52 | 3.6 |
| PECORINO ROMANO | 1,115,544 | 13.4 | 0.1 | \$9,746,345 | 14.2 | 0.1 | 29.8 | 1.5 | \$8.74 | 0.7 |
| PIMENTO | 693,294 | 13.6 | 0.0 | \$1,950,615 | 8.0 | 0.0 | 14.0 | 1.1 | \$2.81 | -4.9 |
| PINCON | 31,582 | 3.4 | 0.0 | \$129,141 | 1.0 | 0.0 | 12.0 | 1.2 | \$4.09 | -2.3 |
| PIZZA | 1,444,645 | 18.9 | 0.1 | \$4,840,071 | 14.0 | 0.1 | 44.3 | 1.0 | \$3.35 | -4.1 |
| POLISH DELIGHT | 0 | -100.0 | 0.0 | \$0 | -100.0 | 0.0 | 0.0 | 0.0 | | |
| PONT LEVEQUE | 163 | -76.2 | 0.0 | \$3,221 | -69.7 | 0.0 | 0.0 | 1.0 | \$19.71 | 27.6 |
| PORT SALUT | 41,112 | 10.5 | 0.0 | \$262,880 | 11.2 | 0.0 | 8.0 | 1.0 | \$6.39 | 0.7 |
| PORT WINE | 29,742 | 18.6 | 0.0 | \$77,472 | 12.6 | 0.0 | 23.6 | 1.0 | \$2.60 | -5.0 |
| PROVOLONE | 8,189,709 | 36.6 | 0.4 | \$44,148,320 | 40.3 | 0.6 | 14.4 | 1.8 | \$5.39 | 2.7 |
| QUESITO | 47,700 | 54.9 | 0.0 | \$247,017 | 58.4 | 0.0 | 0.7 | 1.0 | \$5.18 | 2.3 |
| QUESO | 1,360,329 | -13.4 | 0.1 | \$5,513,655 | -2.3 | 0.1 | 30.8 | 1.1 | \$4.05 | 12.9 |
| QUESO ANEJO | 101,011 | 3.5 | 0.0 | \$551,271 | 3.6 | 0.0 | 10.1 | 1.0 | \$5.46 | 0.1 |
| QUESO BLANCO | 506,590 | 15.1 | 0.0 | \$2,257,801 | 15.5 | 0.0 | 5.1 | 2.0 | \$4.46 | 0.3 |
| QUESO BLANCO CHEDDAR | 1,876 | 14.4 | 0.0 | \$8,477 | -7.7 | 0.0 | 4.9 | 1.0 | \$4.52 | -19.3 |
| QUESO BLANCO CREMITA | 42,026 | 33.6 | 0.0 | \$188,324 | 30.4 | 0.0 | 3.1 | 1.0 | \$4.48 | -2.4 |

APPENDIX CHEESE TOTAL U.S. TREND REPORT

TOTAL U.S. - FOOD

| | 4 Week Ending Mar 25, 2001 | 4 Week Ending Apr 22, 2001 | 4 Week Ending May 20, 2001 | 4 Week Ending Jun 17, 2001 | 4 Week Ending Jul 15, 2001 | 12 Week Ending Jul 15, 2001 | Current 52 Weeks Ending Jul 5, 2001 |
|-------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--|
| TOTAL CHEDDAR | | | | | | | |
| Volume Sales | 41,082,780 | 41,045,930 | 38,108,620 | 39,282,560 | 38,901,620 | 116,292,800 | 541,438,200 |
| Volume Sales % Change Prior Year | 6.4 | -0.6 | 3.0 | -0.5 | 3.0 | 1.8 | 5.2 |
| Dollar Sales | \$156,545,200 | \$157,356,700 | \$147,564,200 | \$152,997,300 | \$153,226,800 | \$453,788,300 | \$2,075,807,000 |
| Unit Sales | 61,863,360 | 62,007,520 | 57,758,630 | 59,758,860 | 59,228,270 | 176,745,800 | 818,668,400 |
| Avg Price per Volume | \$3.81 | \$3.83 | \$3.87 | \$3.89 | \$3.94 | \$3.90 | \$3.83 |
| Avg Volume Price, Any Merchandising | \$3.39 | \$3.47 | \$3.42 | \$3.48 | \$3.51 | \$3.47 | \$3.41 |
| Avg Volume Price, Non-Promoted | \$4.10 | \$4.09 | \$4.14 | \$4.16 | \$4.23 | \$4.18 | \$4.11 |
| % Volume, Any Merchandising | 41.2 | 40.6 | 36.7 | 39.2 | 40.5 | 38.8 | 39.5 |
| % Volume, Display Only | 5.1 | 4.9 | 5.3 | 5.2 | 5.3 | 5.3 | 5.1 |
| % Volume, Feature and Display | 4.5 | 4.0 | 4.3 | 4.1 | 4.5 | 4.3 | 4.0 |
| % Volume, Feature Only | 18.7 | 19.8 | 16.7 | 18.8 | 19.9 | 18.5 | 18.4 |
| % Volume, Price Reduction Only | 12.9 | 11.9 | 10.3 | 11.1 | 10.9 | 10.8 | 12.0 |
| Average Items per Store | 73.4 | 73.4 | 72.9 | 73.3 | 73.3 | 77.8 | 72.9 |
| Base Dollars | \$131,639,900 | \$131,445,400 | \$126,349,800 | \$127,870,300 | \$127,761,100 | \$381,981,500 | \$1,751,764,000 |
| Incremental Dollars | \$24,905,330 | \$25,911,300 | \$21,214,390 | \$25,127,080 | \$25,465,690 | \$71,806,820 | \$324,042,800 |
| TOTAL FETA | | | | | | | |
| Volume Sales | 753,497 | 826,533 | 828,798 | 884,101 | 917,185 | 2,630,085 | 10,125,450 |
| Volume Sales % Change Prior Year | 6.3 | 11.7 | 9.6 | 8.6 | 5.8 | 7.9 | 8.8 |
| Dollar Sales | \$5,410,188 | \$5,854,682 | \$6,025,689 | \$6,355,707 | \$6,736,115 | \$19,117,510 | \$73,022,170 |
| Unit Sales | 2,204,968 | 2,387,200 | 2,416,043 | 2,561,586 | 2,651,787 | 7,629,416 | 29,315,740 |
| Avg Price per Volume | \$7.18 | \$7.08 | \$7.27 | \$7.19 | \$7.34 | \$7.27 | \$7.21 |
| Avg Volume Price, Any Merchandising | \$5.91 | \$5.38 | \$5.99 | \$5.77 | \$6.30 | \$6.01 | \$5.99 |
| Avg Volume Price, Non-Promoted | \$7.49 | \$7.51 | \$7.46 | \$7.46 | \$7.50 | \$7.47 | \$7.44 |
| % Volume, Any Merchandising | 20.6 | 20.8 | 13.9 | 17.4 | 14.5 | 15.3 | 17.1 |
| % Volume, Display Only | 0.5 | 0.4 | 0.4 | 0.2 | 0.2 | 0.3 | 0.3 |
| % Volume, Feature and Display | 0.0 | 1.0 | 0.9 | 0.1 | 0.3 | 0.5 | 0.5 |
| % Volume, Feature Only | 5.7 | 9.7 | 3.7 | 6.7 | 5.0 | 5.2 | 5.2 |
| % Volume, Price Reduction Only | 14.3 | 9.8 | 8.9 | 10.4 | 8.9 | 9.4 | 11.0 |
| Average Items per Store | 8.9 | 8.9 | 9.0 | 9.3 | 9.4 | 10.6 | 8.9 |
| Base Dollars | \$5,265,102 | \$5,596,034 | \$5,840,631 | \$6,197,899 | \$6,569,865 | \$18,608,430 | \$71,675,800 |
| Incremental Dollars | \$145,086 | \$258,648 | \$185,058 | \$157,808 | \$166,250 | \$509,087 | \$1,346,372 |
| TOTAL GOUDA | | | | | | | |
| Volume Sales | 101,097 | 101,099 | 95,264 | 97,138 | 96,411 | 288,812 | 1,384,369 |
| Volume Sales % Change Prior Year | 7.2 | 4.3 | 11.9 | 8.6 | 7.9 | 9.4 | 1.0 |
| Dollar Sales | \$719,230 | \$718,689 | \$681,981 | \$694,784 | \$700,881 | \$2,077,647 | \$9,921,968 |
| Unit Sales | 213,939 | 215,243 | 203,001 | 206,823 | 204,964 | 614,788 | 2,960,855 |
| Avg Price per Volume | \$7.11 | \$7.11 | \$7.16 | \$7.15 | \$7.27 | \$7.19 | \$7.17 |
| Avg Volume Price, Any Merchandising | \$6.09 | \$5.20 | \$6.47 | \$6.09 | \$7.10 | \$6.51 | \$6.55 |
| Avg Volume Price, Non-Promoted | \$7.16 | \$7.20 | \$7.18 | \$7.19 | \$7.26 | \$7.21 | \$7.22 |
| % Volume, Any Merchandising | 6.6 | 6.4 | 5.8 | 5.0 | 4.0 | 4.9 | 10.5 |
| % Volume, Display Only | 1.5 | 3.7 | 2.8 | 1.9 | 1.0 | 1.9 | 3.6 |
| % Volume, Feature and Display | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 |
| % Volume, Feature Only | 1.1 | 0.0 | 0.9 | 1.0 | 1.3 | 1.1 | 1.0 |
| % Volume, Price Reduction Only | 3.9 | 2.5 | 1.9 | 1.9 | 1.6 | 1.8 | 5.7 |
| Average Items per Store | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.2 | 2.1 |
| Base Dollars | \$713,379 | \$710,720 | \$672,712 | \$690,816 | \$699,101 | \$2,062,650 | \$9,687,801 |
| Incremental Dollars | \$5,851 | \$7,969 | \$9,269 | \$3,968 | \$1,781 | \$14,997 | \$234,167 |

APPENDIX CHEESE TOTAL U.S. TREND REPORT

TOTAL U.S. - FOOD

| | 4 Week Ending Mar 25, 2001 | 4 Week Ending Apr 22, 2001 | 4 Week Ending May 20, 2001 | 4 Week Ending Jun 17,2001 | 4 Week Ending Jul 15, 2001 | 12 Week Ending Jul 15, 2001 | Current 52 Weeks Ending Jul 15, 2001 |
|--------------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------------|--------------------------------|---|
| TOTAL HISPANIC | | | | | | | |
| Volume Sales | 1,861,379 | 1,838,581 | 1,804,562 | 1,820,357 | 1,757,793 | 5,382,712 | 23,269,530 |
| Volume Sales % Change Prior Year | 6.9 | 5.1 | 9.8 | 10.6 | 4.4 | 8.2 | 14.9 |
| Dollar Sales | \$8,606,566 | \$8,505,633 | \$8,381,350 | \$8,608,582 | \$8,433,855 | \$25,423,790 | \$107,397,600 |
| Unit Sales | 2,532,692 | 2,474,782 | 2,437,077 | 2,458,338 | 2,367,628 | 7,263,042 | 31,482,580 |
| Avg Price per Volume | \$4.62 | \$4.63 | \$4.64 | \$4.73 | \$4.80 | \$4.72 | \$4.62 |
| Avg Volume Price, Any Merchandising | \$4.01 | \$4.02 | \$3.85 | \$4.05 | \$4.16 | \$4.01 | \$3.86 |
| Avg Volume Price, Non-Promoted | \$4.91 | \$4.92 | \$4.91 | \$4.90 | \$4.97 | \$4.93 | \$4.86 |
| % Volume, Any Merchandising | 31.8 | 32.6 | 26.0 | 20.6 | 20.9 | 22.5 | 23.3 |
| % Volume, Display Only | 5.1 | 4.5 | 7.4 | 4.6 | 3.3 | 5.2 | 3.8 |
| % Volume, Feature and Display | 3.4 | 4.0 | 1.2 | 1.4 | 2.5 | 1.7 | 1.6 |
| % Volume, Feature Only | 8.2 | 10.8 | 8.8 | 6.5 | 7.0 | 7.4 | 8.2 |
| % Volume, Price Reduction Only | 15.1 | 13.3 | 8.5 | 8.0 | 8.0 | 8.2 | 9.6 |
| Average Items per Store | 5.6 | 5.6 | 5.5 | 5.5 | 5.5 | 5.9 | 5.5 |
| Base Dollars | \$8,014,162 | \$7,910,535 | \$7,790,652 | \$8,043,094 | \$7,968,055 | \$23,801,620 | \$102,386,000 |
| Incremental Dollars | \$592,405 | \$595,098 | \$590,697 | \$565,488 | \$465,801 | \$1,622,164 | \$5,011,601 |
| TOTAL MONTEREY JACK | | | | | | | |
| Volume Sales | 5,219,896 | 5,142,946 | 5,043,913 | 5,230,466 | 5,027,219 | 15,301,600 | 67,600,720 |
| Volume Sales % Change Prior Year | 10.3 | 5.7 | 8.5 | 8.0 | 4.5 | 7.0 | 9.9 |
| Dollar Sales | \$19,387,510 | \$19,120,580 | \$19,057,940 | \$19,617,050 | \$19,511,910 | \$58,186,900 | \$251,378,600 |
| Unit Sales | 7,605,848 | 7,467,613 | 7,441,123 | 7,779,141 | 7,404,818 | 22,625,080 | 98,285,950 |
| Avg Price per Volume | \$3.71 | \$3.72 | \$3.78 | \$3.75 | \$3.88 | \$3.80 | \$3.72 |
| Avg Volume Price, Ally Merchandising | \$3.35 | \$3.33 | \$3.38 | \$3.26 | \$3.46 | \$3.36 | \$3.31 |
| Avg Volume Price, Non-Promoted | \$3.94 | \$3.95 | \$4.00 | \$4.07 | \$4.14 | \$4.07 | \$3.95 |
| % Volume, Any Merchandising | 37.9 | 36.9 | 35.6 | 39.2 | 37.7 | 37.5 | 37.3 |
| % Volume, Display Only | 3.0 | 2.6 | 2.9 | 3.5 | 2.7 | 3.1 | 2.6 |
| % Volume, Feature and Display | 3.0 | 3.0 | 2.9 | 3.5 | 2.9 | 3.1 | 2.9 |
| % Volume, Feature Only | 19.5 | 19.8 | 18.9 | 20.0 | 21.4 | 20.1 | 19.5 |
| % Volume, Price Reduction Only | 12.3 | 11.6 | 10.9 | 12.2 | 10.7 | 11.3 | 12.2 |
| Average Items per Store | 11.8 | 11.9 | 12.0 | 12.2 | 12.1 | 13.3 | 11.1 |
| Base Dollars | \$17,002,630 | \$16,876,330 | \$16,637,530 | \$16,725,640 | \$16,749,110 | \$50,112,290 | \$218,440,800 |
| Incremental Dollars | \$2,384,886 | \$2,244,251 | \$2,420,405 | \$2,891,408 | \$2,762,799 | \$8,014,611 | \$32,937,830 |
| TOTAL MOZZARELLA | | | | | | | |
| Volume Sales | 20,708,410 | 20,484,100 | 18,185,130 | 18,466,720 | 17,586,630 | 54,238,480 | 259,457,600 |
| Volume Sales % Change Prior Year | 1.8 | -3.7 | 1.1 | 1.6 | -0.4 | 0.8 | 2.7 |
| Dollar Sales | \$80,363,190 | \$78,661,460 | \$71,889,320 | \$73,586,210 | \$71,567,710 | \$217,043,200 | \$1,004,217,000 |
| Unit Sales | 36,094,300 | 34,616,720 | 32,947,460 | 34,465,800 | 32,181,040 | 99,594,300 | 460,567,500 |
| Avg Price per Volume | \$3.88 | \$3.84 | \$3.95 | \$3.98 | \$4.07 | \$4.00 | \$3.87 |
| Avg Volume Price, Any Merchandising | \$3.45 | \$3.34 | \$3.51 | \$3.47 | \$3.59 | \$3.52 | \$3.36 |
| Avg Volume Price, Non-Promoted | \$4.12 | \$4.14 | \$4.17 | \$4.23 | \$4.29 | \$4.23 | \$4.14 |
| % Volume, Any Merchandising | 36.4 | 38.0 | 33.0 | 32.5 | 31.7 | 32.4 | 35.3 |
| % Volume, Display Only | 3.1 | 3.3 | 3.1 | 2.9 | 3.1 | 3.0 | 2.9 |
| % Volume, Feature and Display | 3.0 | 3.7 | 3.2 | 2.8 | 3.0 | 3.0 | 3.1 |
| % Volume, Feature Only | 17.4 | 20.3 | 16.0 | 16.5 | 14.9 | 15.8 | 17.4 |
| % Volume, Price Reduction Only | 12.8 | 10.7 | 10.7 | 10.3 | 10.6 | 10.6 | 11.9 |
| Average Items per Store | 32.1 | 32.3 | 32.4 | 32.4 | 32.6 | 34.6 | 32.0 |
| Base Dollars | \$69,353,020 | \$66,884,210 | \$63,391,340 | \$64,752,440 | \$63,347,420 | \$191,491,200 | \$875,946,600 |
| Incremental Dollars | \$1,010,170 | \$11,777,250 | \$8,497,977 | \$8,833,765 | \$8,220,291 | \$25,552,040 | \$128,270,700 |

APPENDIX

Projected Total U.S.: Random Weight Cheese

| Category | 1999 \$ SALES | 2000 \$ SALES | 2001 \$ SALES | 99 vs 00 % CHANGE | 00 vs 01 % CHANGE | Category | 1999 VOLUME | 2000 VOLUME | 2001 VOLUME | 99 VS 00 % CHANGE | 00 VS 01 % CHANGE |
|---------------|------------------|------------------|------------------|----------------------|----------------------|---------------|----------------|----------------|----------------|----------------------|----------------------|
| All Other | \$ 98,032,735 | \$ 91,024,076 | | -7% | | All Other | 21,167,358 | 19,068,295 | | -10% | |
| American | \$ 301,951,492 | \$ 324,782,259 | | 8% | | American | 76,866,682 | 84,304,645 | | 10% | |
| Asadero | \$ 406,304 | \$ 543,561 | | 34% | | Asadero | 83,214 | 107,585 | | 29% | |
| Asiago | \$ 5,634,924 | \$ 6,105,023 | | 8% | | Asiago | 768,312 | 839,703 | | 9% | |
| Baby Swiss | \$ 45,014,869 | \$ 48,708,140 | | 8% | | Baby Swiss | 9,341,388 | 9,711,411 | | 4% | |
| Blends | \$ 16,868,192 | \$ 16,289,700 | | -3% | | Blends | 3,012,644 | 2,880,152 | | -4% | |
| Blue Cheese | \$ 23,279,873 | \$ 24,988,575 | | 7% | | Blue Cheese | 3,836,889 | 3,890,269 | | 1% | |
| Brick | \$ 5,271,940 | \$ 5,811,013 | | 10% | | Brick | 1,139,518 | 1,264,830 | | 11% | |
| Brie | \$ 58,636,012 | \$ 67,145,910 | | 15% | | Brie | 9,106,160 | 10,402,408 | | 14% | |
| Camembert | \$ 1,439,720 | \$ 1,677,798 | | 17% | | Camembert | 150,556 | 175,249 | | 16% | |
| Cheddar | \$ 379,457,524 | \$ 374,535,778 | | -1% | | Cheddar | 98,469,379 | 96,117,780 | | -2% | |
| Colby | \$ 108,581,361 | \$ 102,082,633 | | -6% | | Colby | 27,357,805 | 25,719,858 | | -6% | |
| ColbyJack | \$ 59,049,335 | \$ 60,989,362 | | 3% | | ColbyJack | 14,574,389 | 15,117,415 | | 4% | |
| Cream Cheese | \$ 5,528,872 | \$ 4,852,625 | | -12% | | Cream Cheese | 1,587,196 | 1,306,595 | | -18% | |
| Curds | \$ 749,865 | \$ 838,695 | | 12% | | Curds | 186,234 | 208,096 | | 12% | |
| Edam | \$ 4,486,136 | \$ 5,041,132 | | 12% | | Edam | 753,021 | 837,047 | | 11% | |
| Farmer | \$ 8,551,625 | \$ 6,723,272 | | -21% | | Farmer | 1,895,757 | 1,439,003 | | -24% | |
| Feta | \$ 22,723,593 | \$ 24,429,423 | | 8% | | Feta | 5,002,771 | 5,234,607 | | 5% | |
| Fontina | \$ 7,040,146 | \$ 8,255,708 | | 17% | | Fontina | 1,031,146 | 1,174,134 | | 14% | |
| Goat Cheese | \$ 605,103 | \$ 606,897 | | 0% | | Goat Cheese | 65,760 | 64,921 | | -1% | |
| Gorgonzola | \$ 8,858,427 | \$ 9,564,306 | | 8% | | Gorgonzola | 1,331,655 | 1,425,968 | | 7% | |
| Gouda | \$ 28,128,092 | \$ 32,932,287 | | 17% | | Gouda | 4,629,342 | 5,432,366 | | 17% | |
| Gruyere | \$ 10,904,989 | \$ 13,783,188 | | 26% | | Gruyere | 1,359,067 | 1,676,046 | | 23% | |
| Harvarti | \$ 35,982,178 | \$ 38,806,627 | | 8% | | Havarti | 5,820,913 | 6,199,260 | | 6% | |
| Hispanic | \$ 5,238,215 | \$ 6,623,673 | | 26% | | Hispanic | 1,411,717 | 1,776,260 | | 26% | |
| Jarlsberg | \$ 43,513,652 | \$ 50,681,323 | | 16% | | Jarlsberg | 7,125,819 | 7,943,612 | | 11% | |
| Monterey Jack | \$ 108,348,102 | \$ 102,224,211 | | -6% | | Monterey Jack | 27,399,414 | 25,483,271 | | -7% | |
| Mozzarella | \$ 52,402,567 | \$ 54,404,815 | | 4% | | Mozzarella | 12,609,182 | 12,924,489 | | 3% | |
| Muenster | \$ 103,572,268 | \$ 109,793,624 | | 6% | | Muenster | 24,429,413 | 25,634,930 | | 5% | |
| Parmesan | \$ 38,296,402 | \$ 42,588,911 | | 11% | | Parmesan | 5,345,558 | 5,716,389 | | 7% | |
| Provolone | \$ 127,282,737 | \$ 132,230,244 | | 4% | | Provolone | 27,426,390 | 28,525,844 | | 4% | |
| Ricotta | \$ 1,092,712 | \$ 1,579,227 | | 45% | | Ricotta | 459,195 | 695,018 | | 51% | |
| Romano | \$ 28,163,623 | \$ 31,417,946 | | 12% | | Romano | 4,115,357 | 4,443,728 | | 8% | |
| Swiss | \$ 305,724,123 | \$ 317,294,433 | | 4% | | Swiss | 64,383,620 | 66,764,282 | | 4% | |
| U.S. Totals | \$ 2,050,817,708 | \$ 2,119,356,395 | | 3% | | U.S. Totals | 464,242,821 | 474,505,46 | | 2% | |