C A L I F O R N I A

Manufacturing Cost Annual

2008 Data

CALIFORNIA

Manufacturing Cost Annual

2008 Data, Compiled and Published in 2009

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This publication would not be possible without the cooperation of the individuals and firms engaged in the production, manufacture, and distribution of milk and dairy products.

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Introduction

The California Food and Agricultural Code specifies that the California Department of Food and Agriculture (CDFA) must consider manufacturing costs in determining appropriate minimum prices for products categorized as Class 4a (butter and dried milk products) and Class 4b (cheese). To comply with the legislative decree, CDFA has a direct need for gathering and summarizing information provided in the cost studies to formulate reasonable manufacturing cost (make) allowances through the public hearing process.

CDFA maintains a Manufacturing Cost Unit that consists of professional auditors specializing in dairy accounting practices. The auditors work with plant management to gather data on all aspects of the operation, review plant records on-site, and allocate plant expenditures to each product manufactured by the plant. The studies are conducted and developed in conformity with generally accepted accounting principles, cost accounting techniques, and instructions contained in the Dairy Marketing Branch's Audit and Cost Procedures Manual. While CDFA has the legal authority to collect cost information from the various types of milk processing plants, the majority of plants have found the information contained in the studies valuable and cooperated voluntarily.

Any plant that produces Class 4a and/or Class 4b products may be asked to participate in the cost studies. Information gathered in the studies provides an accurate sampling of California's annual butter, nonfat dry milk (NFDM), and Cheddar cheese production. Study participants accounted for over 90 percent of the products manufactured in California. Data on condensed skim and cream is collected concurrently from plants that participate. Plants that manufacture condensed skim and cream but do not manufacture butter, NFDM, or Cheddar cheese are not included in the study. As a result, data on condensed skim and cream is based on a much lower percentage of annual production in California.

The data from the cost studies has a practical significance beyond the boundaries of California. They are the only studies in the U.S. which present the audited and detailed processing costs of butter, NFDM, and Cheddar cheese plants.

Overview of the Manufacturing Cost Studies

Each plant in the study gave access to cost data for a 12-month period, January 2008 to December 2008. The 2008 California Manufacturing Cost Annual includes data obtained from eight butter plants, nine NFDM plants, six Cheddar cheese plants, eight condensed skim plants, and eight cream plants. The 2008 annual report accounted for 99.1 percent of the butter, 94.5 percent of the NFDM, and 93.4 percent of the total Cheddar and Monterey Jack cheese produced in California. Since about half the plants processed and sold bulk cream and /or condensed skim, data was also accumulated for these products.

Highlights of the Manufacturing Costs

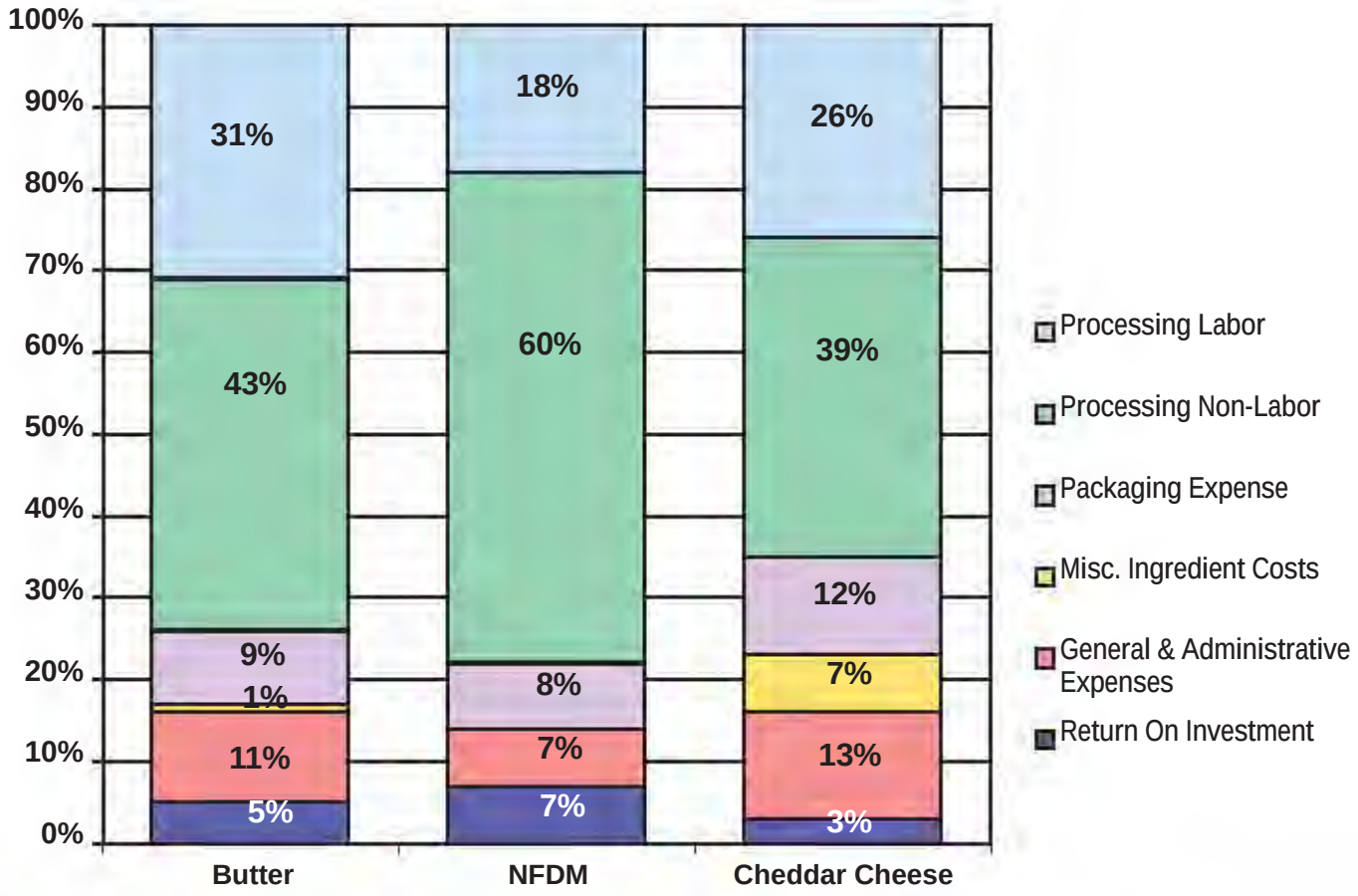
Processing Non-Labor costs included utilities, repairs & maintenance and supplies, depreciation & property taxes, and other costs as well (Figure 1). On weighted average, non labor costs accounted for 43 percent of butter processing costs, 60 percent of NFDM processing costs, and 39 percent of Cheddar cheese processing costs.

Processing Labor is the second largest cost overall and the single largest contribution to manufacturing costs. Labor was on weighted average 31 percent of butter processing costs, 18 percent of NFDM processing costs, and 26 percent of Cheddar cheese processing costs.

This publication is divided into sections: Butter, Nonfat Dry Milk, Cheese, and Condensed Skim and Cream.

- Summary tables describe categorized manufacturing costs.
- Column charts identify the distribution of costs and indicate the variation among the plants.
- Pie charts provide the contribution of major cost categories to the overall cost structure.

Figure 1. Comparison of Costs by Category for California Manufacturing Plants



Butter Study

Cost studies were completed on eight butter plants for 2008. The eight plants processed 550.7 million pounds of butter during the 12-month period, January 2008 through December 2008, representing 99.1 percent of the butter processed in California. Butter summary statistics provide the weighted average cost per pound for each of the manufacturing costs (Table 1).

The majority of plants packaged butter in various sizes; however, only costs for bulk butter (25-kg and 68-lb. blocks) were analyzed (Figure 2).

To avoid revealing plant specific information, each plant was assigned to either a Low Cost Group or High Cost Group based on their total manufacturing costs. In 2008, the Low Cost Group included four plants with the lowest manufacturing costs, and the High Cost Group included four plants with the highest manufacturing costs.

Highlights of the Butter Manufacturing Costs

Processing Labor Costs were up slightly from last year and the weighted average labor cost was 4.9¢ per pound accounting for 31 percent of the total manufacturing cost (Figure 3).

Figure 2. Breakdown of Butter Packaging Sizes and Types

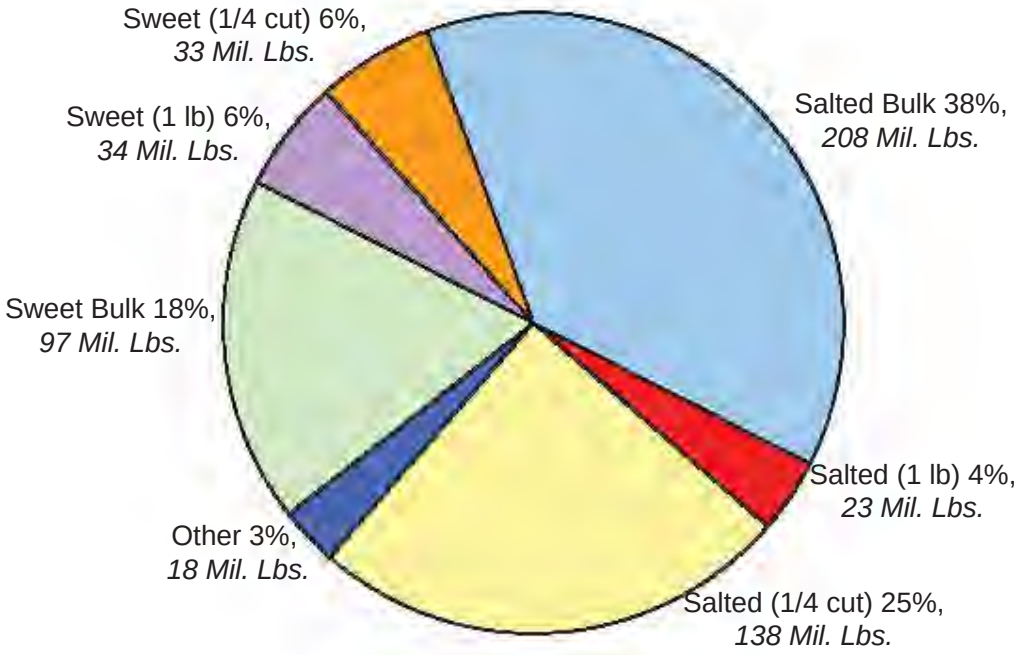


Table 1. Processing Costs for Eight California Butter Plants

BUTTER MANUFACTURING COSTS

CURRENT Study Period: January through December 2008
With Comparison to the same time period PRIOR YEAR (2007)

- Manufacturing cost data were collected and summarized from eight California butter plants. The eight plants processed 550.7 million pounds of butter during the 12-month study period, January through December 2008, representing 99.1% of the butter processed in California.
- The volume total includes both bulk butter and cut butter, but the costs reflect only costs for bulk butter (25 kg and 68 lb. blocks).
- To obtain the weighted average, individual plant costs were weighted by their butter processing volume relative to the total volume of butter processed by all plants included in the cost study.
- For this study period, approximately 54% of the butter was processed at a cost less than the current manufacturing cost allowance for butter of $0.1560 per pound.

Breakdown of Butter Manufacturing Costs - January through December 2008

Categories	Low Cost Group	High Cost Group	Range of Costs Minimum	Range of Costs Maximum	CURRENT Weighted Average Cost All Plants Jan-Dec 2008	PRIOR YEAR Weighted Average Cost All Plants Jan-Dec 2007	Actual Difference Current Less Prior Year
	Dollars Per Pound of Butter						
Number of Plants	4	4	8	8	8	7	1
Processing Labor	$0.0445	$0.0541	$0.0321	$0.0905	$0.0485	$0.0467	$0.0018
Processing Non-Labor	$0.0573	$0.0773	$0.0454	$0.1432	$0.0656	$0.0515	$0.0141
Packaging	$0.0134	$0.0139	$0.0120	$0.0171	$0.0136	$0.0127	$0.0009
Other Ingredients	$0.0022	$0.0023	$0.0019	$0.0029	$0.0023	$0.0022	$0.0001
General & Administrative	$0.0151	$0.0191	$0.0054	$0.0628	$0.0167	$0.0125	$0.0042
Return on Investment	$0.0064	$0.0117	$0.0035	$0.0741	$0.0086	$0.0060	$0.0026
Average Total Cost	$0.1389	$0.1784	--	--	$0.1553	$0.1316	$0.0237
Volume in Group (Lbs.)	321,883,180	228,814,212	--	--	550,697,392	492,471,306	58,226,086
% Volume by Group	58.5%	41.6%	--	--	100.0%	100.0%	--

Processing Labor: Labor costs associated with processing of product, including wages, payroll taxes and fringe benefits.
Processing Non-Labor: Includes costs such as utilities, repairs and maintenance, laundry, supplies, depreciation, plant insurance, and rent.
Packaging: Includes all non-reusable items used in the packaging of the product, such as boxes, bags, cartons, liners, tape, glue and stretch wrap.
Other Ingredients: Includes salt, and color.
General & Administrative: Includes expenses in the management of the company, such as: office supplies, short-term interest, dues and subscriptions, accounting fees, headquarter charges, office clerical wages and executive salaries.
Return on Investment: Calculated by subtracting accumulated depreciation from the original cost of assets, with the remaining book value multiplied by Moody's "BAA" corporate bond index.

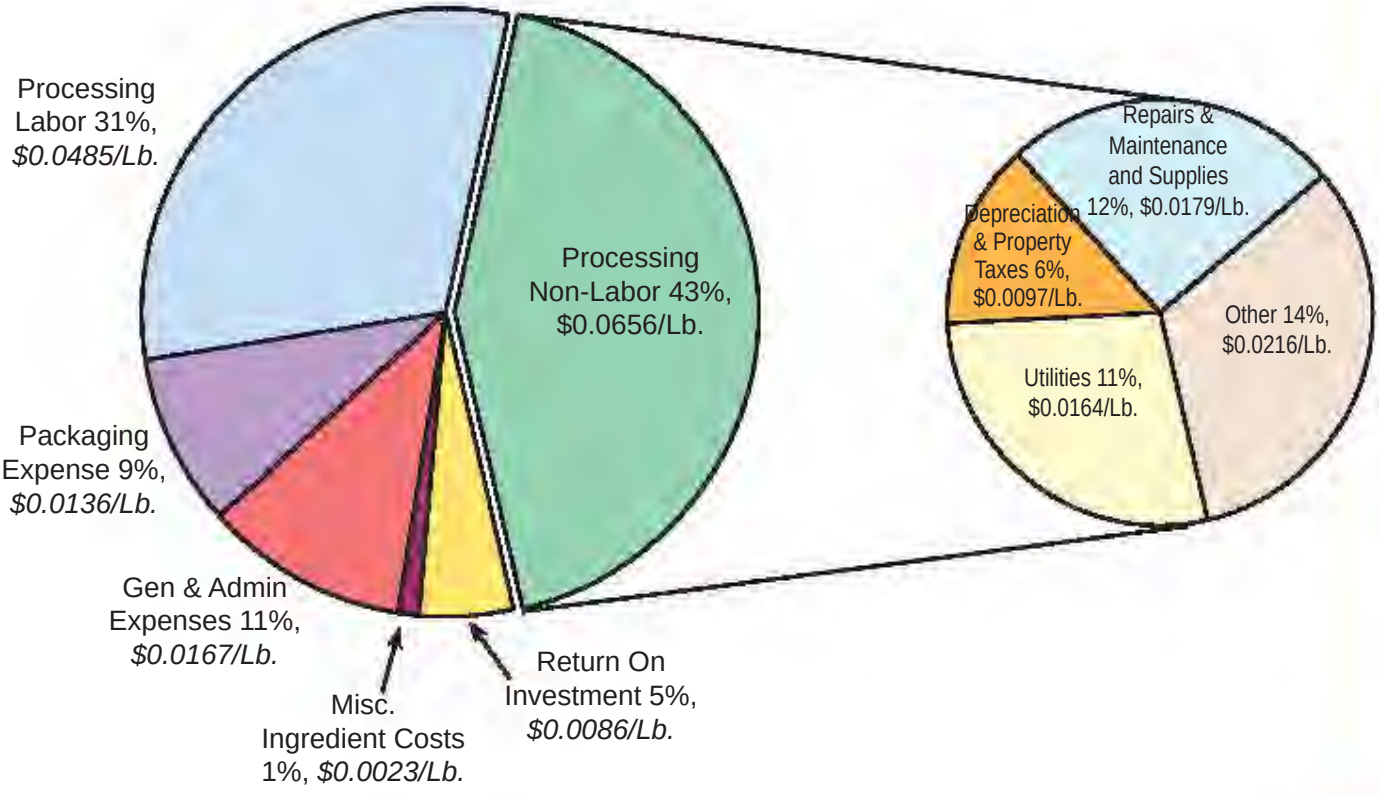
Butter Study

Processing Non-Labor Costs were a grouping of costs that included utilities, repairs & maintenance, supplies, depreciation, property taxes, and other various costs. The weighted average cost of the Low Cost Group was 5.7¢ per pound, and the High Cost Group was 7.7¢ per pound. Processing non-labor costs of 6.6¢ per pound accounted for 43 percent of the total manufacturing cost.

General and Administrative (G & A) Costs were on weighted average 1.7¢ per pound and included all expenses incurred in the direction, control, and management of the company. Examples of G & A costs were administrative payroll, office supplies, dues and subscriptions, and headquarters fees. G & A costs accounted for 11 percent of the total manufacturing cost.

Return on Investment (ROI) allowance is an opportunity cost and represents how much interest the company could have earned if its capital was not tied up in land, buildings

Figure 3. Breakdown of Butter Processing Costs



Butter Study

and equipment. In other words, it is viewed as an alternative source of income had the company invested the capital elsewhere. ROI is the remaining book value multiplied by the Moody's "BAA" corporate bond index. A higher ROI suggests that either a plant is relatively new with little accumulated depreciation of its assets (high book value) or it is an established plant with low production volume. ROI costs on weighted average were 0.9¢ per pound and accounted for 5 percent of the total manufacturing cost.

Packaging Costs were on weighted average 1.4¢ per pound and accounted for 9 percent of the total manufacturing cost. All non-reusable items such as boxes, bags, cartons, liners, tape, glue, and stretch-wrap were included in the packaging costs category.

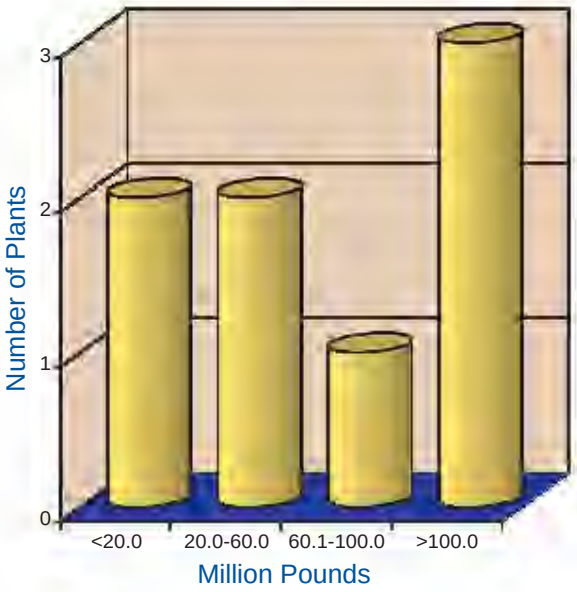
Misc. Ingredient Costs for salt increased slightly from 2007. The weighted average was 0.2¢ per pound and accounted for 1 percent of the total manufacturing cost.

Characteristics of Butter Plants

The cost studies summaries provide insights into butter production operations in California. The following statistics, charts, and graphs present facts in visual form and indicate the variation that exists among the butter plants and the relative impact of individual cost categories.

To obtain a weighted average, an individual cost was weighted by the plant production volume respective to the total volume of butter processed. The median is the middle point of a set of numbers.

Figure 4. Annual California Butter Production

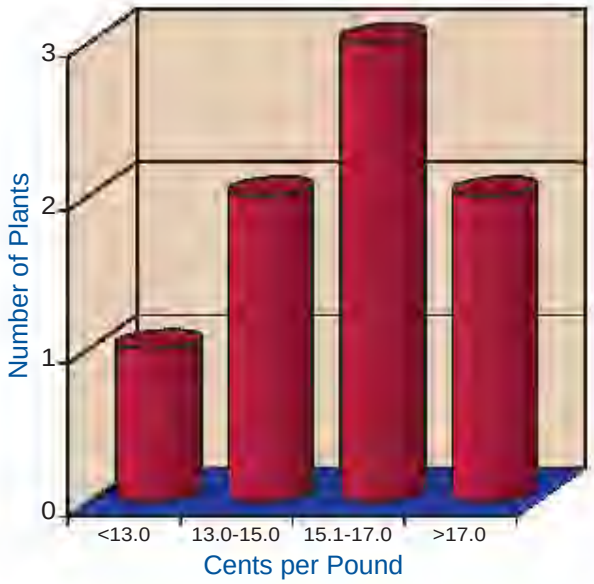


Million Pounds of Butter

Average	= 69 million pounds
Median	= 63 million pounds
Average Low Cost Group	= 80 million pounds
Average High Cost Group	= 57 million pounds

- The Low Cost Group produced 58.5 percent of the total butter production.

Figure 5. Manufacturing Cost

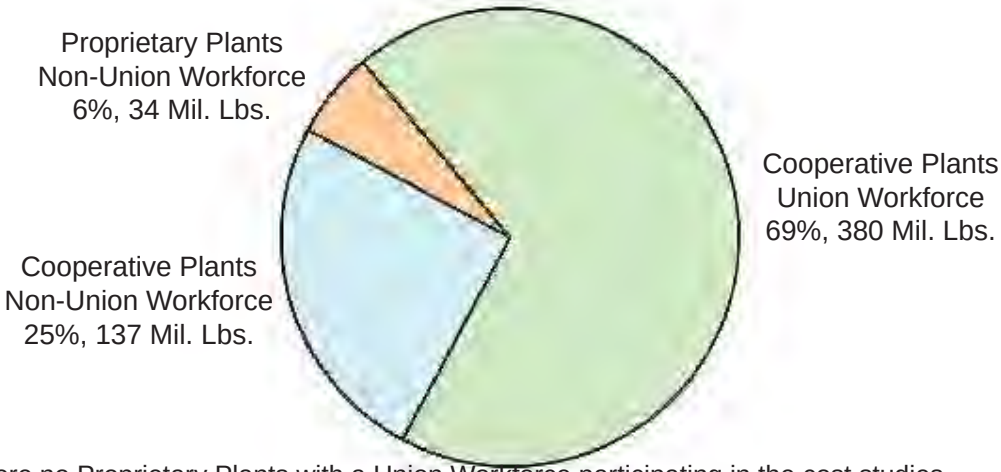


Cents per Pound of Butter

Average	= 18.2¢ per pound
Wt'd Average	= 15.5¢ per pound
Median	= 16.2¢ per pound
Wt'd. Aver. Low Cost Group	= 13.9¢ per pound
Wt'd. Aver. High Cost Group	= 17.8¢ per pound

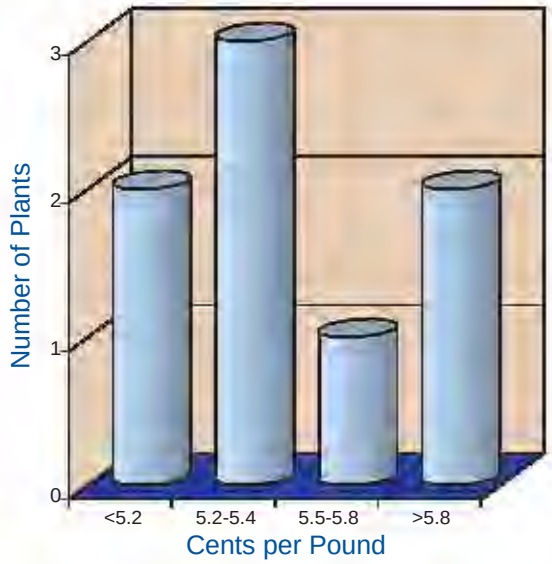
- Three plants kept their manufacturing costs under the weighted average cost of 15.5¢ per pound.

Figure 6. Percent Share of California Butter Plants, by Ownership Type, Workforce Type, and by Pounds of Total Production



- There were no Proprietary Plants with a Union Workforce participating in the cost studies.

Figure 7. Processing Labor Cost

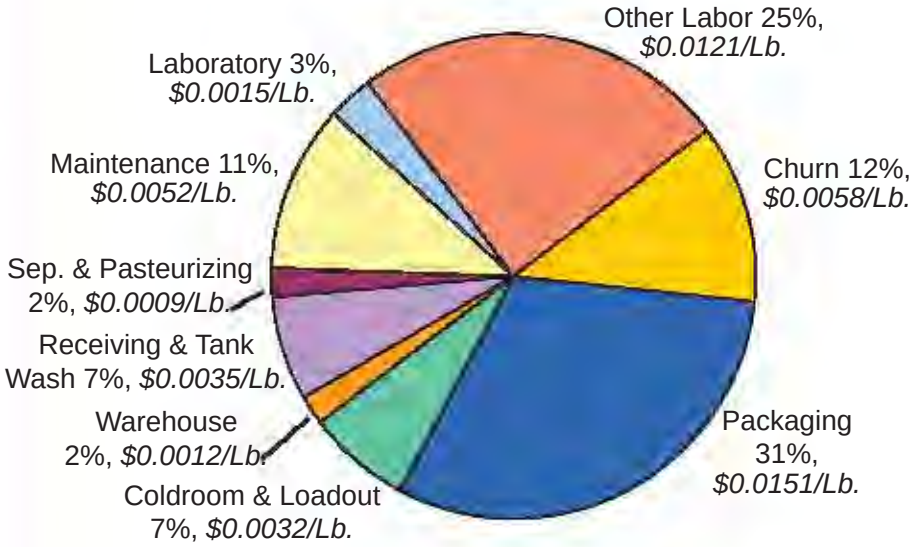


Cents per Pound of Butter

Average	= 5.4¢ per pound
Wt'd Average	= 4.9¢ per pound
Median	= 5.4¢ per pound
Wt'd. Aver. Low Cost Group	= 4.5¢ per pound
Wt'd. Aver. High Cost Group	= 5.4¢ per pound

- Labor costs ranged from 3.2¢ to 9.1¢ per pound.
- Two plants kept their labor costs under the weighted average cost of 4.9¢ per pound.

Figure 8. Butter Labor Breakdown by Category



Based on detailed data:
The weighted average labor cost was 4.9¢ per pound or $2.67 per 25-kg unit.

Note: "Other Labor" includes plant manager/superintendent, general plant, and plant clerical labor.

Figure 9. Processing Non-Labor Cost

Cents per Pound of Butter

Average	= 7.5¢ per pound
Wt'd Average	= 6.6¢ per pound
Median	= 7.2¢ per pound
Wt'd. Aver. Low Cost Group	= 5.7¢ per pound
Wt'd. Aver. High Cost Group	= 7.7¢ per pound

- Non-labor costs ranged from 4.5¢ to 14.3¢ per pound.
- Three plants kept their non-labor costs below the weighted average, 6.6¢ per pound.

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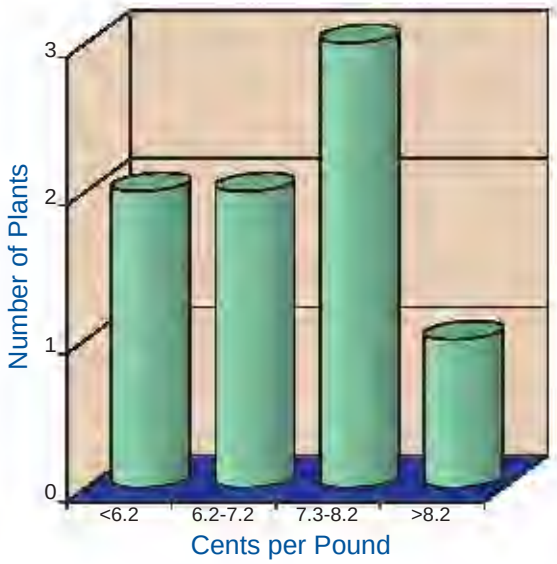
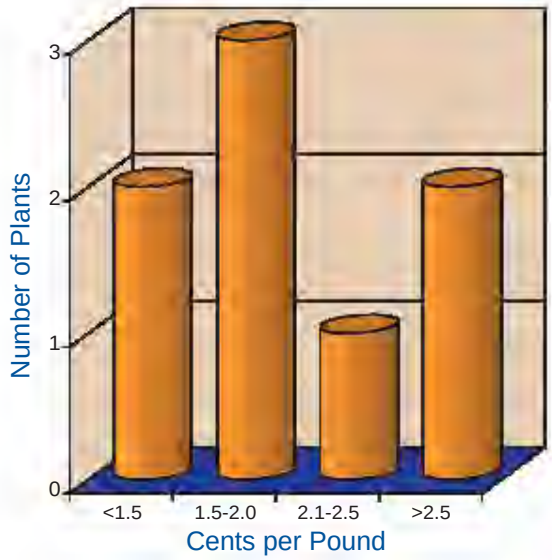


Figure 10. Utility Cost



Cents per Pound of Butter

Average	= 1.9¢ per pound
Wt'd Average	= 1.7¢ per pound
Median	= 1.8¢ per pound
Wt'd. Aver. Low Cost Group	= 1.7¢ per pound
Wt'd. Aver. High Cost Group	= 1.6¢ per pound

- Three plants kept their utility costs below the weighted average cost of 1.7¢ per pound.
- Electricity costs accounted for 62 percent of the total utility cost.
- Utilities include electricity, gas, and water and sewage costs.

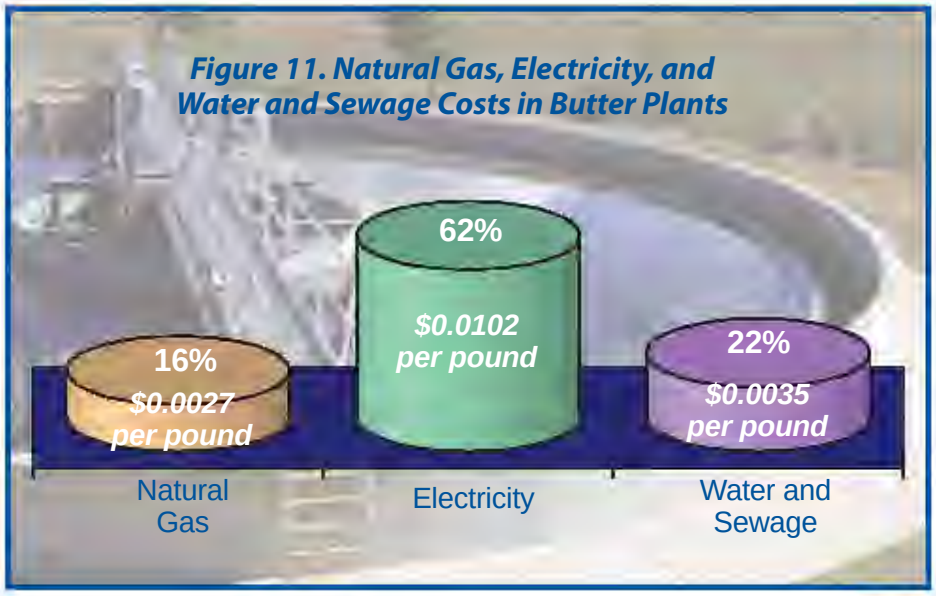


Figure 12. Repairs & Maintenance, and Supplies Cost

Cents per Pound of Butter

Average	= 1.9¢ per pound
Wt'd Average	= 1.8¢ per pound
Median	= 1.7¢ per pound
Wt'd. Aver. Low Cost Group	= 1.4¢ per pound
Wt'd. Aver. High Cost Group	= 2.4¢ per pound

- Repairs & maintenance cost was 0.7¢ per pound.
- Supplies cost was 1.1¢ per pound.
- In total, repairs & maintenance and supplies costs ranged from 1.1¢ to 3.3¢ per pound.

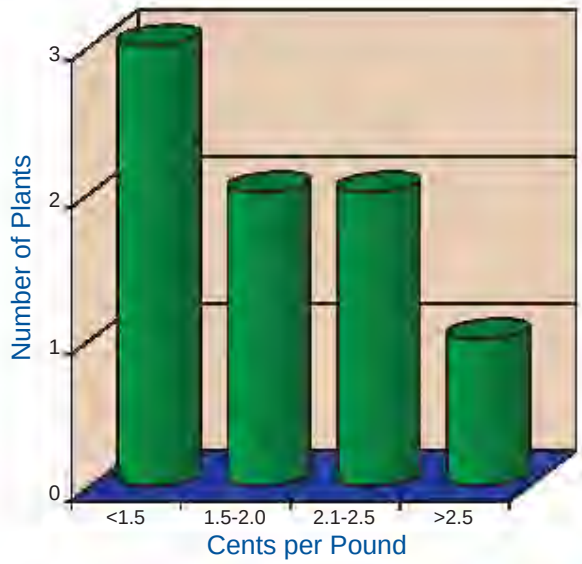
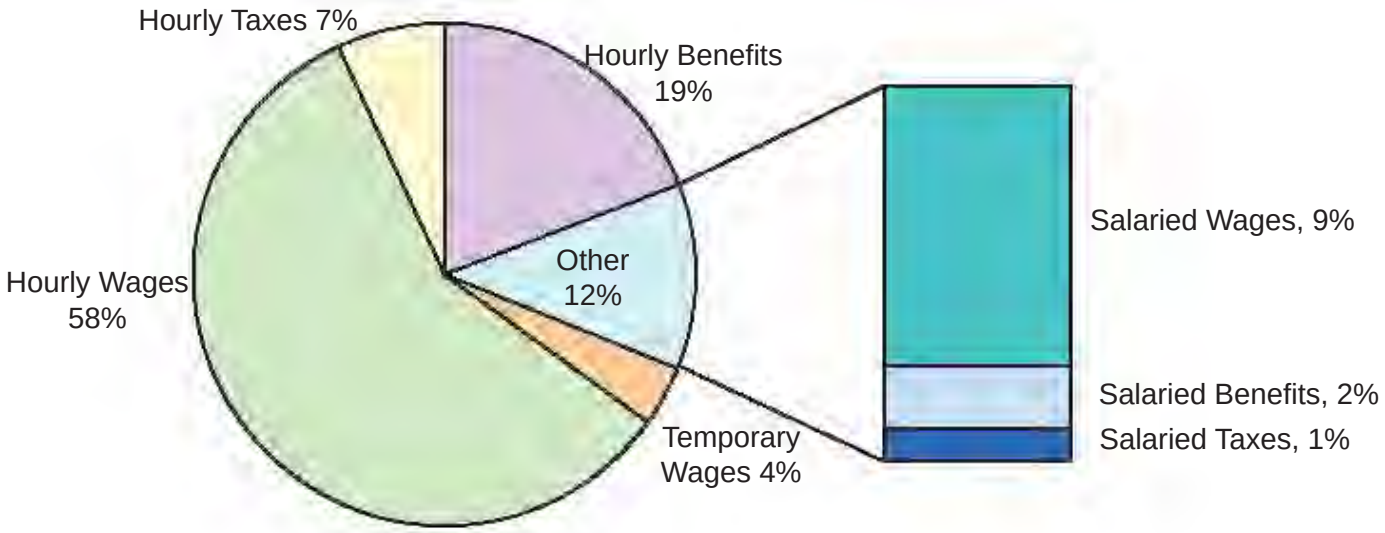
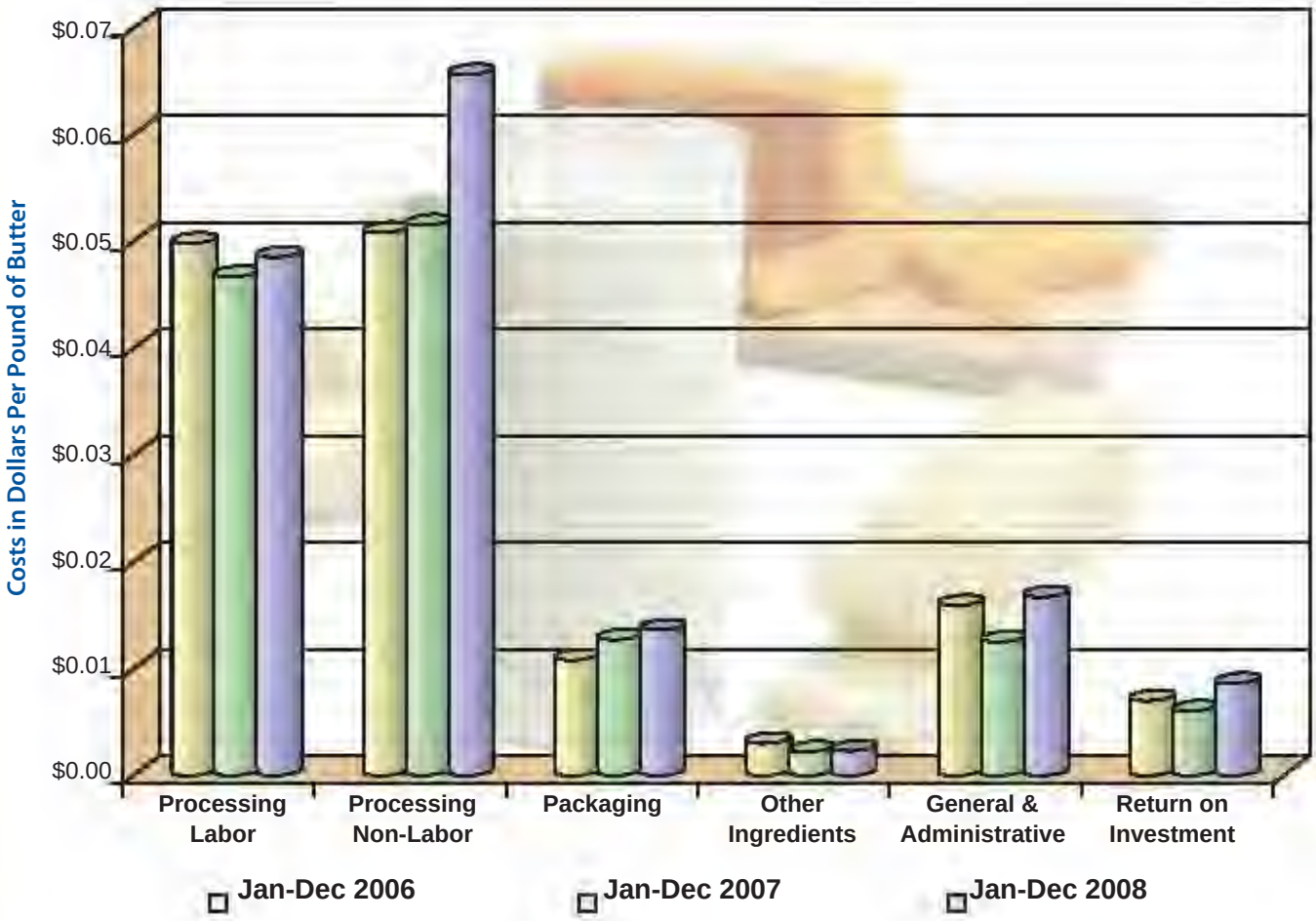


Figure 13: Comparison of Payroll Breakdown for Plant Employees and Salaried Employees



- Total payroll costs of the eight plants amounted to $80 million.
- Wages include vacation, sick, and holiday pay.
- Taxes include FICA, FUTA, SUTA, and Workers Compensation.

Figure 14. Butter Processing Cost Comparison, 2006, 2007, 2008



- Total processing costs increased 18% from 2007.
- Ingredients, packaging, and labor costs went up less than 10% individually.
- Non-labor, G&A, and ROI costs increased 27%, 34%, and 43%, respectively.

Nonfat Dry Milk Study

Cost studies were completed on nine nonfat dry milk plants for 2008. The total NFDM production was 774.4 million pounds during the 12-month period, January 2008 through December 2008, representing 94.5 percent of the NFDM processed in California. NFDM summary statistics indicate the weighted average costs per pound for each of the manufacturing costs (Table 2).

Only costs for bagged (25-kg and 50-lb) NFDM were analyzed although high volume totes accounted for 22 percent of the total production (Figure 15).

To avoid revealing plant specific information, the nine plants were assigned to either a Low Cost Group, Medium Cost Group, or High Cost Group based on their total processing costs. In 2008, the Low Cost Group included three plants with the lowest manufacturing costs, the Medium Cost Group included three plants with the medium manufacturing costs, and the High Cost Group included three plants with the highest manufacturing costs.

Figure 15. Breakdown of Nonfat Dry Milk Packaging Sizes

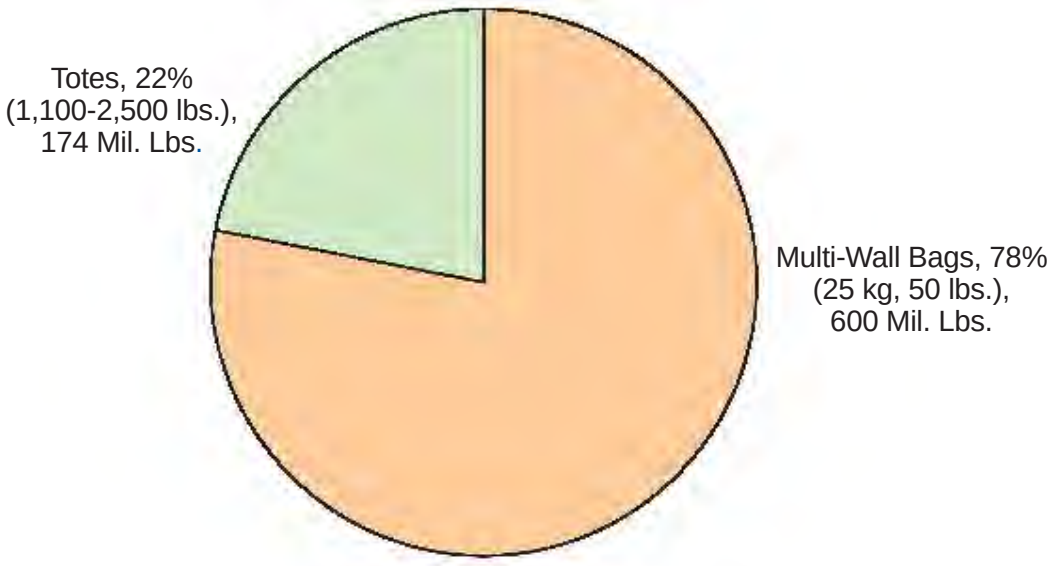


Table 2. Processing Costs for Nine California Nonfat Dry Milk Plants

NONFAT DRY MILK MANUFACTURING COSTS

CURRENT Study Period: January through December 2008
With Comparison to the same time period PRIOR YEAR (2007)

- Manufacturing cost data were collected and summarized from nine California NFDM plants. The nine plants processed 774.4 million pounds of NFDM during the 12-month study period, January through December 2008, representing 94.5% of the NFDM processed in California.
- The 94.5% includes both animal and human consumption. Human consumption representing 99.66% of the 774.4 million pounds of NFDM processed, and animal representing 0.34%.
- The volume total includes all grades of NFDM packaged in any container size, but the costs reflect only costs for 25 kg and 50 lb. bags of NFDM.
- To obtain the weighted average, individual plant costs were weighted by their NFDM processing volume relative to the total volume of NFDM processed by all plants included in the cost study.
- For this study period, approximately 56.4% of the NFDM was processed at a cost less than the current manufacturing cost allowance for NFDM of $0.1698 per pound.

Breakdown of Nonfat Dry Milk Manufacturing Costs - January through December 2008

Categories	Low Cost Group	Medium Cost Group	High Cost Group	Range of Costs		CURRENT Weighted Average Cost All Plants Jan-Dec 2008	PRIOR YEAR Weighted Average Cost All Plants Jan-Dec 2007	Actual Difference Current Less Prior Year
				Minimum	Maximum			
	Dollars Per Pound of NFDM							
Number of Plants	3	3	3	9	9	9	8	1
Processing Labor	$0.0295	$0.0386	$0.0417	$0.0272	$0.0933	$0.0340	$0.0333	$0.0007
Processing Non-Labor	$0.1001	$0.1238	$0.1647	$0.0924	$0.2364	$0.1175	$0.0922	$0.0253
Packaging	$0.0157	$0.0130	$0.0142	$0.0123	$0.0161	$0.0147	$0.0148	-$0.0001
General & Administrative	$0.0090	$0.0113	$0.0277	$0.0080	$0.0313	$0.0128	$0.0087	$0.0041
Return on Investment	$0.0085	$0.0078	$0.0421	$0.0032	$0.0527	$0.0141	$0.0078	$0.0063
Average Total Cost	$0.1628	$0.1945	$0.2904	--	--	$0.1931	$0.1568	$0.0363
Volume in Group (Lbs.)	436,801,407	204,203,488	133,453,647	--	--	774,458,542	701,322,354	73,136,188
% Volume by Group	56.4%	26.4%	17.2%	--	--	100.0%	100.0%	--

Processing Labor: Labor costs associated with processing of product, including wages, payroll taxes and fringe benefits.
Processing Non-Labor: Includes costs such as utilities, repairs and maintenance, laundry, supplies, depreciation, plant insurance, and rent.
Packaging: Includes all non-reusable items used in the packaging of the product, such as boxes, bags, cartons, liners, tape, glue and stretch wrap.
General & Administrative: Includes expenses in the management of the company, such as: office supplies, short-term interest, dues and subscriptions, accounting fees, headquarter charges, office clerical wages and executive salaries.
Return on Investment: Calculated by subtracting accumulated depreciation from the original cost of assets, with the remaining book value multiplied by Moody's "BAA" corporate bond index.

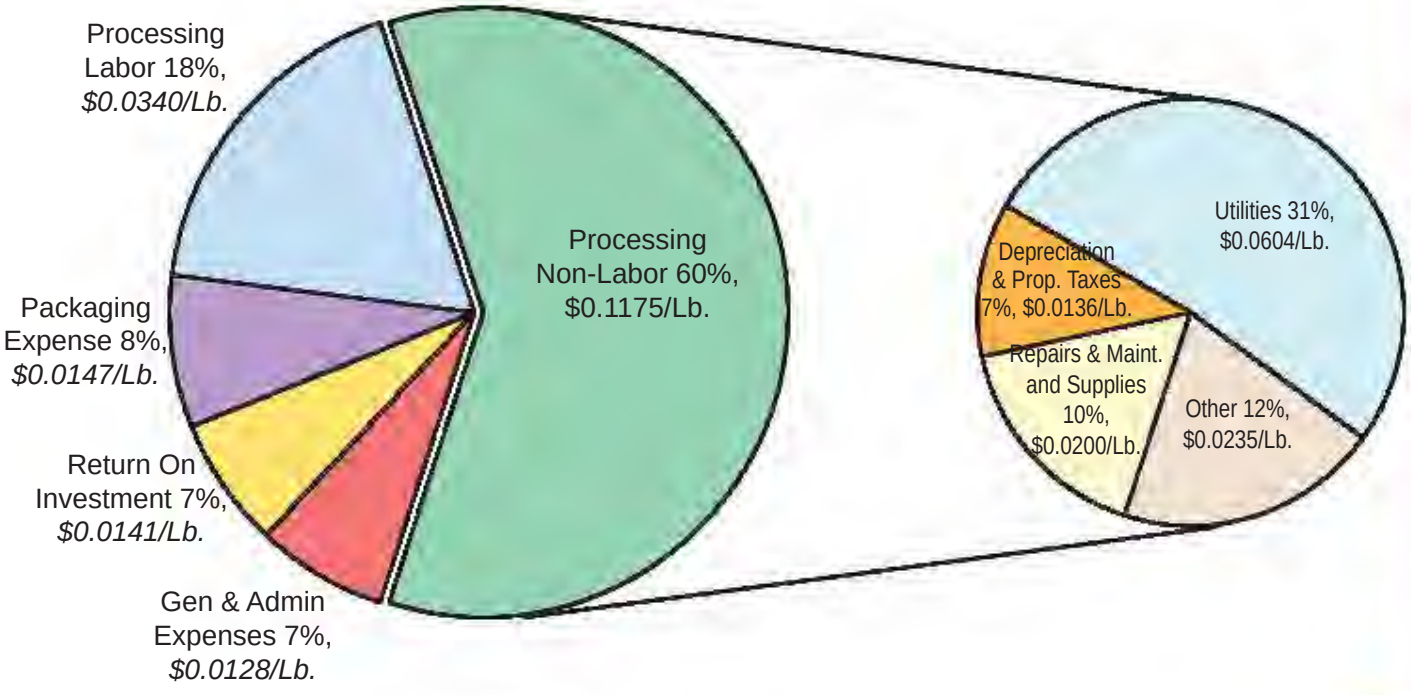
Nonfat Dry Milk Study

Highlights of the Nonfat Dry Milk Manufacturing Costs

Processing Labor Costs were significant ranging from 2.7¢ per pound to 9.3¢ per pound. Processing Labor costs accounted for 18 percent of the total manufacturing cost (Figure 16).

Processing Non-Labor Costs as a group included several different plant expenses, such as utilities, depreciation, property taxes, repairs & maintenance, supplies, and other costs as well. Non-Labor costs ranged from 9.2¢ per pound to 23.6¢ per pound. The weighted average non-labor cost was 11.8¢ per pound accounting for 60 percent of the total manufacturing cost.

Figure 16: Breakdown of Nonfat Dry Milk Processing Costs



Nonfat Dry Milk Study

General and Administrative (G & A) Costs were on weighted average 1.3¢ per pound and included all expenses incurred in the direction, control, and management of the company. G & A costs represented 7 percent of the total manufacturing cost. Examples of G & A costs are administrative payroll, office supplies, dues and subscriptions, and headquarters fees.

Return on investment (ROI) allowance is the remaining book value multiplied by the Moody's "BAA" corporate bond index. The weighted average ROI cost for the nine NFDM plants was 1.4¢ per pound representing 7 percent of the total manufacturing cost.

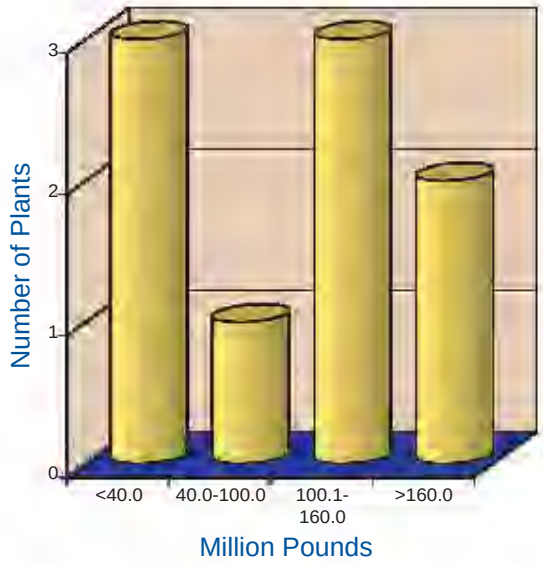
Packaging Costs included non-reusable items, such as boxes, bags, liners, tape, glue, and stretch-wrap. The weighted average cost of packaging was 1.5¢ per pound representing 8 percent of the total manufacturing cost.

Characteristics of Nonfat Dry Milk Plants

The cost studies summaries provide insights into NFDM production operations in California. The following statistics, charts, and graphs present the variation that exists among the NFDM plants and the relative impact of individual cost categories upon production.

To obtain the weighted average, individual plant costs were weighted by their processing volume in relation to the total volume of NFDM processed by all the plants included in the cost study. The median is the middle point of a set of numbers.

Figure 17. Annual California Nonfat Dry Milk Production



Million Pounds of NFDM

Average	= 86 million pounds
Median	= 104 million pounds
Average Low Cost Group	= 146 million pounds
Average Medium Cost Group	= 68 million pounds
Average High Cost Group	= 44 million pounds

- The Low Cost Group produced 56.4 percent of the total NFDM production, the Medium Cost Group produced 26.4 percent, and the High Cost Group made up the remaining production.

Figure 18. Manufacturing Cost

Cents per Pound of NFDM

Average	= 22.4¢ per pound
Wt'd Average	= 19.3¢ per pound
Median	= 18.7¢ per pound
Wt'd. Aver. Low Cost Group	= 16.3¢ per pound
Wt'd. Aver. Medium Cost Group	= 19.5¢ per pound
Wt'd. Aver. High Cost Group	= 29.0¢ per pound

- Five plants kept their manufacturing costs under the weighted average, 19.3¢ per pound.

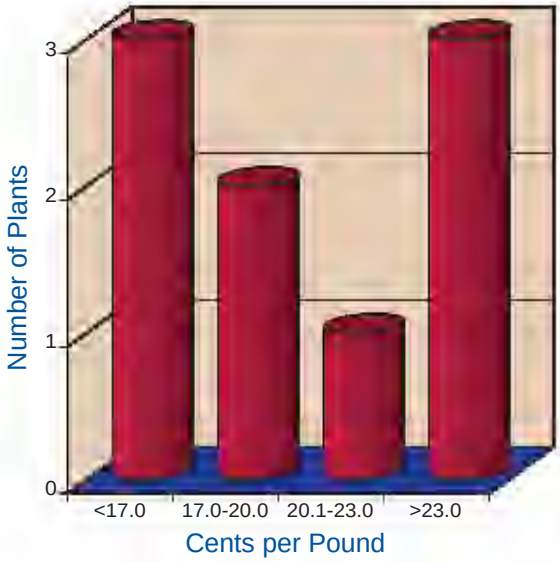
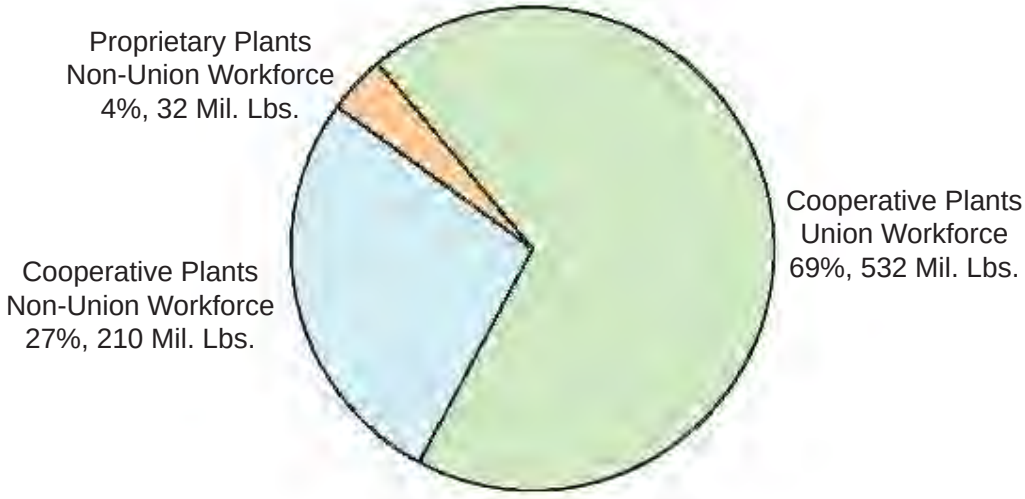
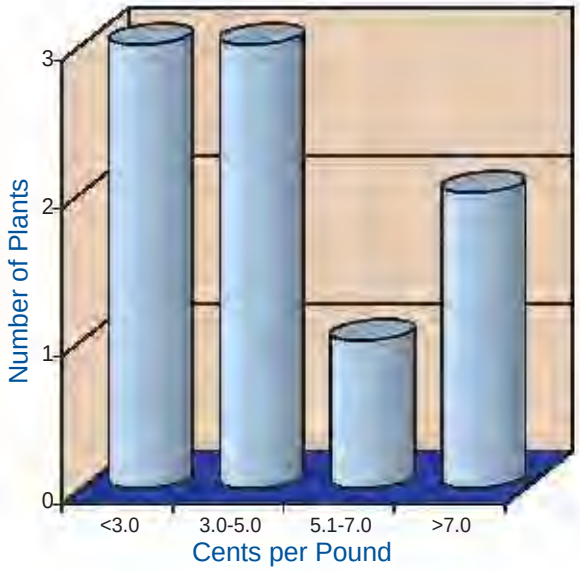


Figure 19. Percent Share of California Nonfat Dry Milk Plants, by Ownership Type, Workforce Type, and by Pounds of Total Production



- There were no Proprietary Plants with a Union Workforce participating in the cost studies.

Figure 20. Processing Labor Cost

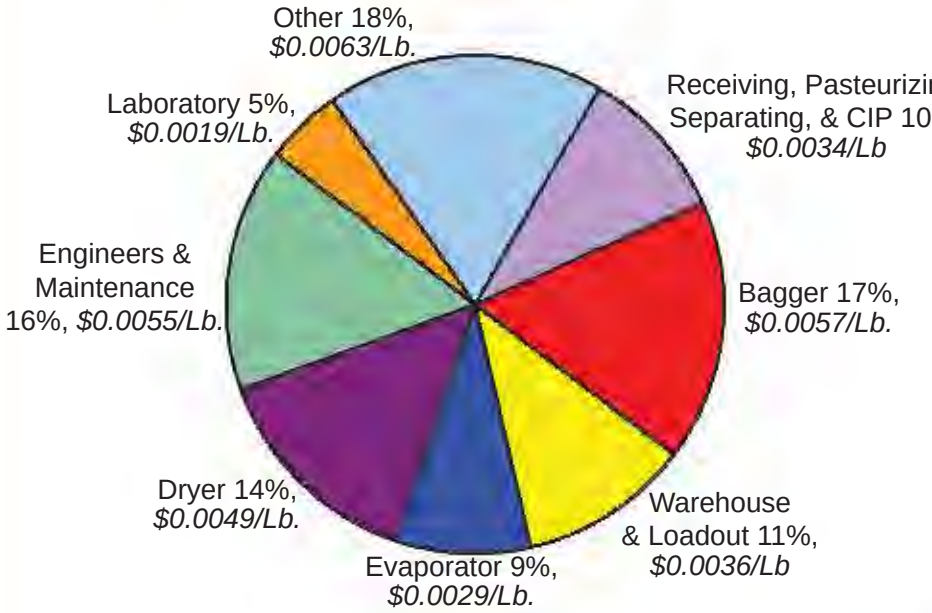


Cents per Pound of NFDM

Average	= 4.8¢ per pound
Wt'd Average	= 3.4¢ per pound
Median	= 3.2¢ per pound
Wt'd. Aver. Low Cost Group	= 3.0¢ per pound
Wt'd. Aver. Medium Cost Group	= 3.9¢ per pound
Wt'd. Aver. High Cost Group	= 4.2¢ per pound

- Five plants kept their labor costs below the weighted average cost of 3.4¢ per pound.

Figure 21. Nonfat Dry Milk Labor Breakdown by Category



Based on detailed data:
The weighted average labor cost was 3.4¢ per pound or $1.87 per 25-kg unit.

Note: Other labor includes plant manager/superintentent, general plant, and plant clerical labor.

Figure 22. Processing Non-Labor Cost

Cents per Pound of NFDM

Average	= 13.5¢ per pound
Wt'd Average	= 11.8¢ per pound
Median	= 12.3¢ per pound
Wt'd. Aver. Low Cost Group	= 10.0¢ per pound
Wt'd. Aver. Medium Cost Group	= 12.4¢ per pound
Wt'd. Aver. High Cost Group	= 16.5¢ per pound

- Four plants kept their non-labor costs under the weighted average cost of 11.8¢ per pound.

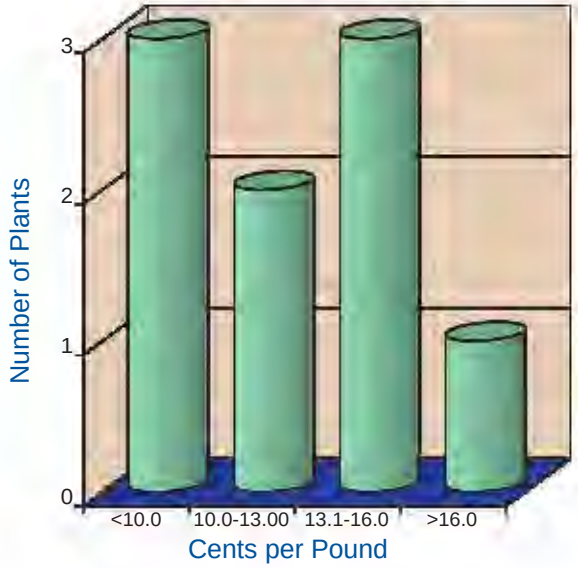
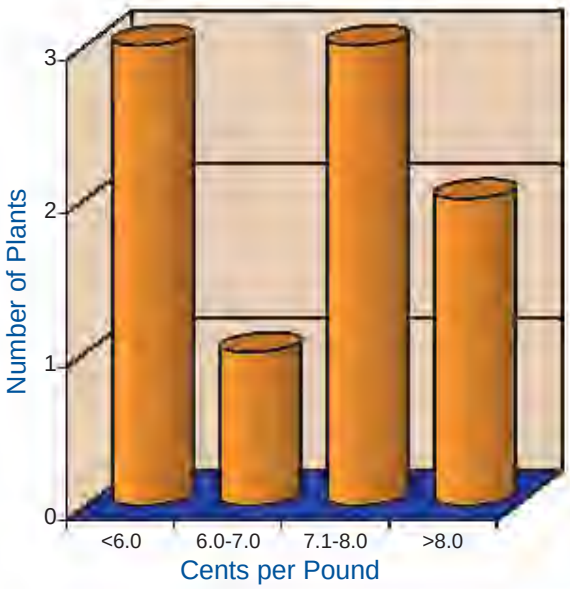


Figure 23. Utility Cost



Cents per Pound of NFDM

Average	= 7.5¢ per pound
Wt'd Average	= 6.0¢ per pound
Median	= 7.1¢ per pound
Wt'd. Aver. Low Cost Group	= 4.9¢ per pound
Wt'd. Aver. Medium Cost Group	= 7.2¢ per pound
Wt'd. Aver. High Cost Group	= 8.2¢ per pound

- Gas costs represented 63 percent of the total utility cost.
- Three plants operated under the weighted average utility cost of 6.0¢ per pound.

Figure 24. Natural Gas, Electricity, and Water and Sewage Costs in Nonfat Dry Milk Plants

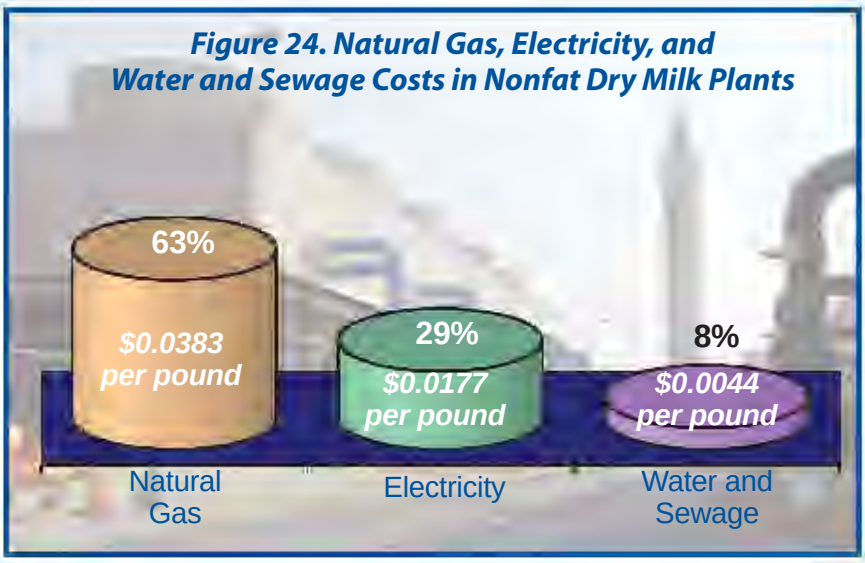


Figure 25. Repairs & Maintenance, and Supplies Cost

Cents per Pound of NFDM

Average	= 2.1¢ per pound
Wt'd Average	= 2.0¢ per pound
Median	= 2.0¢ per pound
Wt'd. Aver. Low Cost Group	= 1.9¢ per pound
Wt'd. Aver. Medium Cost Group	= 1.8¢ per pound
Wt'd. Aver. High Cost Group	= 2.7¢ per pound

- Repairs & maintenance cost was 0.8¢ per pound.
- Supplies cost was 1.2¢ per pound.
- In total, repairs & maintenance and supplies costs ranged from 1.3¢ to 3.3¢ per pound.

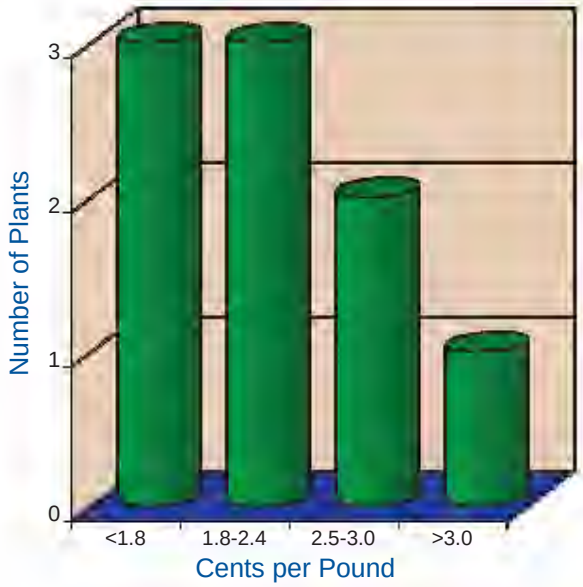
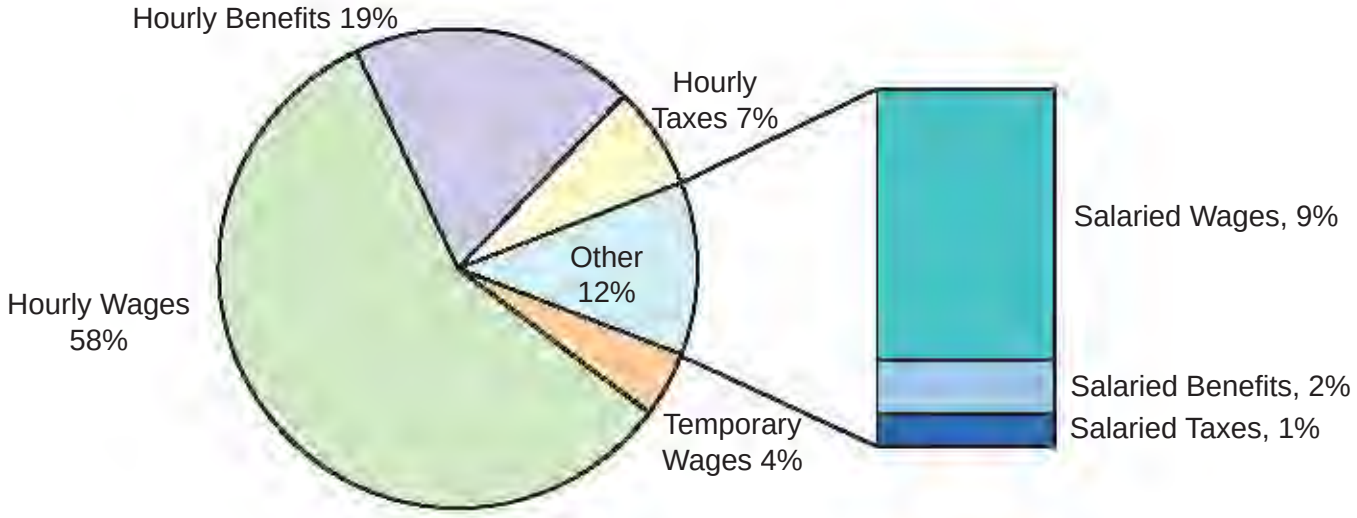
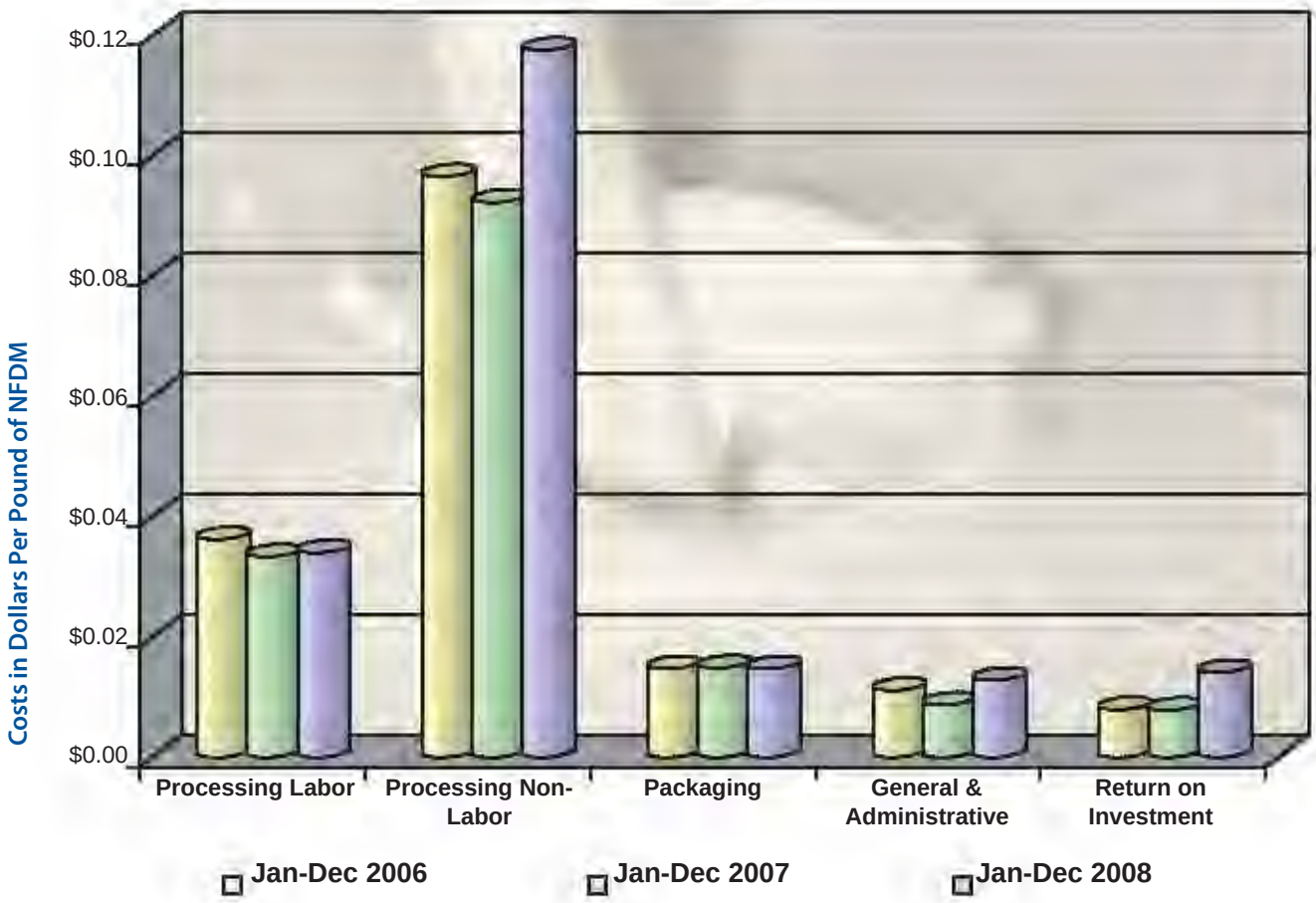


Figure 26: Comparison of Payroll Breakdown for Plant Employees and Salaried Employees



- Total payroll costs of the nine plants amounted to $88 million.
- Wages include vacation, sick, and holiday pay.
- Taxes include FICA, FUTA, SUTA, and Workers Compensation.

Figure 27. NFDM Processing Cost Comparison, 2006, 2007, 2008



- Total processing costs increased 23% from 2007.
- Packaging costs decreased 1% and labor costs went up 2%.
- Non-labor, G&A, and ROI costs increased 27%, 47%, and 81%, respectively.

Cheese Study

Cost studies were completed on six cheese plants for 2008. The six plants processed 603.3 million pounds of cheese during the 12-month period, January 2008 through December 2008, representing 93.39 percent of the Cheddar and Monterey Jack cheese processed in California. Cheese summary statistics indicated the weighted average per pound costs for each of the manufacturing categories (Table 4).

Manufacturing costs were only derived from 40-lb. block Cheddar cheese although other packaging sizes were produced (Figure 28). In addition, cheese plants manufactured other various cheeses and by-products.

Cheddar cheese finished moisture percentages and cheese vat information are listed in the Cheddar Cheese Production Parameters table (Table 3).

To avoid revealing plant specific information, each plant was assigned to either a Low Cost Group or High Cost Group based on total processing costs. In 2008, the Low Cost Group included three plants with the lowest manufacturing costs, and the High Cost Group included three plants with the highest manufacturing costs.

Figure 28. Breakdown of Cheddar Cheese Packaging Sizes

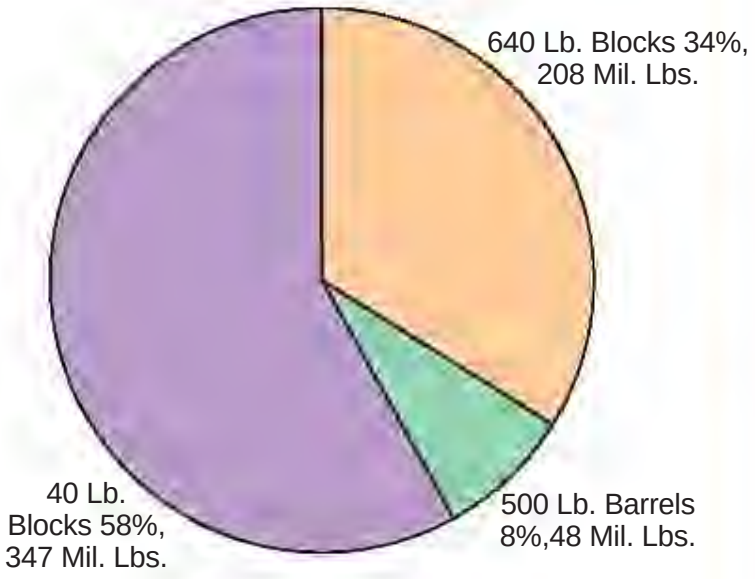


Table 3. Cheddar Cheese Production Parameters from Cost Studies[1]

Cost Group	Finished Moisture %	Vat Fat Test %	Vat SNF Test %	Vat Yield (Lbs.)
Low	38.11%	4.26%	10.48%	14.26%
High	36.95%	4.05%	9.33%	11.11%
Wt'd Avg.	**37.86%**	**4.21%**	**10.23%**	**13.58%**

[1] Moisture, vat tests and yields reflect levels achieved for Cheddar cheese only.

Table 4. Processing Costs for Six California Cheddar Cheese Plants

CHEESE MANUFACTURING COSTS

CURRENT Study Period: January through December 2008
With Comparison to the same time period PRIOR YEAR (2007)

- Manufacturing cost data were collected and summarized from six California cheese plants. The six plants processed 603.3 million pounds of cheese during the 12-month study period, January through December 2008, representing 93.39% of the Cheddar and Monterey Jack cheese processed in California.
- The volume total includes both Cheddar and Monterey Jack cheeses, but the costs reflect only costs for 40 lb. blocks of Cheddar.
- Three plants processed 500-lb. barrels or 640-lb. blocks. Packaging costs and packaging labor for 40-lb. blocks were substituted for these plants.
- To obtain the weighted average, individual plant costs were weighted by their cheese processing volume relative to the total volume of cheese processed by all plants included in the cost study.
- For all cheese: the weighted average yield was 13.58 lbs. of cheese per hundredweight of milk. The weighted average moisture was 37.86% and weighted average vat tests were 4.21% fat and 10.23% SNF.
  - For 40-lb. blocks: the weighted average yield was 13.64 lbs. of cheese per hundredweight of milk. The weighted average moisture was 38.09% and weighted average vat tests were 4.13% fat and 10.22% SNF.
- For this study period, approximately 4.6% of the cheese was processed at a cost less than the current manufacturing cost allowance for cheese of $0.1988 per pound.

Breakdown of Cheese Manufacturing Costs - January through December 2008

Categories	Low Cost Group	High Cost Group	Range of Costs Minimum	Range of Costs Maximum	CURRENT Weighted Average Cost All Plants Jan-Dec 2008	PRIOR YEAR Weighted Average Cost All Plants Jan-Dec 2007	Actual Difference Current Less Prior Year
	Dollars Per Pound of Cheese						
Number of Plants	3	3	6	6	6	6	0
Processing Labor	$0.0518	$0.0665	$0.0506	$0.0739	$0.0550	$0.0467	$0.0083
Processing Non-Labor	$0.0823	$0.0812	$0.0699	$0.0874	$0.0821	$0.0891	-$0.0070
Packaging	$0.0267	$0.0236	$0.0154	$0.0268	$0.0260	$0.0232	$0.0028
Other Ingredients	$0.0120	$0.0214	$0.0096	$0.0247	$0.0140	$0.0116	$0.0024
General & Administrative	$0.0268	$0.0273	$0.0235	$0.0302	$0.0269	$0.0230	$0.0039
Return on Investment	$0.0060	$0.0054	$0.0039	$0.0062	$0.0059	$0.0067	-$0.0008
Average Total Cost	$0.2056	$0.2254	--	--	$0.2099	$0.2003	$0.0096
Volume in Group (Lbs.)	472,245,512	131,032,908	--	--	603,278,420	645,199,735	-41,921,315
% Volume by Group	78.3%	21.7%	--	--	100.0%	100.0%	--

Processing Labor: Labor costs associated with processing of product, including wages, payroll taxes and fringe benefits.

Processing Non-Labor: Includes costs such as utilities, repairs and maintenance, laundry, supplies, depreciation, plant insurance, and rent.

Packaging: Includes all non-reusable items used in the packaging of the product, such as boxes, bags, cartons, liners, tape, glue and stretch wrap.

Other Ingredients: Includes salt, color, and rennet.

General & Administrative: Includes expenses in the management of the company, such as: office supplies, short-term interest, dues and subscriptions, accounting fees, headquarter charges, office clerical wages and executive salaries.

Return on Investment: Calculated by subtracting accumulated depreciation from the original cost of assets, with the remaining book value multiplied by Moody's "BAA" corporate bond index.

Cheese Study

Highlights of the Cheddar Cheese Manufacturing Costs

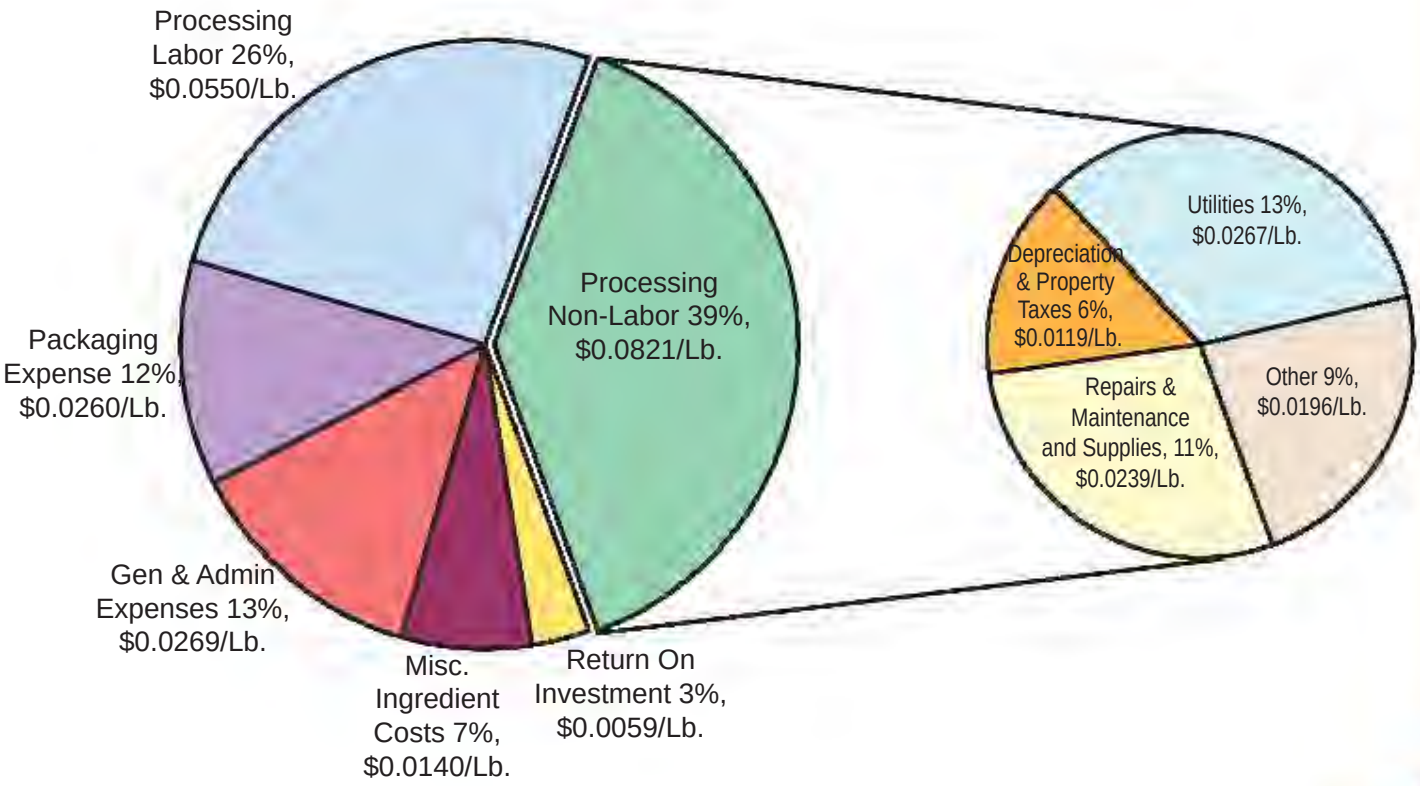
Processing Labor Costs increased to 5.5¢ per pound and accounted for 26 percent of the total manufacturing costs (Figure 29). On weighted average, the Low Cost Group had labor costs of 5.2¢ per pound, and the High Cost Group was 6.7¢ per pound.

Processing Non-Labor Costs included utilities, depreciation, property taxes, repairs & maintenance, supplies, and other costs as well. Non-labor costs accounted for 39 percent of the total manufacturing cost and ranged from 7.0¢ to 8.7¢ per pound.

Packaging Costs included all non-reusable items, such as boxes, liners, tape, glue, and stretch-wrap. Weighted average packaging costs were 2.6¢ per pound and accounted for 12 percent of the total manufacturing costs.

Misc. Ingredient Costs included salt, color, rennet, etc. In 2008, the weighted average ingredient cost was 1.4¢ per pound and accounted for 7 percent of the total manufacturing cost. Ingredient costs ranged from 1.0¢ to 2.5¢ per pound.

Figure 29. Breakdown of Cheddar Cheese Processing Costs



Cheese Study

General and Administrative (G & A) Costs included all expenses incurred in the direction, control, and management of the company. Examples of G & A costs were administrative payroll, office supplies, dues and subscriptions, and headquarters fees. On weighted average, G & A costs were 2.7¢ per pound and accounted for 13 percent of the total manufacturing cost.

Return on Investment (ROI) allowance is an opportunity cost and represents how much interest the company could have

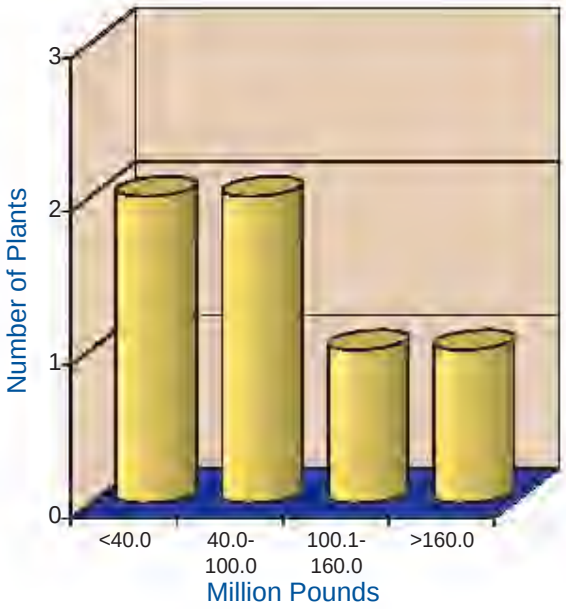
earned if its capital was not tied up in land, buildings and equipment. In other words, it is viewed as an alternative source of income had the company invested the capital elsewhere. ROI is the remaining book value multiplied by the Moody's "BAA" corporate bond index. A higher ROI suggests that either a plant is relatively new with little accumulated depreciation of its assets (high book value) or that it is an established plant with low production volume. ROI costs on weighted average were 0.6¢ per pound and accounted for 3 percent of the total manufacturing cost.

Characteristics of Cheddar Cheese Plants

The cost studies summaries provide insights into Cheddar cheese production operations in California. In the following section, summary statistics provide a comparison of costs. The following statistics, charts, and graphs present facts in visual form and gives an indication of how much variation exists among Cheddar cheese plants.

To obtain the weighted average, individual plant costs were weighted by cheese plant production volume respective to the total volume of cheese processed by all the plants included in the cost study. The median is the point at which half of the plants are above and half of the plants are below the given figure.

Figure 30. Annual California Cheddar and Jack Cheese Production



Million Pounds of Cheese

Average	= 101 million pounds
Median	= 52 million pounds
Average Low Cost Group	= 157 million pounds
Average High Cost Group	= 44 million pounds

- The Low Cost Group produced 78.3 percent of the total cheese represented.

Figure 31. Manufacturing Cost

Cents per Pound of Cheese

Average	= 21.3¢ per pound
Wt'd Average	= 21.0¢ per pound
Median	= 21.3¢ per pound
Wt'd. Aver. Low Cost Group	= 20.6¢ per pound
Wt'd. Aver. High Cost Group	= 22.5¢ per pound

- Three plants operated under the weighted average manufacturing cost of 21.0¢ per pound.

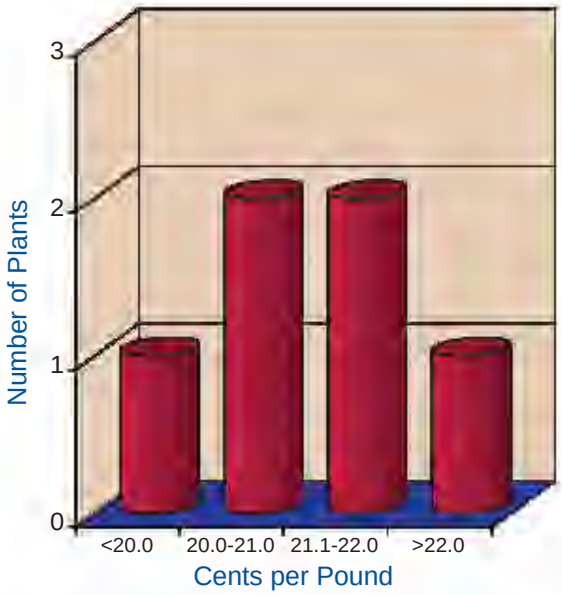
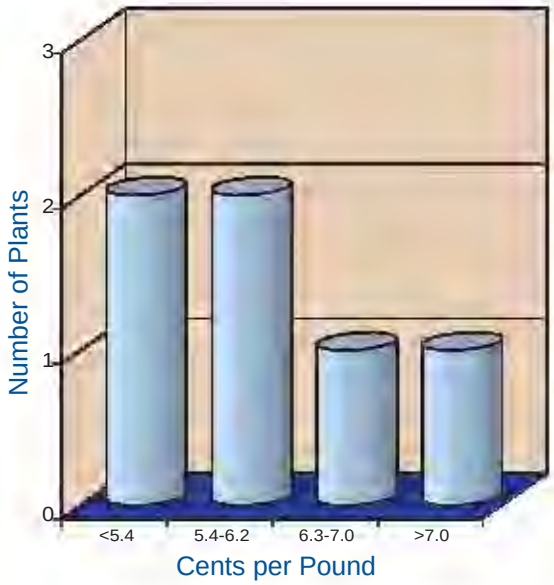


Figure 32. Percent Share of California Cheddar and Jack Cheese Plants, by Ownership Type, Workforce Type, and by Pounds of Total Production

- There were no Proprietary Plants with a Union Workforce participating in the cost studies.

Figure 33. Processing Labor Cost

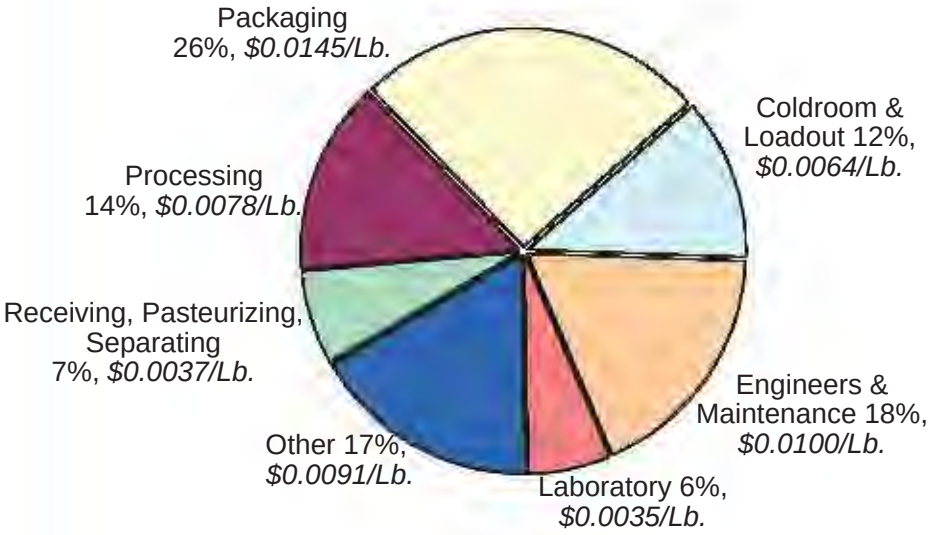


Cents per Pound of Cheese

Average	= 6.0¢ per pound
Wt'd Average	= 5.5¢ per pound
Median	= 5.7¢ per pound
Wt'd. Aver. Low Cost Group	= 5.2¢ per pound
Wt'd. Aver. High Cost Group	= 6.7¢ per pound

- Three plants managed to keep their labor costs below the weighted average cost of 5.5¢ per pound.

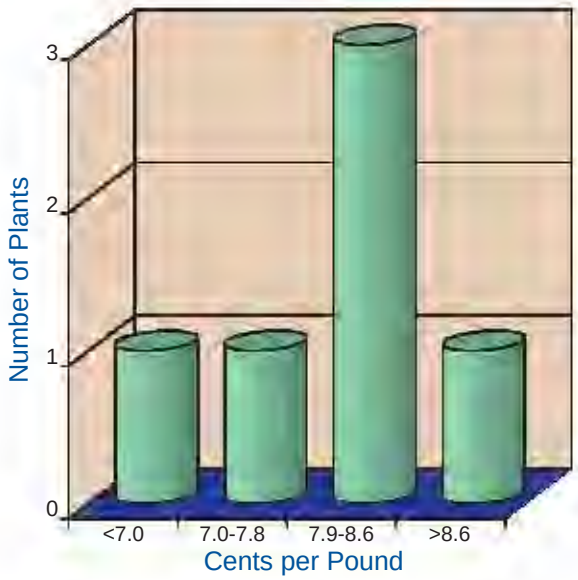
Figure 34. Cheddar Cheese Labor Breakdown by Category



Based on detailed data:
The weighted average labor cost was 5.5¢ per pound.
The weighted average labor cost was $2.20 per 40 lb. block.

Note: "Other Labor" includes plant management/superintendent, general plant, plant clerical, and whey disposal labor.

Figure 35. Processing Non-Labor Cost

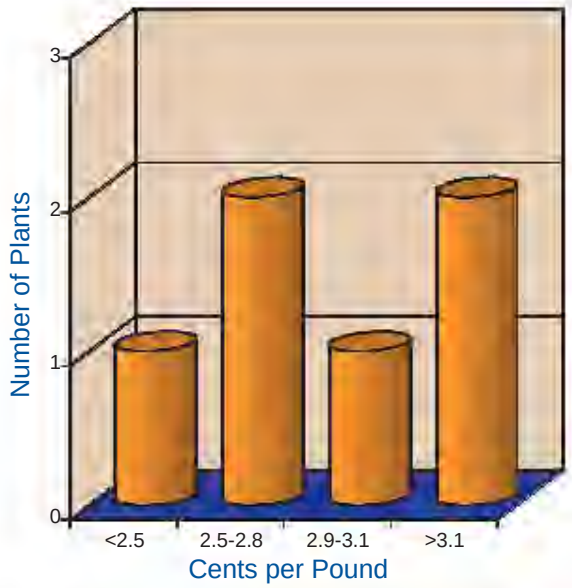


Cents per Pound of Cheese

Average	= 8.0¢ per pound
Wt'd Average	= 8.2¢ per pound
Median	= 8.3¢ per pound
Wt'd. Aver. Low Cost Group	= 8.2¢ per pound
Wt'd. Aver. High Cost Group	= 8.1¢ per pound

- Three plants kept their non-labor costs below the weighted average cost of 8.2¢ per pound.

Figure 36. Utility Cost



Cents per Pound of Cheese

Average	= 2.8¢ per pound
Wt'd Average	= 2.7¢ per pound
Median	= 2.8¢ per pound
Wt'd. Aver. Low Cost Group	= 2.5¢ per pound
Wt'd. Aver. High Cost Group	= 3.2¢ per pound

- Utility costs ranged from 2.5¢ to 3.3¢ per pound.
- Natural gas charges represented 41 percent of the total utility cost.
- Utility costs include electricity, gas, and water and sewage costs.

Figure 37. Natural Gas, Electricity, and Water and Sewage Costs in Cheese Plants

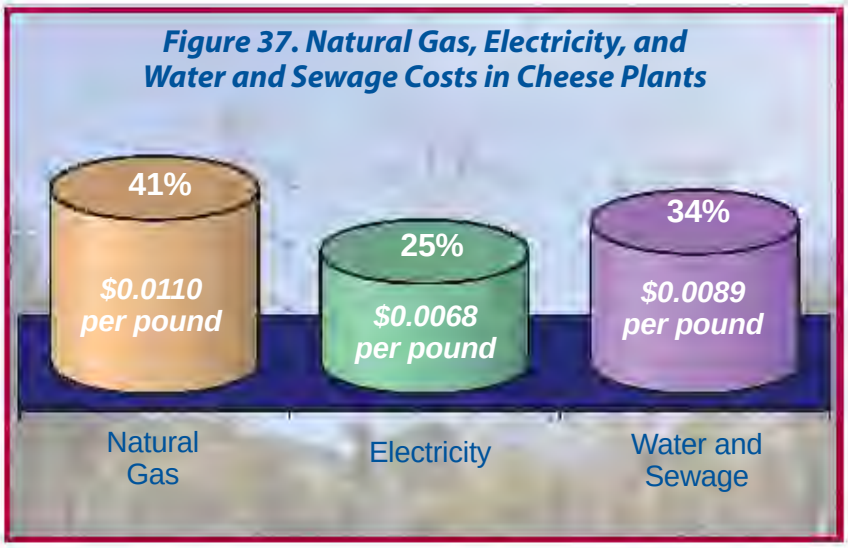


Figure 38. Repairs & Maintenance, and Supplies Cost

Cents per Pound of Cheese

Average	= 2.4¢ per pound
Wt'd Average	= 2.4¢ per pound
Median	= 2.2¢ per pound
Wt'd. Aver. Low Cost Group	= 2.6¢ per pound
Wt'd. Aver. High Cost Group	= 2.4¢ per pound

- Repairs & maintenance cost was 1.1¢ per pound.
- Supplies cost was 1.3¢ per pound.
- In total, repairs & maintenance and supplies costs ranged from 1.5¢ to 4.3¢ per pound.

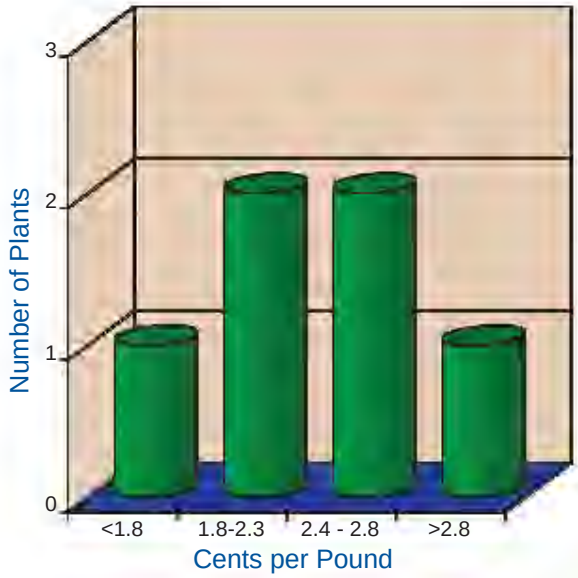
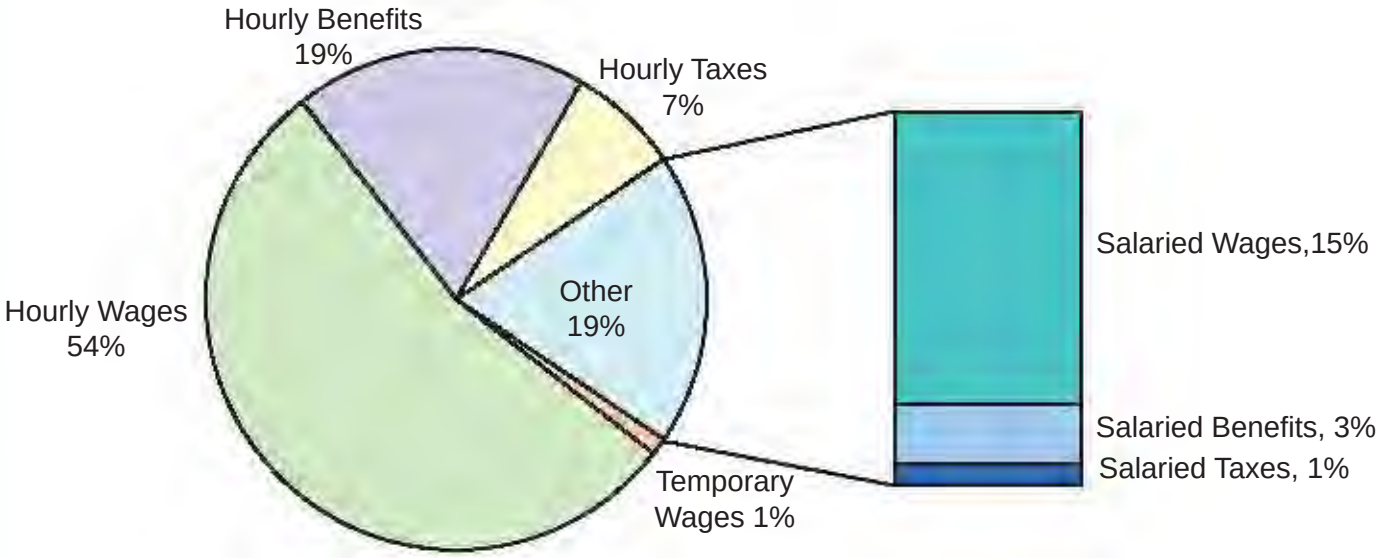
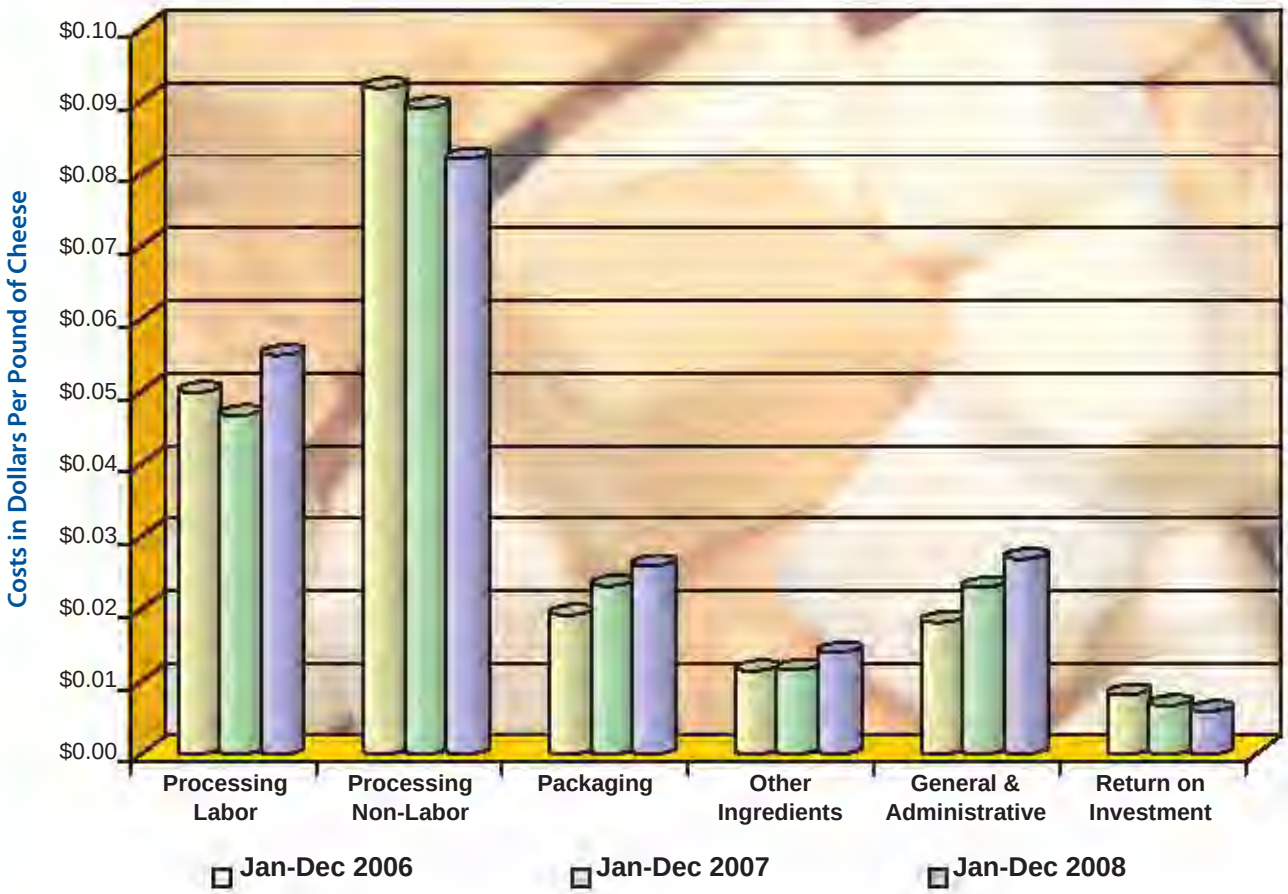


Figure 39: Comparison of Payroll Breakdown for Plant Employees and Salaried Employees



- The payroll costs of the six cheese plants amounted to $68 million.
- Wages include vacation, sick, and holiday pay.
- Taxes include FICA, FUTA, SUTA, and Workers Compensation.

Figure 40. Cheese Processing Cost Comparison, 2006, 2007, 2008



- Total processing costs increased 5% from 2007.
- Ingredients, packaging, labor, and G&A costs went up 21%, 12%, 18%, and 17%, respectively.
- Non-labor and ROI costs decreased 8% and 12%, respectively.

Condensed Skim and Cream Study

Most of the costs allocated to condensed skim, cream, and other bulk dairy products come from indirect labor and indirect non-labor plant costs. There are very little, if any, direct plant costs allocated to bulk fluid products, thus the derived costs per pound of condensed skim and cream are not as precise compared to the derived costs of packaged products such as butter, NFDM, and Cheddar cheese whose plant costs are largely composed of direct costs.

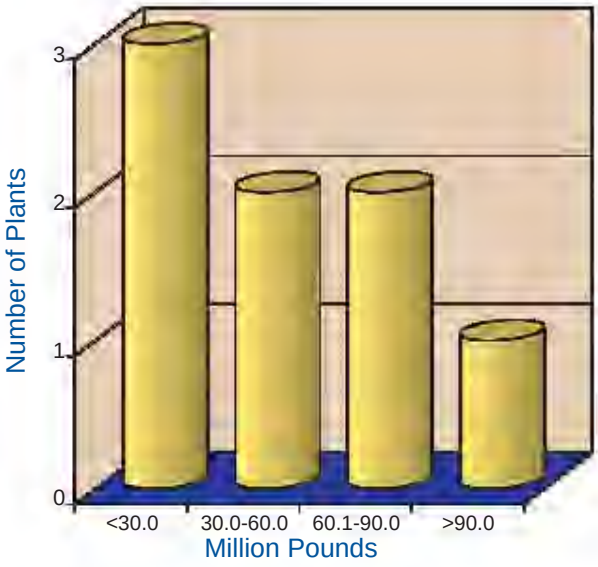
To avoid revealing plant specific information, each plant was assigned to either a Low Cost Group or High Cost Group based on total processing costs.

Condensed Skim Overview

Cost studies were completed on eight condensed skim plants for the year 2008. The Low Cost Group included four plants with the lowest manufacturing costs, and the High Cost Group included four plants with the highest manufacturing costs. The total production was 431.9 million pounds.

The eight plants processed on average over 54 million pounds of condensed skim each in 2008 (Figure 41). However, this is somewhat misleading because of the tremendous disparity in actual processing volume between the plants. Three out of the eight plants processed 72 percent of the total volume. The weighted average cost of manufacturing condensed skim was $4.35 per hundredweight (cwt.) (Figure 42).

Figure 41. Annual Condensed Skim Production



Million Pounds of Condensed Skim

Average	= 54 million pounds
Median	= 45 million pounds
Average Low Cost Group	= 52 million pounds
Average High Cost Group	= 56 million pounds

- The High Cost Group produced 52 percent of the total production.

Figure 42. Breakdown of Condensed Skim Processing Costs

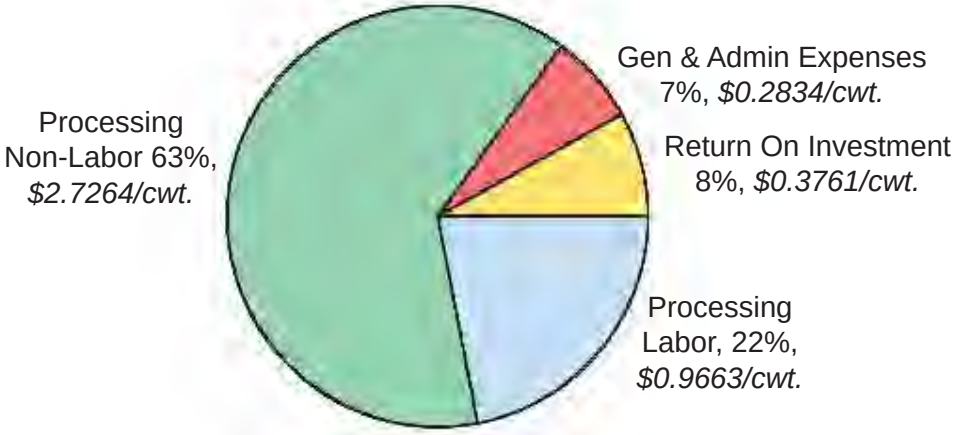
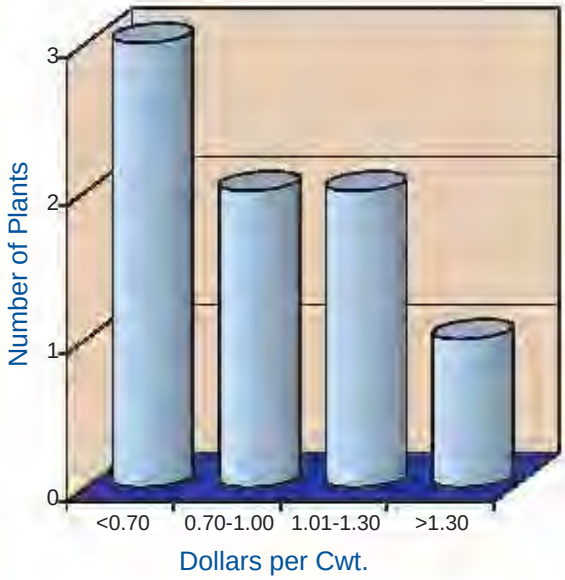


Figure 43. Condensed Skim Processing Labor

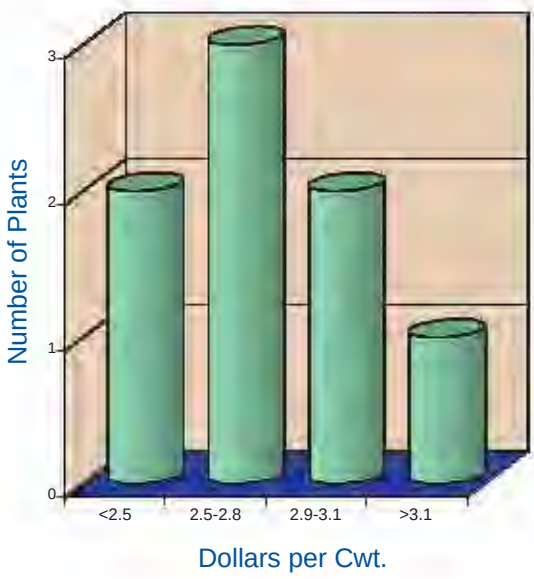


Dollars per Cwt. of Condensed Skim

Average	=	$0.97 per cwt.
Wt'd Average	=	$0.97 per cwt.
Median	=	$0.99 per cwt.
Wt'd. Aver. Lost Cost Group	=	$0.78 per cwt.
Wt'd. Aver. High Cost Group	=	$1.14 per cwt.

- Labor costs ranged from $0.65 to $1.52 per cwt.

Figure 44. Condensed Skim Processing Non-Labor



Dollars per Cwt. of Condensed Skim

Average	=	$2.56 per cwt.
Wt'd Average	=	$2.73 per cwt.
Median	=	$2.57 per cwt.
Wt'd. Aver. Lost Cost Group	=	$2.40 per cwt.
Wt'd. Aver. High Cost Group	=	$3.03 per cwt.

- Non-labor costs ranged from $1.80 to $3.39 per cwt.

Cream Overview

Cost studies were completed on eight cream plants for the year 2008. The Low Cost Group included four plants with the lowest manufacturing costs, and the High Cost Group included four plants with the highest manufacturing costs. The plants combined production totaled 219.8 million pounds.

The plants processed an average of 27 million pounds of cream in 2008 (Figure 46). The volume of cream production varied between the groups of plants with the lowest and highest overall manufacturing costs.

The weighted average cost of manufacturing cream was $4.85 per cwt. (Figure 45).

Figure 45. Breakdown of Cream Processing Costs

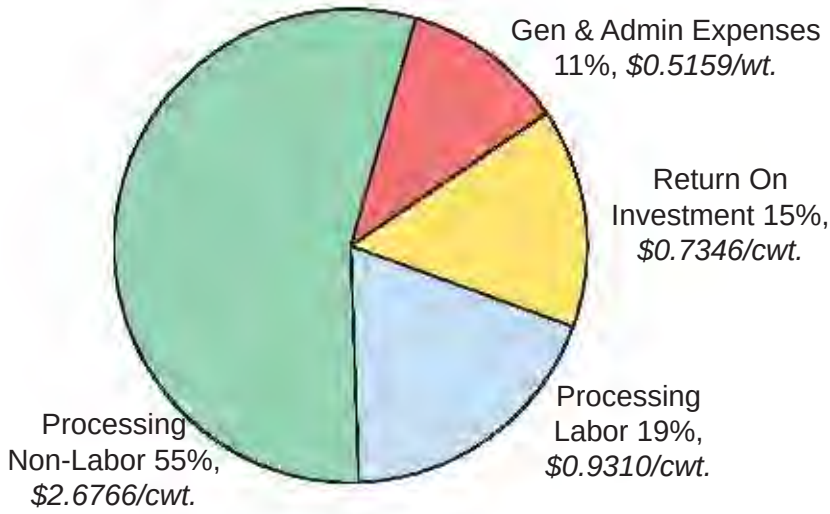


Figure 46. Annual Cream Production

Million Pounds of Cream

Average	= 27 million pounds
Median	= 20 million pounds
Average Low Cost Group	= 19 million pounds
Average High Cost Group	= 36 million pounds

- The High Cost Group produced 66 percent of the total production.

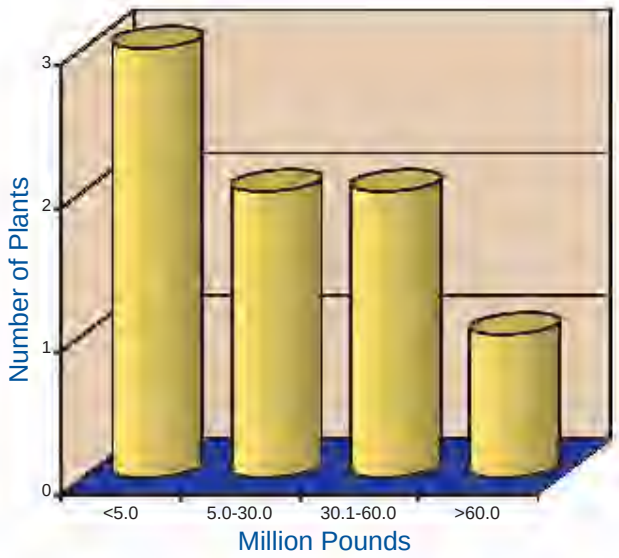
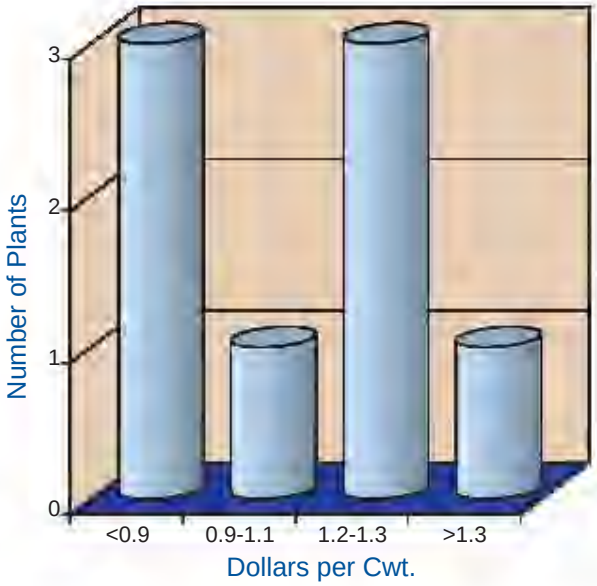


Figure 47. Cream Processing Labor



Dollars per Cwt. of Cream

Average	= $1.06 per cwt.
Wt'd Average	= $0.93 per cwt.
Median	= $1.11 per cwt.
Wt'd. Aver. Lost Cost Group	= $0.82 per cwt.
Wt'd. Aver. High Cost Group	= $0.99 per cwt.

- Labor costs ranged from $0.69 to $1.43 per cwt.

Figure 48. Cream Processing Non-Labor

Dollars per Cwt. of Cream

Average	= $2.37 per cwt.
Wt'd Average	= $2.68 per cwt.
Median	= $2.10 per cwt.
Wt'd. Aver. Lost Cost Group	= $1.61 per cwt.
Wt'd. Aver. High Cost Group	= $3.22 per cwt.

- Non-labor costs ranged from $1.22 to $3.79 per cwt.

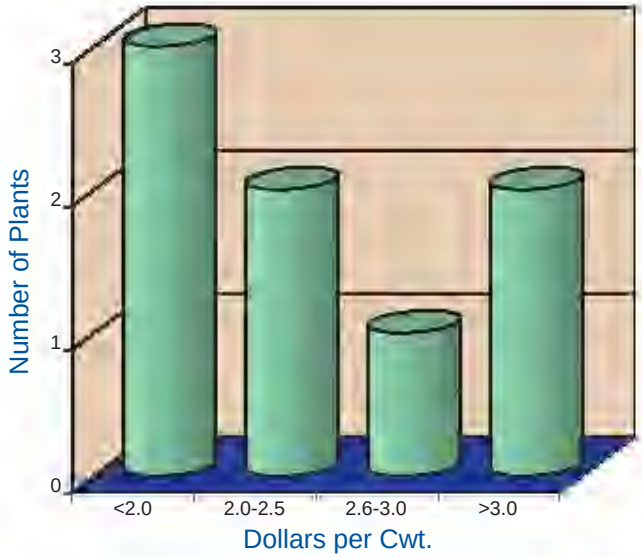


Figure 49. Simplified Product Flow in a Cheese Plant with By-Product Processing

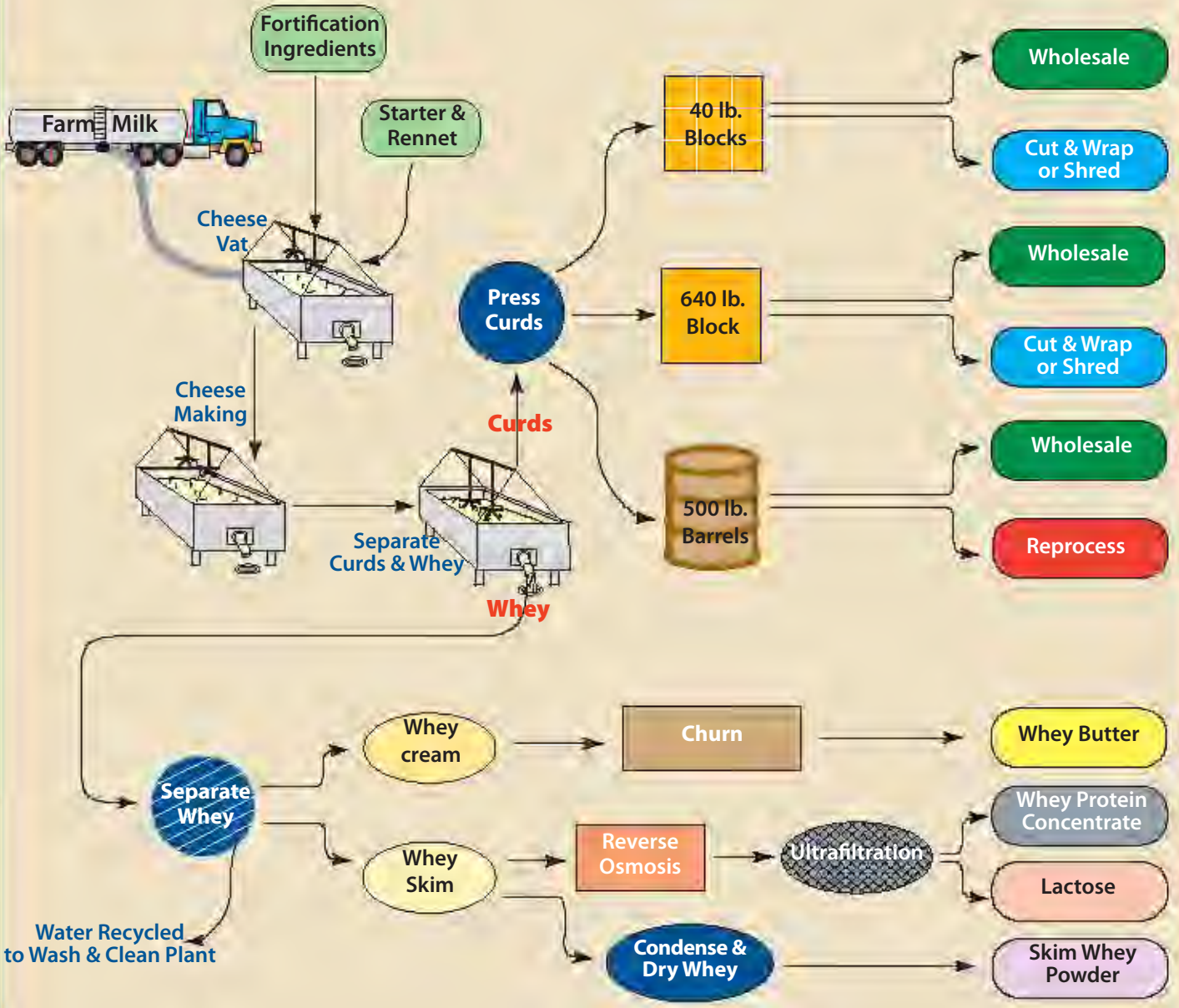
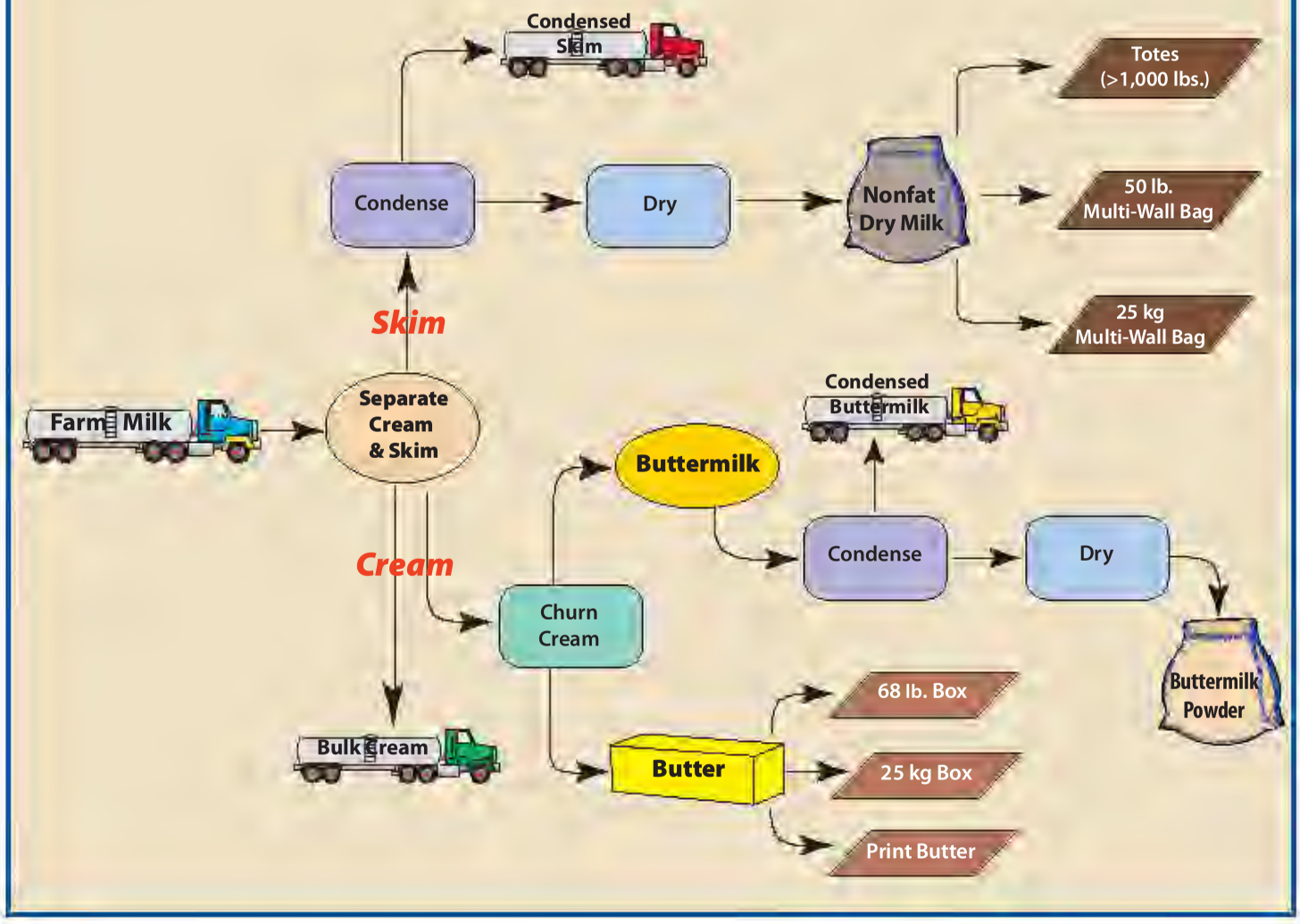


Figure 50. Simplified Flowchart of a Butter and Nonfat Dry Milk Plant



We welcome your comments on this Manufacturing Cost Annual. Please send your comments and suggestions to:

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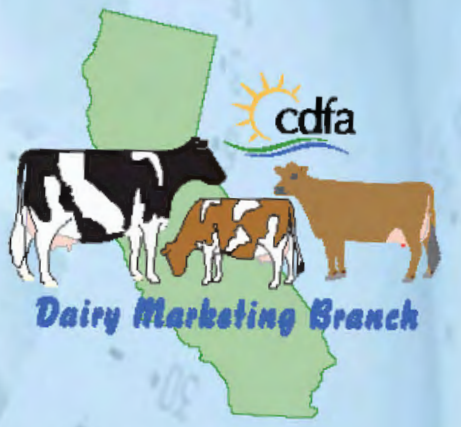

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