California
Manufacturing Cost Annual
2007 Data

Compiled and Published in 2008

C A L I F O R N I A

Manufacturing Cost Annual

2007 Data, Compiled and Published in 2008

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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 (Department) 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, the Department 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.

The Department maintains a Manufacturing Cost Unit that collects and summarizes cost data from California dairy manufacturing plants. Any plant that produces Class 4a 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 typically account for over 90 percent of the products manufactured in California. Data on cream and condensed skim is collected concurrently from plants that participate. Plants that manufacture cream and condensed skim but do not manufacture butter, NFDM, or Cheddar cheese are not included in the study. As a result, data on cream and condensed skim is based on a much lower percentage of annual production.

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 over a period of several years. The studies are conducted by professional auditors specializing in dairy accounting practices. The auditors review plant records on-site and work with plant management to collect data on all aspects of the operation. The auditors also determine allocations of plant expenditures for each product manufactured by the plant. For the plants in the study, the results can help to isolate the actual costs of manufacturing and give benchmark figures obtained from other California manufacturing plants. Consequently, although the Department has the legal authority to collect cost information from the various types of milk processing plants, most plants find the study and resulting comparisons valuable and cooperate voluntarily.

Highlights of the Manufacturing Cost Studies

Each plant in the study gave access to cost data for a 12-month period, January 2007 to December 2007. The 2007 California Manufacturing Cost Annual includes data obtained from seven butter plants, eight NFDM plants, six Cheddar cheese plants, eight condensed skim plants, and seven cream plants. The 2007 annual report accounts for 99 percent of the butter, 96 percent of the NFDM, and 81 percent of the total Cheddar and Monterey Jack cheese produced in California. Since about half the plants process and sell bulk cream and /or condensed skim, data was also accumulated for these products.

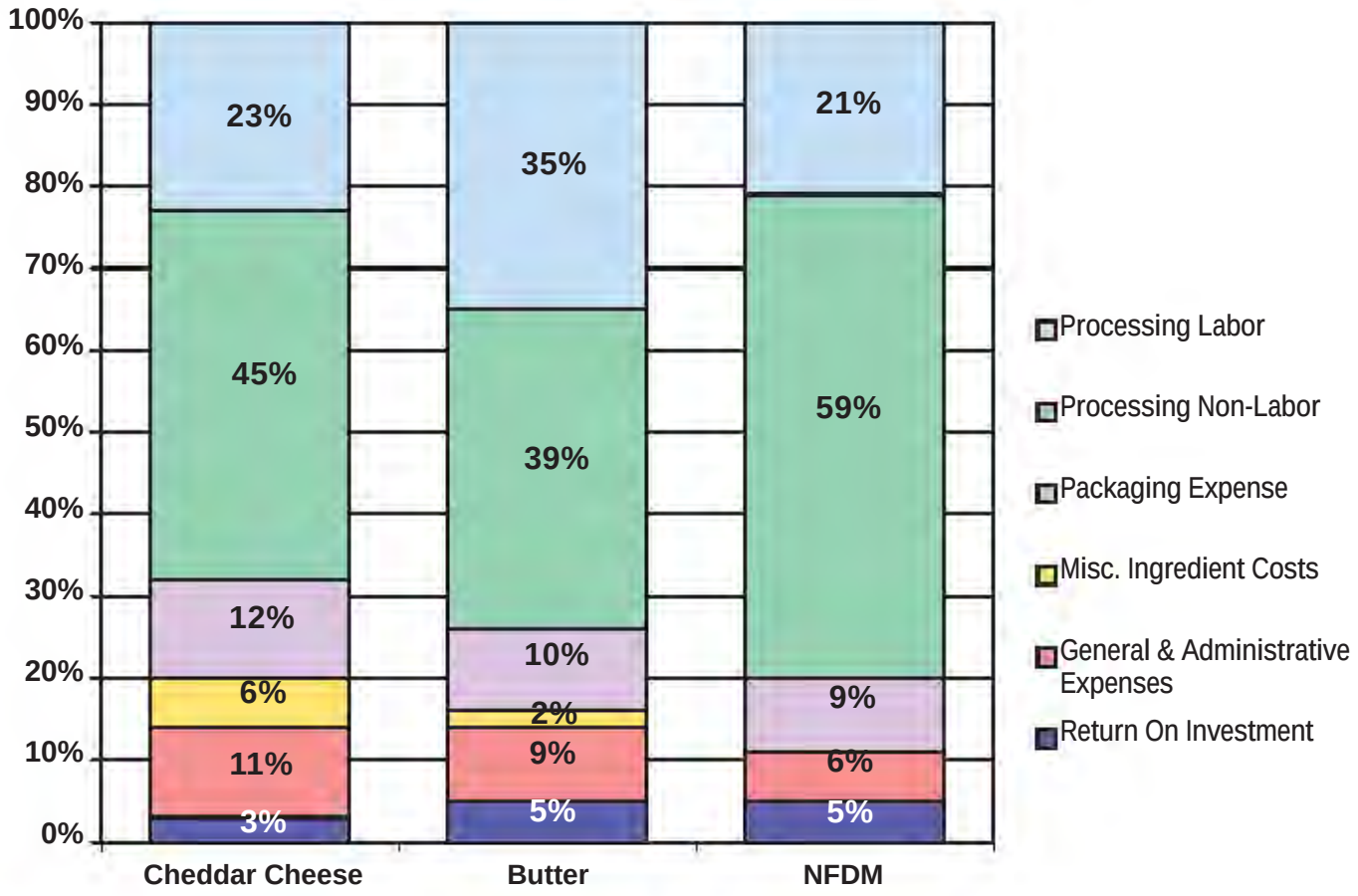
Highlights of the Manufacturing Costs

Processing Non-Labor was the largest cost contributing to overall manufacturing costs *(Figure 1)*. Non-Labor costs include utilities, repairs and maintenance, supplies, depreciation, property taxes, and other costs as well. On the weighted average, non-labor accounted for 45 percent of Cheddar cheese processing costs, 39 percent of butter processing costs, and 59 percent of NFDM processing costs.

Processing Labor was the second largest cost and the single largest category cost contributing to overall processing costs for most of the studies. Labor was, on weighted average, 23 percent of Cheddar cheese processing costs, 35 percent of total butter processing costs, and 21 percent of NFDM processing costs. The dollar impact of other cost categories varied by product type.

This publication is divided into sections identified by product, e.g., Cheddar Cheese, Butter, Nonfat Dry Milk, and Condensed Skim and Cream. Within each section, a summary table describes categorized processing costs. Column charts identify the distribution of costs among the study plants 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



Cheese Study

Cost studies were completed on six cheese plants for 2007. The six plants processed 645.2 million pounds of Cheddar and Monterey Jack cheese during the 12-month period, January 2007 through December 2007, representing 81 percent of the Cheddar and Monterey Jack cheese processed in California. Cheese summary statistics indicate the weighted average per pound costs for each of the manufacturing costs *(Table 2).*

Manufacturing costs were only derived from 40 lb. block Cheddar cheese products although other packaging sizes were produced *(Figure 2)*. In addition, cheese plants manufacture other cheese products and a variety of by-products.

Cheddar cheese finished moisture percentages and cheese vat information are listed in Cheddar Cheese Production Parameters table *(Table 1).*

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 2007, 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 2. Breakdown of Cheddar Cheese Packaging Sizes

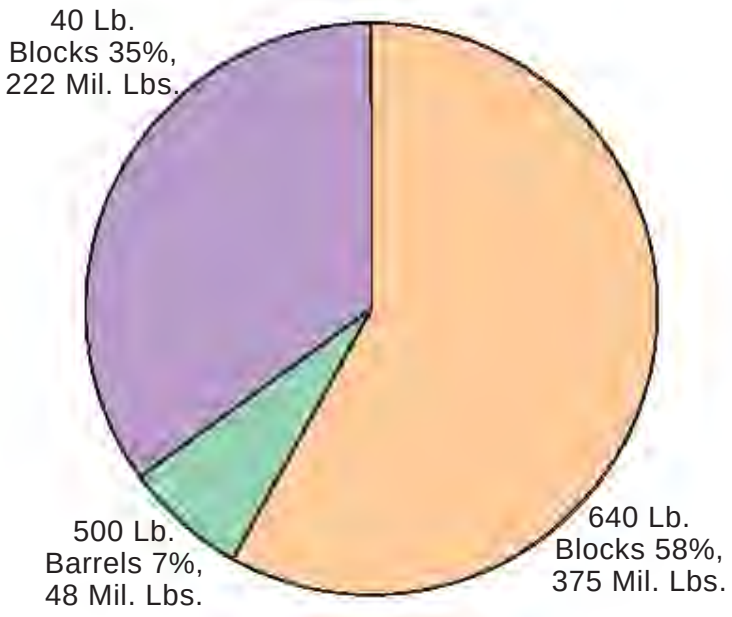


Table 1. Cheddar Cheese Production Parameters from Cost Studies[1]

Cost Group	Finished Moisture %	Vat Fat Test %	Vat SNF Test %	Vat Yield (Lbs.)
Low	38.27%	4.80%	9.69%	14.33%
High	36.71%	4.03%	9.28%	11.15%
Wt'd Avg.	**37.97%**	**4.65%**	**9.61%**	**13.71%**

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

Table 2. Processing Costs for Six California Cheddar Cheese Plants

CHEESE MANUFACTURING COSTS

CURRENT Study Period: January through December 2007
With Comparison to the same time period PRIOR YEAR (2006)

- Manufacturing cost data were collected and summarized from six California cheese plants. The six plants processed 645.2 million pounds of cheese during the 12-month study period, January through December 2007, representing 80.83% 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 13.71 lbs. of cheese per hundredweight of milk. The weighted average moisture was 37.97% and weighted average vat tests were 4.65% fat and 9.61% SNF.
  - For 40-lb. blocks: the weighted average yield was 13.72 lbs. of cheese per hundredweight of milk. The weighted average moisture was 38.31% and weighted average vat tests were 4.64% fat and 9.52% SNF.
- For this study period, approximately 30.1% 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 2007

Categories	Low Cost Group	High Cost Group	Range of Costs Minimum	Range of Costs Maximum	CURRENT Weighted Average Cost All Plants Jan-Dec 2007	PRIOR YEAR Weighted Average Cost All Plants Jan-Dec 2006	Actual Difference Current Less Prior Year
	Dollars Per Pound of Cheese						
Number of Plants	3	3	6	6	6	7	-1
Processing Labor	$0.0416	$0.0681	$0.0393	$0.0865	$0.0467	$0.0499	-$0.0032
Processing Non-Labor	$0.0901	$0.0848	$0.0682	$0.0973	$0.0891	$0.0918	-$0.0027
Packaging	$0.0241	$0.0195	$0.0081	$0.0242	$0.0232	$0.0192	$0.0040
Other Ingredients	$0.0097	$0.0198	$0.0084	$0.0262	$0.0116	$0.0115	$0.0001
General & Administrative	$0.0232	$0.0222	$0.0178	$0.0265	$0.0230	$0.0182	$0.0048
Return on Investment	$0.0071	$0.0049	$0.0028	$0.0073	$0.0067	$0.0082	-$0.0015
Average Total Cost	$0.1958	$0.2193	--	--	$0.2003	$0.1988	$0.0015
Volume in Group (Lbs.)	519,746,222	125,453,513	--	--	645,199,735	826,820,198	-181,620,463
% Volume by Group	80.6%	19.4%	--	--	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 were the single largest expense contributing to the overall cost of production and accounted for 23 percent of the total manufacturing costs *(Figure 3)*. On a weighted average, the Low Cost Group had Labor costs 4.2¢ per pound and 6.8¢ per pound for the High Cost Group.

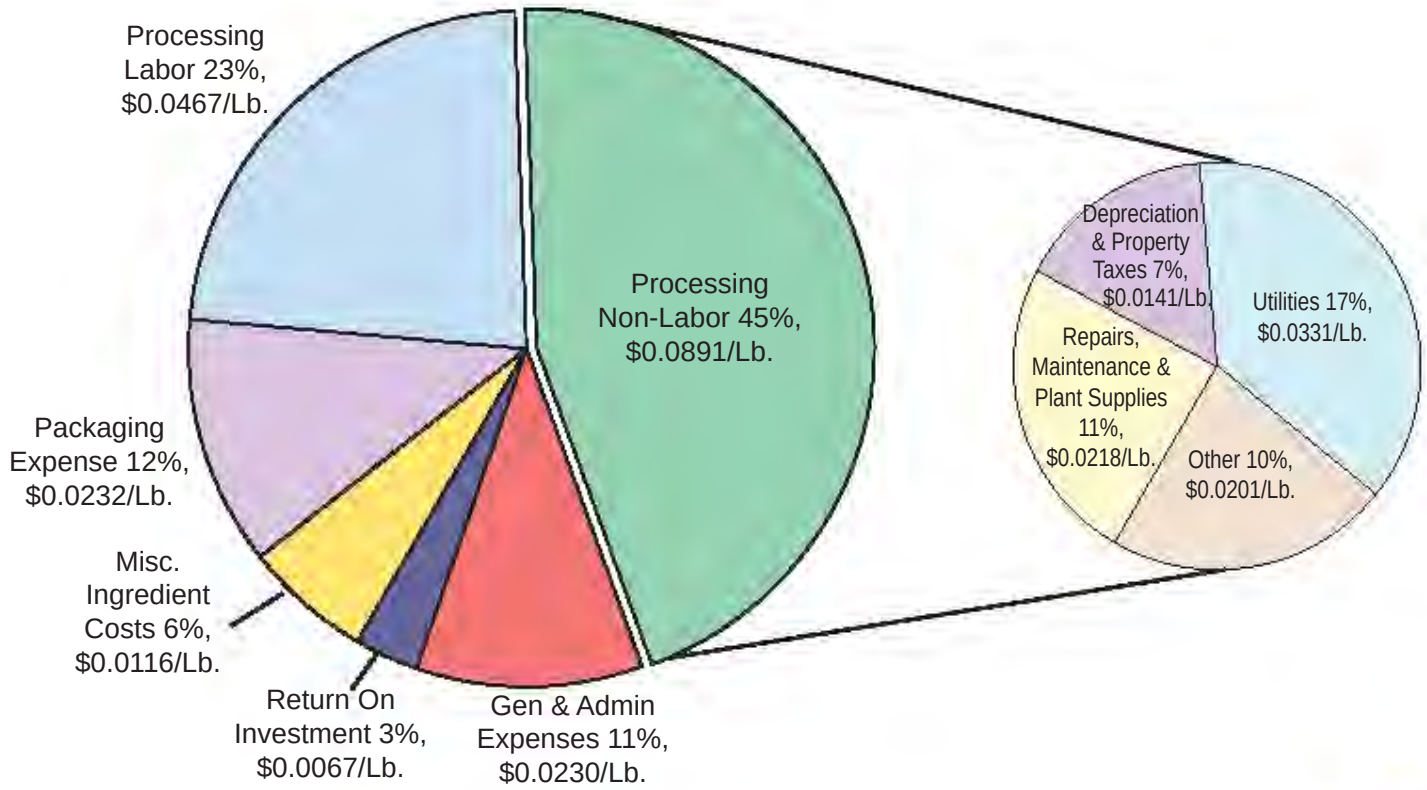
Processing Non-Labor Costs include utilities, depreciation, property taxes, repairs, maintenance and supplies, and other various costs. Non-Labor costs accounted for 45 percent of the total manufacturing cost and ranged from 6.8¢ to 9.7¢ per pound.

Packaging Costs include all non-reusable items, such as boxes, liners, tape, glue, and stretch-wrap. Packaging costs were on weighted average 2.3¢ per pound and accounted for 12 percent of the total manufacturing costs.

Misc. Ingredient Costs include salt, color, rennet, and others. In 2007, ingredient costs accounted for 6 percent of the total manufacturing costs and ranged from 0.8¢ to 2.6¢ per pound.

General and Administrative (G & A) Costs include all expenses incurred in the direction, control, and management of the company. Examples of G & A costs are administrative

Figure 3. Breakdown of Cheddar Cheese Processing Costs



payroll costs, office supplies, short-term interest, and headquarters fees. On a weighted average, G & A costs were 2.3¢ per pound and accounted for 11 percent of the total manufacturing costs.

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 calculated by subtracting accumulated depreciation from the original cost of fixed assets. The remaining book value is multiplied by the Moody's "BAA" corporate bond index. The amounts are then allocated to production employing the same methods used to allocate depreciation expense. A higher ROI cost suggests that either a plant is relatively new with little

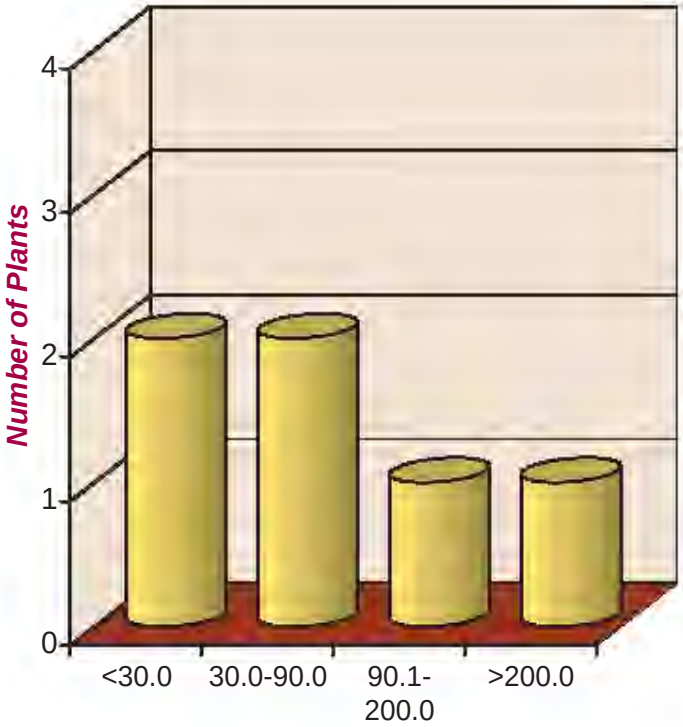
accumulated depreciation of its assets (high book value) or that it is an established plant with low production volume. ROI costs ranged from 0.3¢ to 0.7¢ per pound and accounted for 3 percent of the total manufacturing costs.

Characteristics of Cheddar Cheese Plants

Historically, the published summary analyses of the cost studies have provided many insights into Cheddar cheese operations in California. Throughout this section, the statistics, charts, and graphs indicate the variation existing among the cheese plants and the relative impact of some individual cost categories.

To obtain the weighted average, individual plant costs were weighted by cheese plant production volume with respect 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.

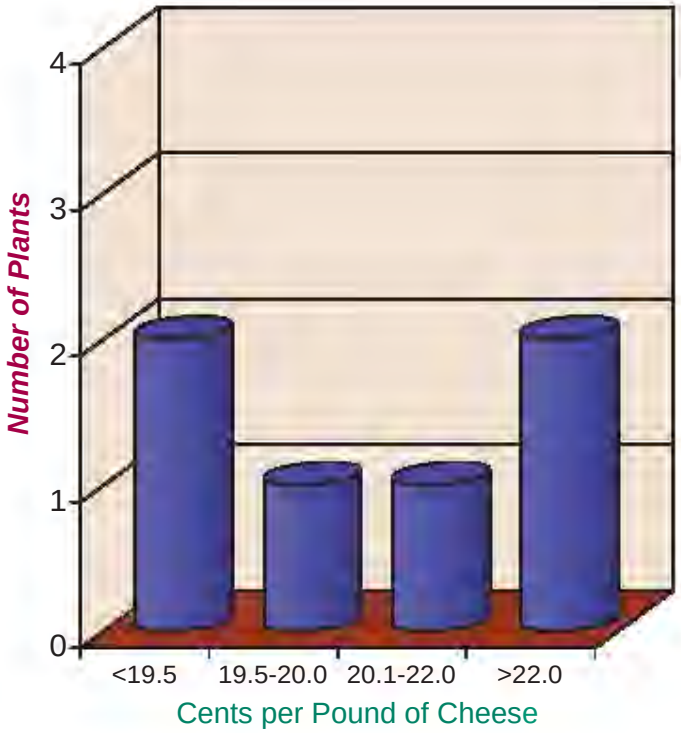
Figure 4. Annual California Cheddar and Jack Cheese Production



Average	= 108 million pounds
Median	= 48 million pounds
Average Low Cost Group	= 173 million pounds
Average High Cost Group	= 42 million pounds

- The Low Cost Group produced 81% of the cheese represented.

Figure 5. Manufacturing Cost per Pound



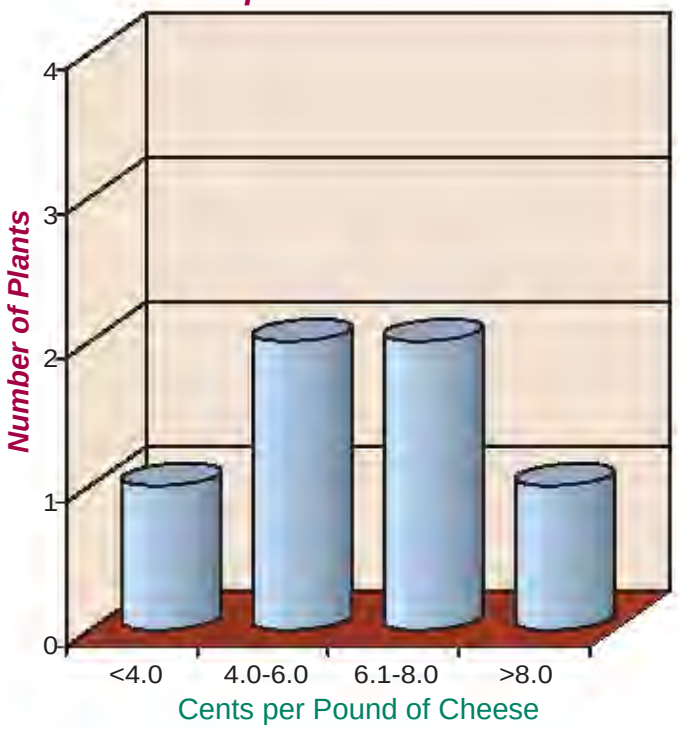
Average	= 20.8¢ per pound
Wt'd Average	= 20.0¢ per pound
Median	= 20.4¢ per pound
Wt'd. Aver. Low Cost Group	= 19.6¢ per pound
Wt'd. Aver. High Cost Group	= 21.9¢ per pound

- Manufacturing costs ranged from 19.0¢ per pound to 22.7¢ per pound.
- Three plants managed to keep manufacturing costs under 20¢ per pound.

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

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

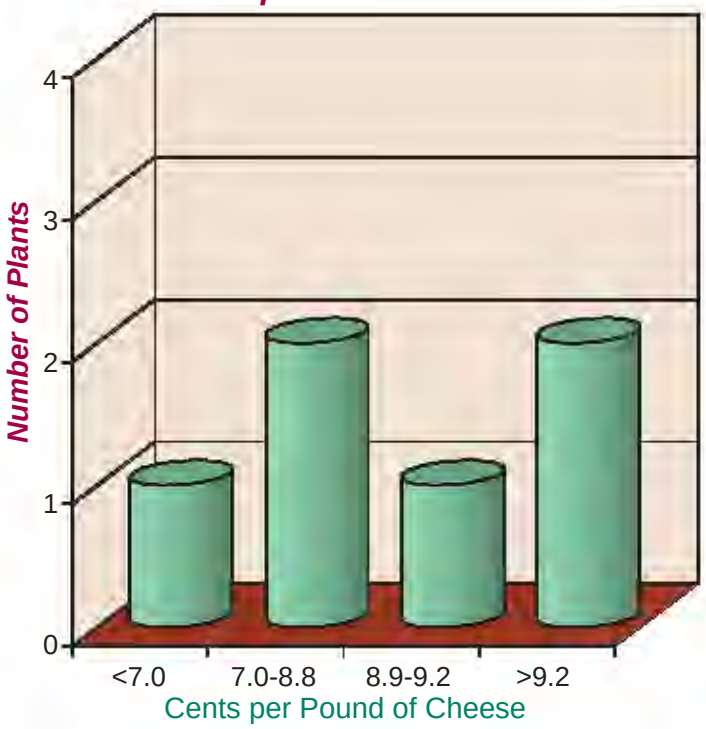
Figure 7. Processing Labor Cost per Pound



Average	= 6.0¢ per pound
Wt'd Average	= 4.7¢ per pound
Median	= 6.1¢ per pound
Wt'd. Aver. Low Cost Group	= 4.2¢ per pound
Wt'd. Aver. High Cost Group	= 6.8¢ per pound

- Based on production volume, the weighted average labor cost of the six cheese plants was 4.7¢ per pound.
- Labor costs per pound for the High Cost Group of plants were 64 percent greater than the Low Cost Group of plants.

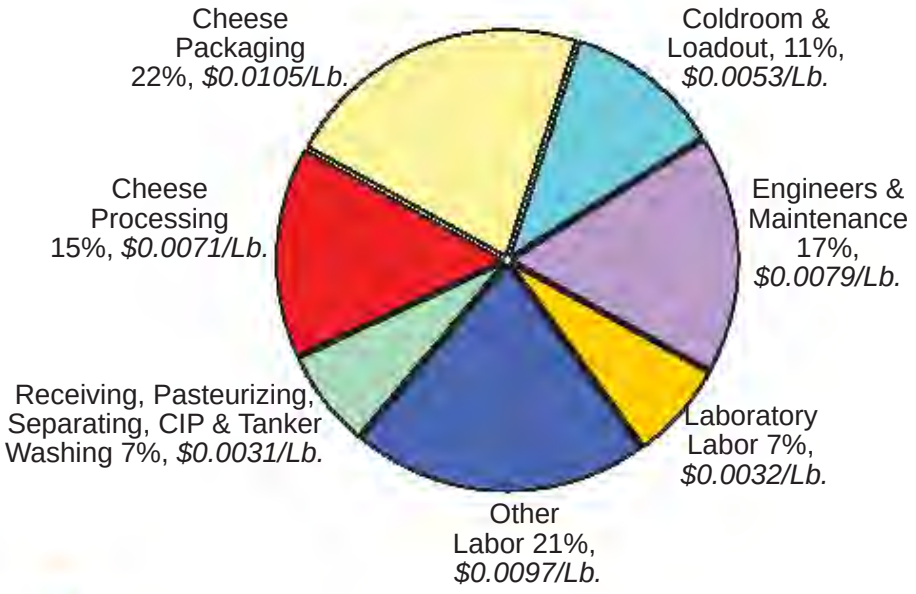
Figure 8. Processing Non-Labor Cost per Pound



Average	= 8.5¢ per pound
Wt'd Average	= 8.9¢ per pound
Median	= 9.0¢ per pound
Wt'd. Aver. Low Cost Group	= 9.0¢ per pound
Wt'd. Aver. High Cost Group	= 8.5¢ per pound

- One plant operated with non-labor processing costs of less than 7¢ per pound.
- Production non-labor costs include utilities, depreciation, repairs and maintenance, laundry, supplies, and others.

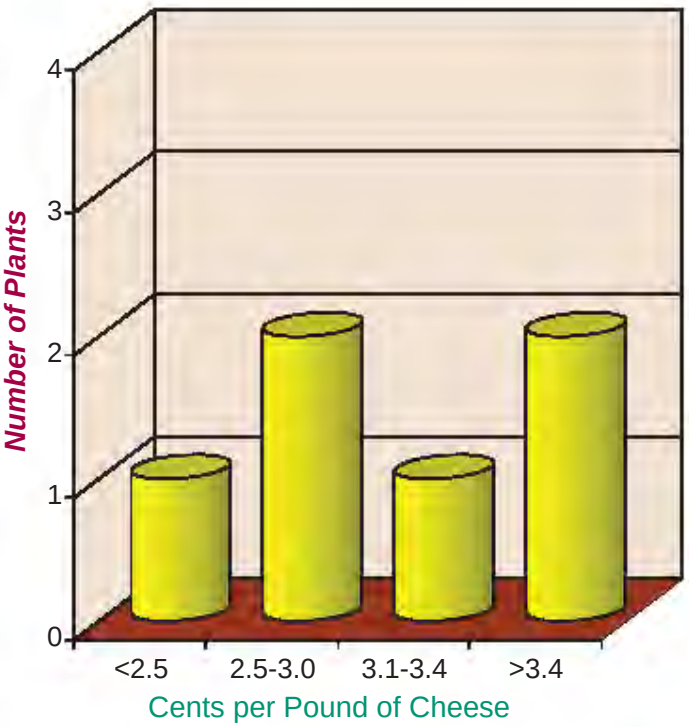
Figure 9. Cheddar Cheese Labor Breakdown by Category



Based on detailed data:
The weighted average labor cost was 4.7¢ per pound.
The weighted average labor cost was $1.87 per 40 lb. block.

Note: "Other Labor" may include managerial, plant clerical, and whey disposal labor.

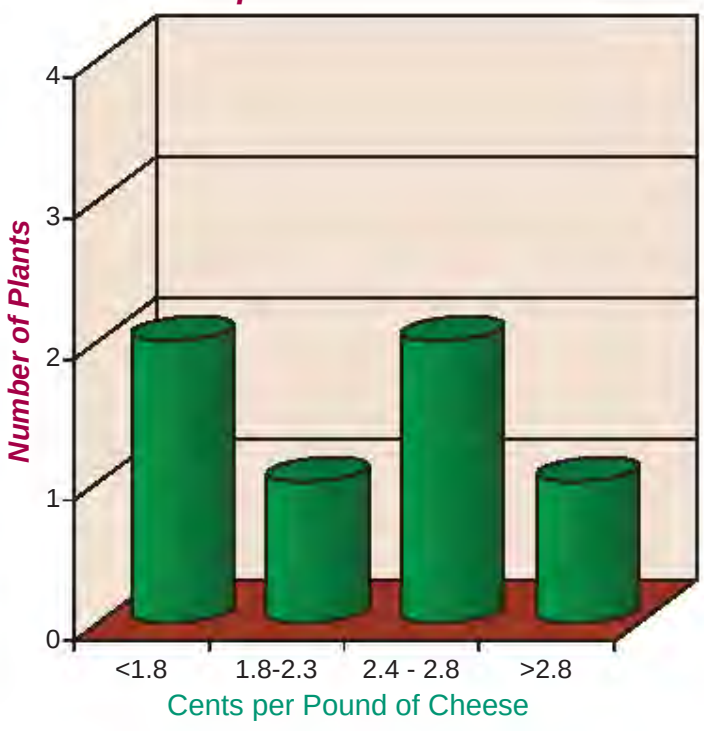
Figure 10. Utility Cost per Pound



Average	= 3.0¢ per pound
Wt'd Average	= 3.3¢ per pound
Median	= 2.9¢ per pound
Wt'd. Aver. Low Cost Group	= 3.4¢ per pound
Wt'd. Aver. High Cost Group	= 2.8¢ per pound

- Utility costs ranged from 2.5¢ to 3.5¢ per pound.
- Natural gas charges represented 27 percent of the average utility cost while electricity represented 24 percent. Sewage, water, and whey disposal make up the remaining 49 percent of the cost.

Figure 11. Repairs, Maintenance, and Supplies Cost per Pound



Average	= 2.3¢ per pound
Wt'd Average	= 2.2¢ per pound
Median	= 2.3¢ per pound
Wt'd. Aver. Low Cost Group	= 2.7¢ per pound
Wt'd. Aver. High Cost Group	= 2.0¢ per pound

- Repairs and maintenance represented 50 percent and supplies 50 percent of this category cost.
- The weighted average repairs, maintenance, and supplies cost for cheese was 2.2¢ per pound.

Figure 12. Natural Gas, Electricity, and Sewage Costs Per Pound, in Cheese Plants

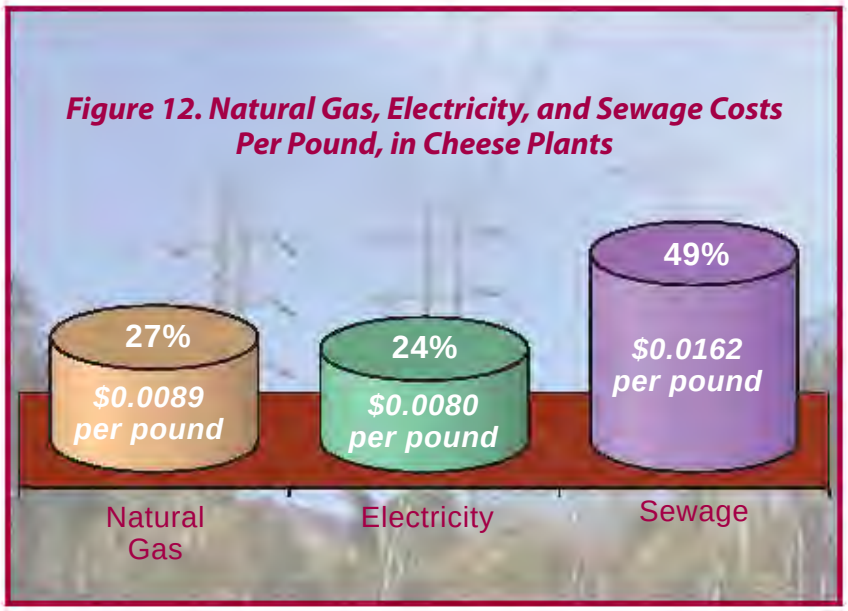
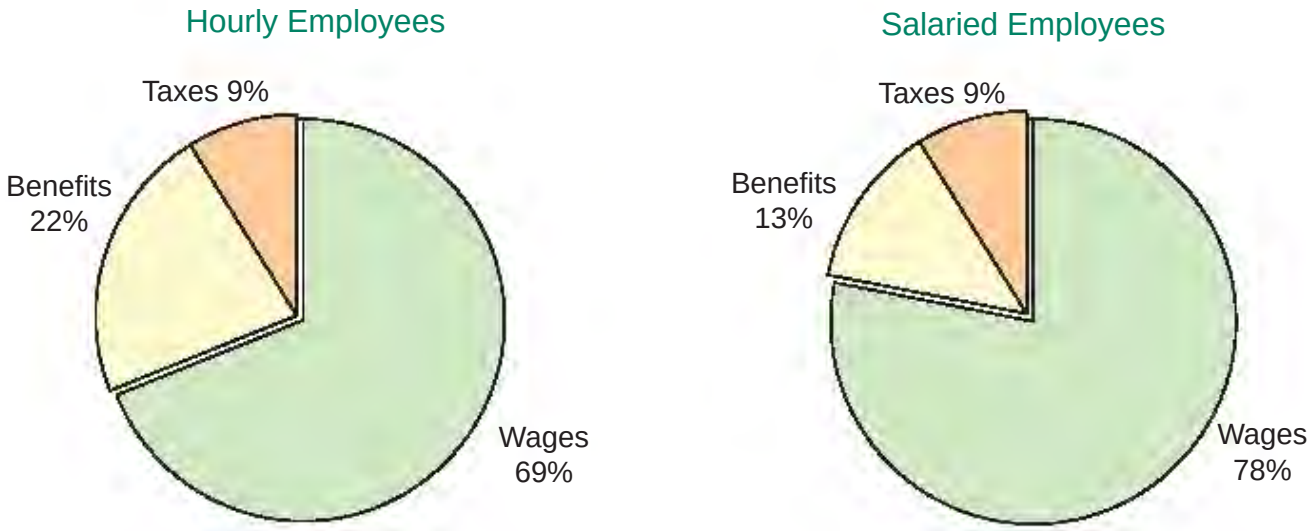
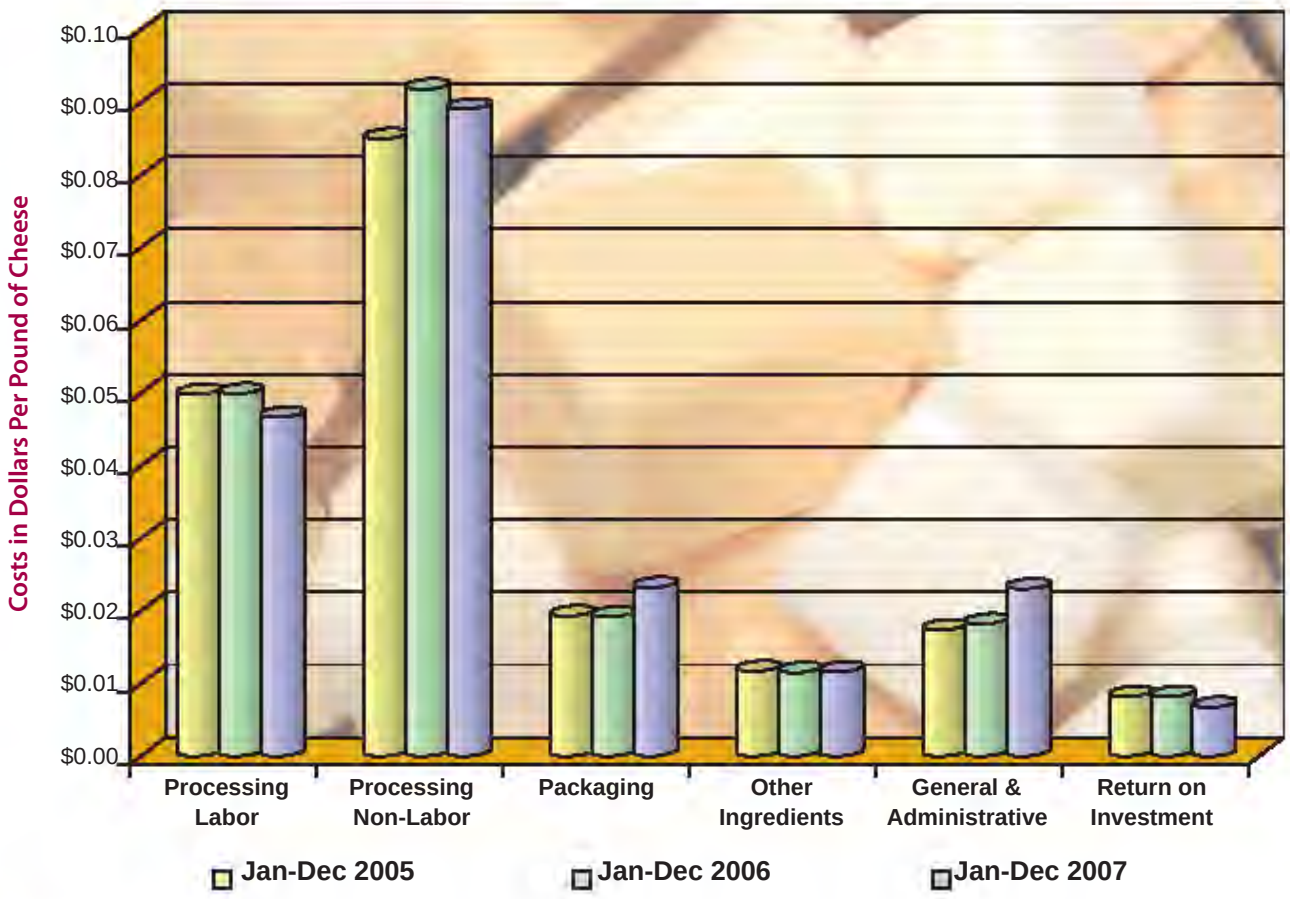


Figure 13: Comparison of Payroll Breakdown for Plant Employees, Hourly and Salaried



- Total payroll costs of the six plants amounted to over $74 million.
- Hourly plant payroll accounted for 72 percent of the total payroll costs.
- Payroll - includes vacation, sick, and holiday pay.
- Taxes category includes FICA, FUTA, SUTA, and Workers Compensation.

Figure 14. Cheese Processing Cost Comparison, 2005, 2006, 2007



Butter Study

Cost studies were completed on seven butter plants for 2007. The seven plants processed 492.5 million pounds of butter during the 12-month period, January 2007 through December 2007, representing 98.7 percent of the butter processed in California. Butter summary statistics indicate the weighted average costs per pound for each manufacturing processes *(Table 3)*.

Only costs for bulk butter (25 kg and 68 lb. blocks) were analyzed although most plants produce a variety of other size packaging *(Figure 15)*.

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 2007, the Low Cost Group included three 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 down slightly from last year but exceeded all other singular costs. The weighted average Labor

Figure 15. Breakdown of Butter Packaging Sizes and Types, Pounds of Production

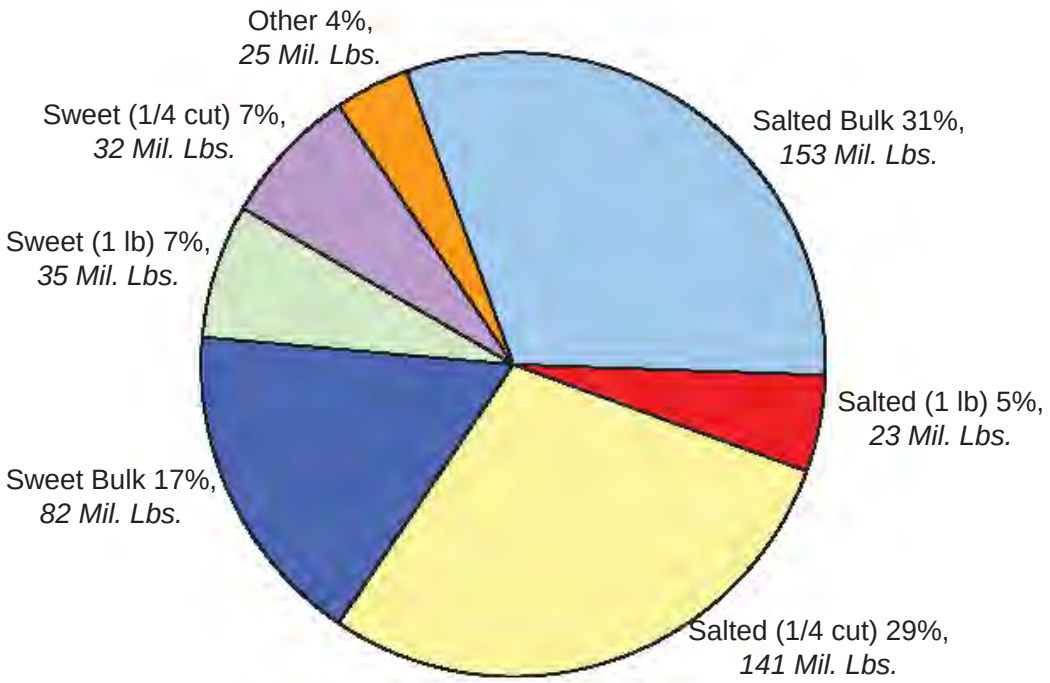


Table 3. Processing Costs for Seven California Butter Plants

BUTTER MANUFACTURING COSTS

CURRENT Study Period: January through December 2007
With Comparison to the same time period PRIOR YEAR (2006)

- Manufacturing cost data were collected and summarized from seven California butter plants. The seven plants processed 492.5 million pounds of butter during the 12-month study period, January through December 2007, representing 98.7% 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 57% 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 2007

Categories	Low Cost Group	High Cost Group	Range of Costs Minimum	Range of Costs Maximum	CURRENT Weighted Average Cost All Plants Jan-Dec 2007	PRIOR YEAR Weighted Average Cost All Plants Jan-Dec 2006	Actual Difference Current Less Prior Year
	Dollars Per Pound of Butter						
Number of Plants	3	4	7	7	7	7	0
Processing Labor	$0.0390	$0.0572	$0.0311	$0.0995	$0.0467	$0.0498	-$0.0031
Processing Non-Labor	$0.0410	$0.0657	$0.0335	$0.0709	$0.0515	$0.0508	$0.0007
Packaging	$0.0116	$0.0142	$0.0109	$0.0159	$0.0127	$0.0108	$0.0019
Other Ingredients	$0.0021	$0.0024	$0.0018	$0.0025	$0.0022	$0.0030	-$0.0008
General & Administrative	$0.0110	$0.0145	$0.0075	$0.0178	$0.0125	$0.0159	-$0.0034
Return on Investment	$0.0055	$0.0068	$0.0030	$0.0090	$0.0060	$0.0070	-$0.0010
Average Total Cost	$0.1102	$0.1608	--	--	$0.1316	$0.1373	-$0.0057
Volume in Group (Lbs.)	282,532,722	209,938,584	--	--	492,471,306	424,620,569	67,850,737
% Volume by Group	57.4%	42.6%	--	--	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.

costs were 4.7¢ per pound and accounted for 35 percent of the total manufacturing costs *(Figure 16)*.

Processing Non-Labor Costs include utilities, repairs, maintenance and supplies, depreciation and property taxes, and other various costs. The weighted average cost of the Low Cost Group was 4.1¢ per pound and 6.6¢ per pound for the High Cost Group.

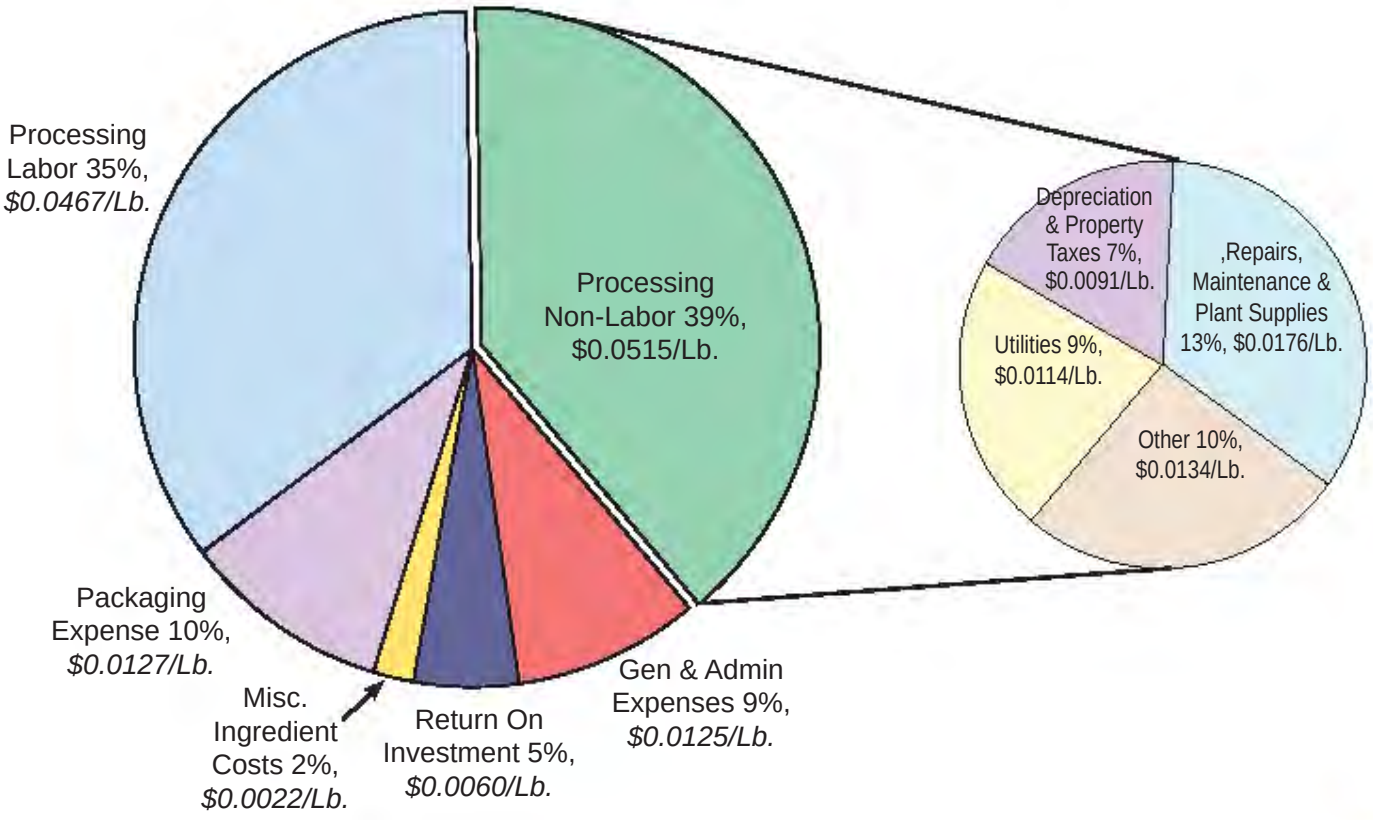
Packaging Costs were on weighted average 1.3¢ per pound. All non-reusable items such as boxes, bags, cartons, liners, tape, glue, and stretch-wrap are included in the packaging costs category.

Misc. Ingredient Costs include salt and color. The weighted average cost was 0.2¢

per pound and accounted for 2 percent of the total manufacturing cost.

General and Administrative (G & A) Costs were on weighted average 1.3¢ per pound and include all expenses incurred in the

Figure 16. Breakdown of Butter Processing Costs



direction, control, and management of the company. Examples of G & A costs are administrative payroll costs, office supplies, short-term interest, and headquarters fees.

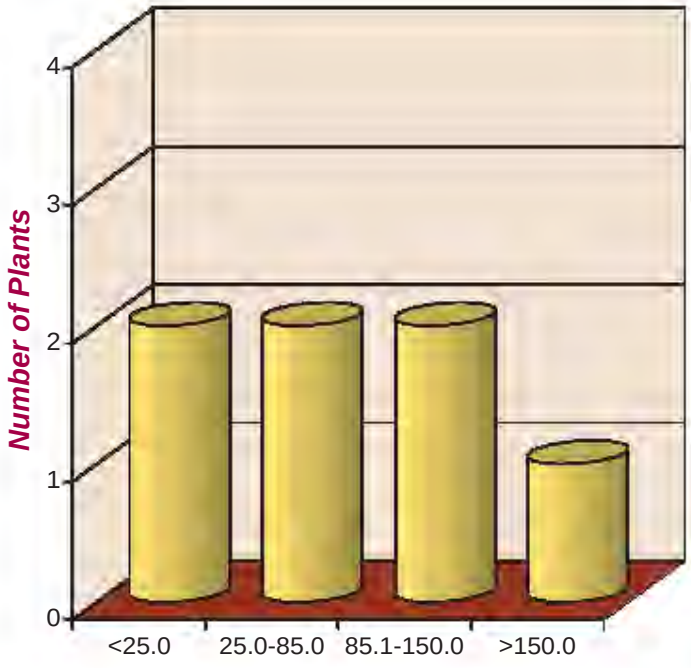
Return on investment (ROI) Allowance is calculated by subtracting accumulated depreciation from the original cost of fixed assets. The remaining book value is multiplied by the Moody's "BAA" corporate bond index. These amounts are then allocated to production employing the same methods used to allocate depreciation expense. In 2007, the weighted average ROI cost accounted for 5 percent of the total manufacturing cost.

Characteristics of Butter Plants

Historically, the published summary analyses of the cost studies have provided many insights into butter production operations in California. Throughout this section, the statistics, charts, and graphs indicate the variation existing among the butter plants and the relative impact of some individual cost categories.

The "weighted average" cost takes into account the proportional relevance of pounds produced, and the "median" is the middle point at which half of the plants are above and half of the plants are below a given figure.

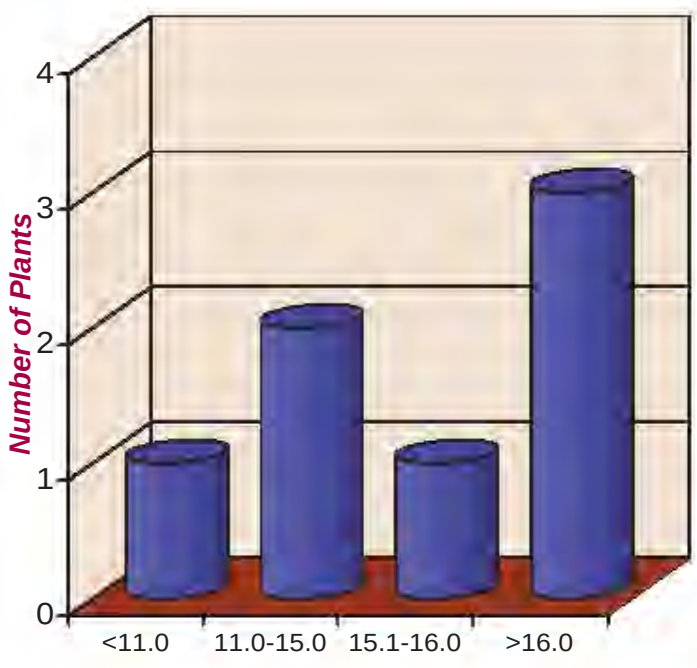
Figure 17. Annual California Butter Production



Average = 70 million pounds
Median = 83 million pounds
Average Low Cost Group = 94 million pounds
Average High Cost Group = 52 million pounds

- Normally, plants that produce the greatest volume of product do so with lower costs. However, this year, plants with the lowest overall costs had production volumes ranging between 38 million to more than 150 million pounds.
- The average butter production volume for all plants was 70 million pounds.

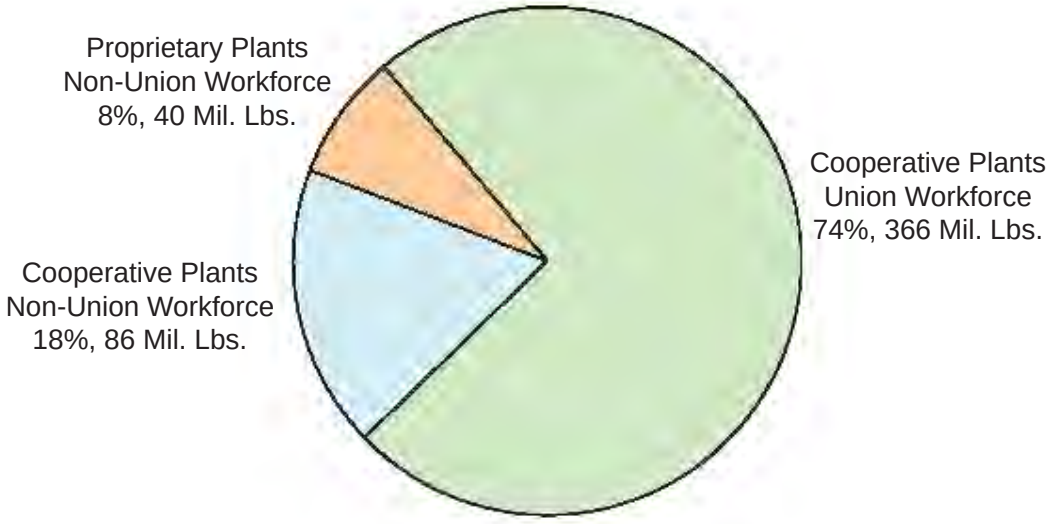
Figure 18. Manufacturing Cost per Pound



Average = 14.3¢ per pound
Wt'd Average = 13.2¢ per pound
Median = 15.9¢ per pound
Wt'd. Aver. Low Cost Group = 11.0¢ per pound
Wt'd. Aver. High Cost Group = 16.1¢ per pound

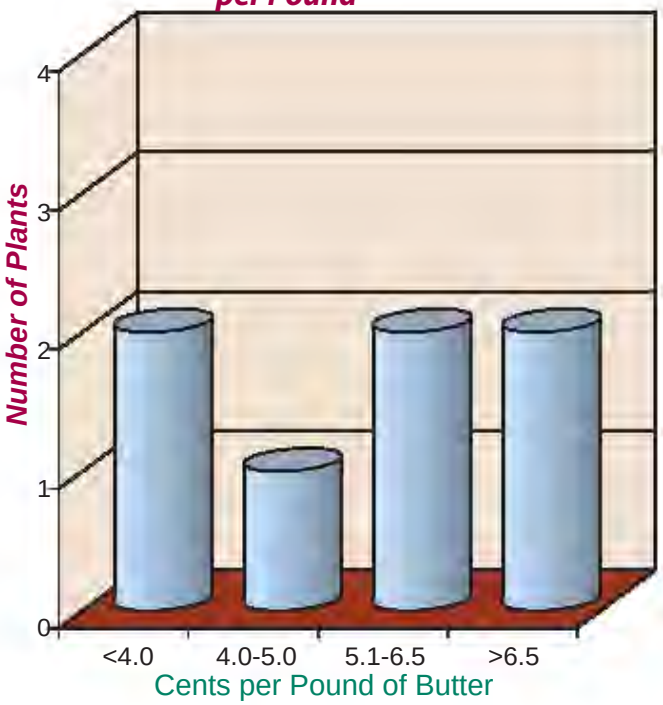
- All the plants in the Low Cost Group manufactured butter for less than 12¢ per pound.
- Plants in the High Cost Group on weighted average, produced butter for 16¢ per pound.
- Overall, the weighted average cost of producing butter was 13.2¢ per pound.

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



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

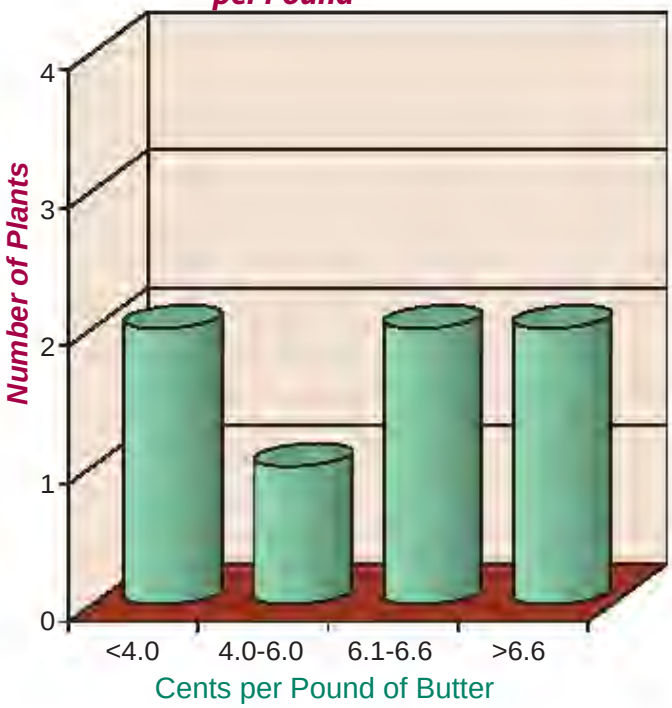
Figure 20. Processing Labor Cost per Pound



Average	= 5.5¢ per pound
Wt'd Average	= 4.7¢ per pound
Median	= 5.2¢ per pound
Wt'd. Aver. Low Cost Group	= 3.9¢ per pound
Wt'd. Aver. High Cost Group	= 5.7¢ per pound

- The Low Cost Group, on weighted average, kept labor costs to 3.9¢ per pound.
- Labor costs for plants in the High Cost Group were on weighted average, 5.7¢ per pound.
- The plant whose labor costs was the highest had labor costs more than three times that of the lowest cost plant.

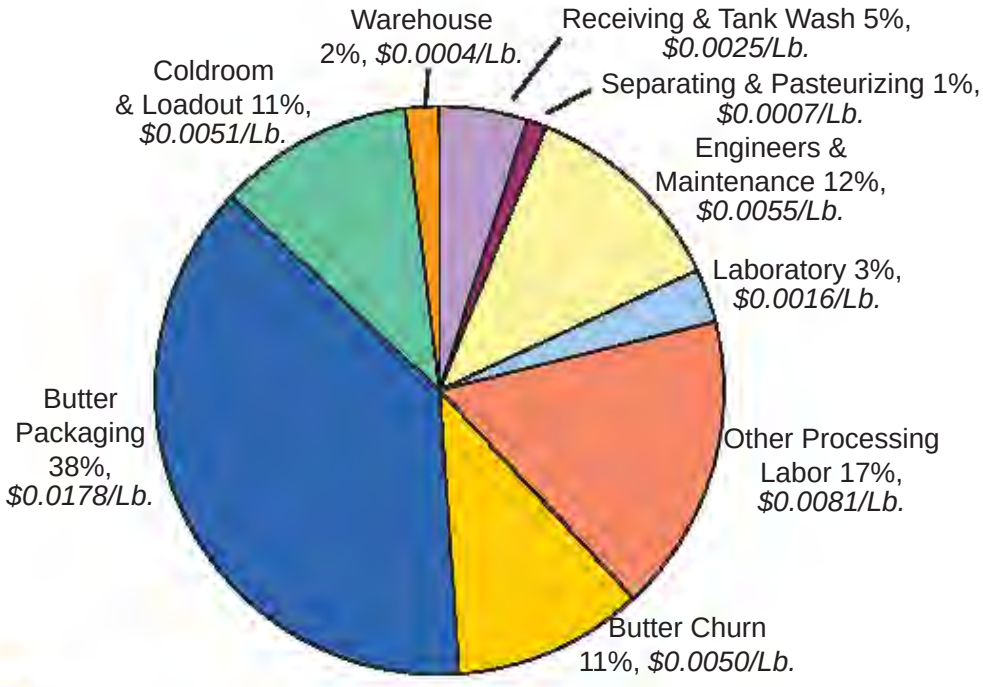
Figure 21. Processing Non-Labor Cost per Pound



Average	= 5.6¢ per pound
Wt'd Average	= 5.2¢ per pound
Median	= 6.4¢ per pound
Wt'd. Aver. Low Cost Group	= 4.1¢ per pound
Wt'd. Aver. High Cost Group	= 6.6¢ per pound

- Production non-labor costs include utilities, depreciation, repairs and maintenance, laundry, supplies, and licensing fees expenses.

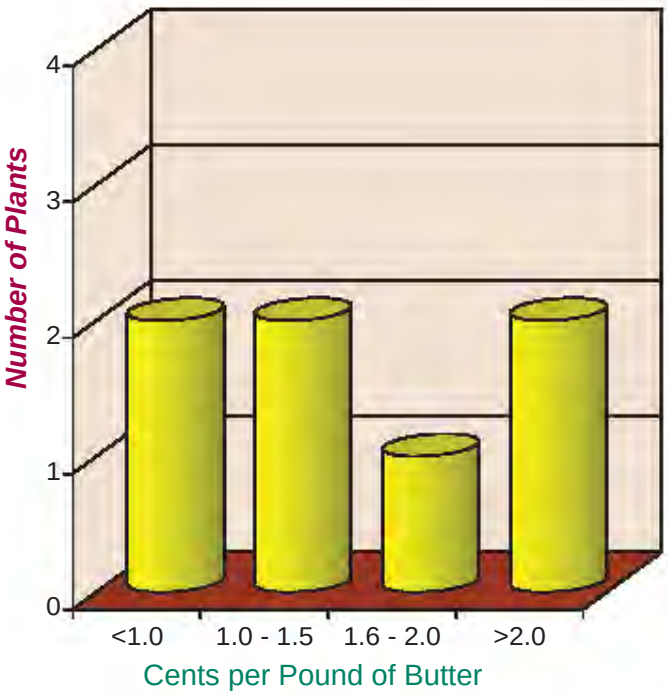
Figure 22. Butter Labor Breakdown by Category



Based on detailed data:
Labor costs for producing Butter were on weighted average 4.7¢ per pound or $2.58 per 25kg unit.

Note: "Other Labor" may include plant manager/superintendent, general plant, and plant clerical costs.

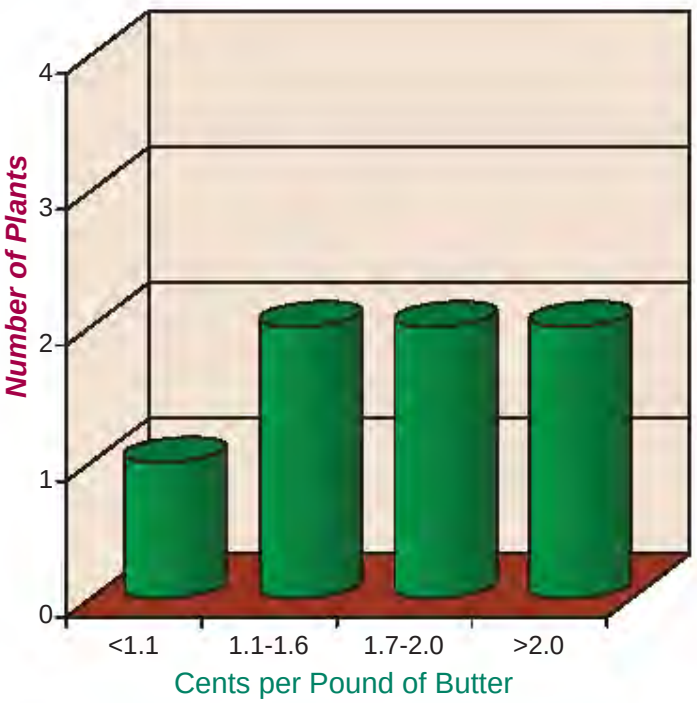
Figure 23. Utility Cost per Pound



Average	= 1.5¢ per pound
Wt'd Average	= 1.1¢ per pound
Median	= 1.4¢ per pound
Wt'd. Aver. Low Cost Group	= 1.0¢ per pound
Wt'd. Aver. High Cost Group	= 1.3¢ per pound

- Most plants in the study kept utility costs at or below 1.5¢ per pound.
- Utilities include electric, gas, and sewage costs.

Figure 24. Repairs, Maintenance, and Supplies Cost per Pound



Average	= 1.7¢ per pound
Wt'd Average	= 1.8¢ per pound
Median	= 1.6¢ per pound
Wt'd. Aver. Low Cost Group	= 1.4¢ per pound
Wt'd. Aver. High Cost Group	= 2.3¢ per pound

- Again this year, only two plants' repairs, maintenance, and supplies costs exceeded 2.0¢ per pound.

Figure 25. Natural Gas, Electricity, and Sewage Cost Per Pound, in Butter Plants

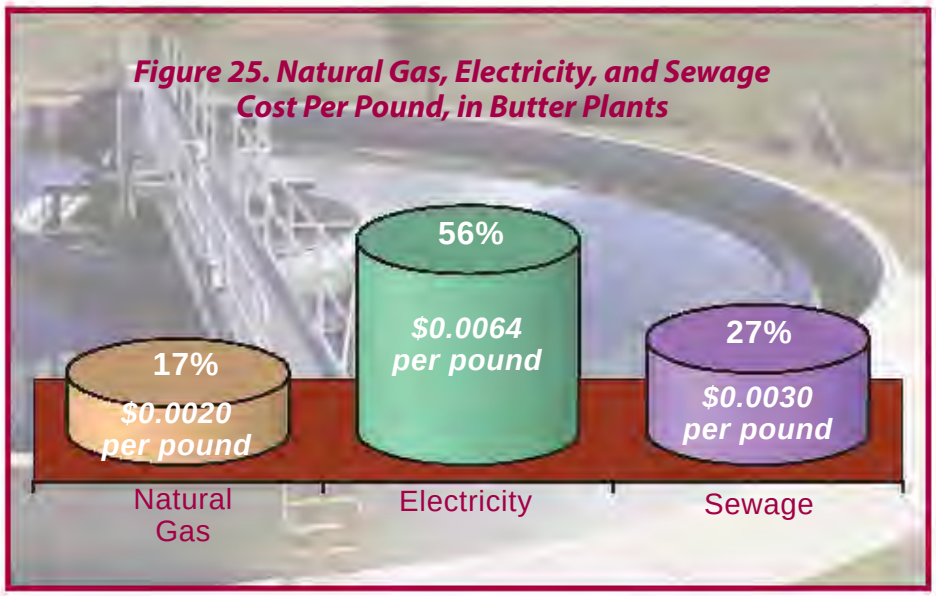
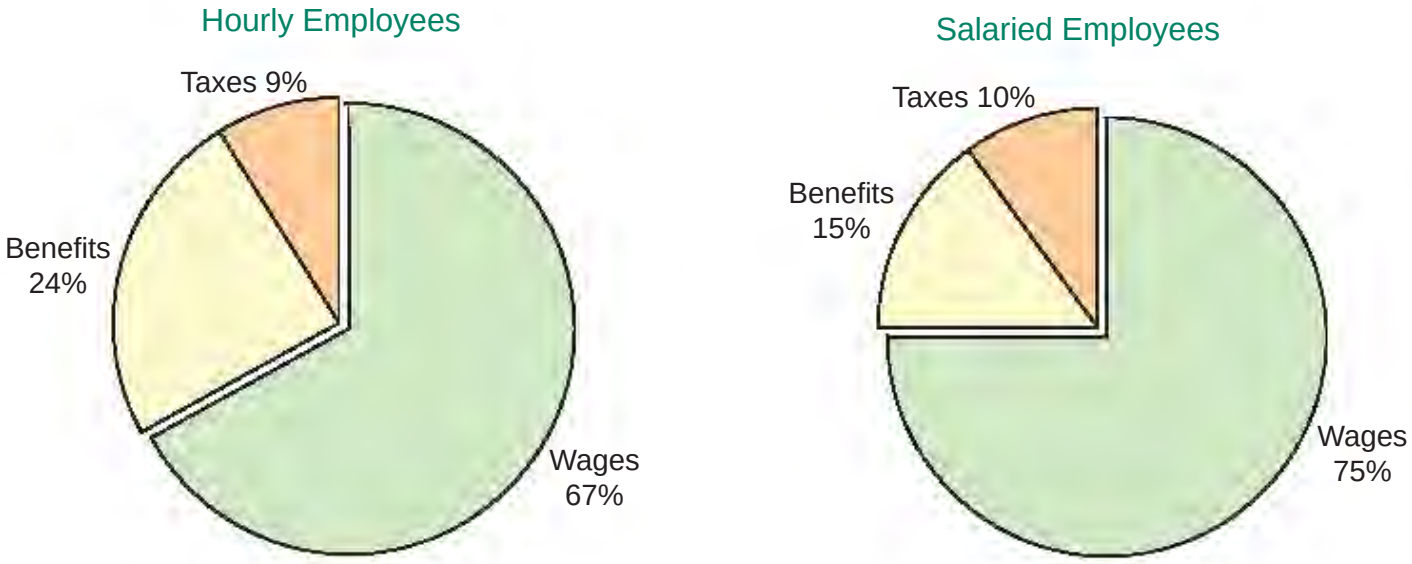
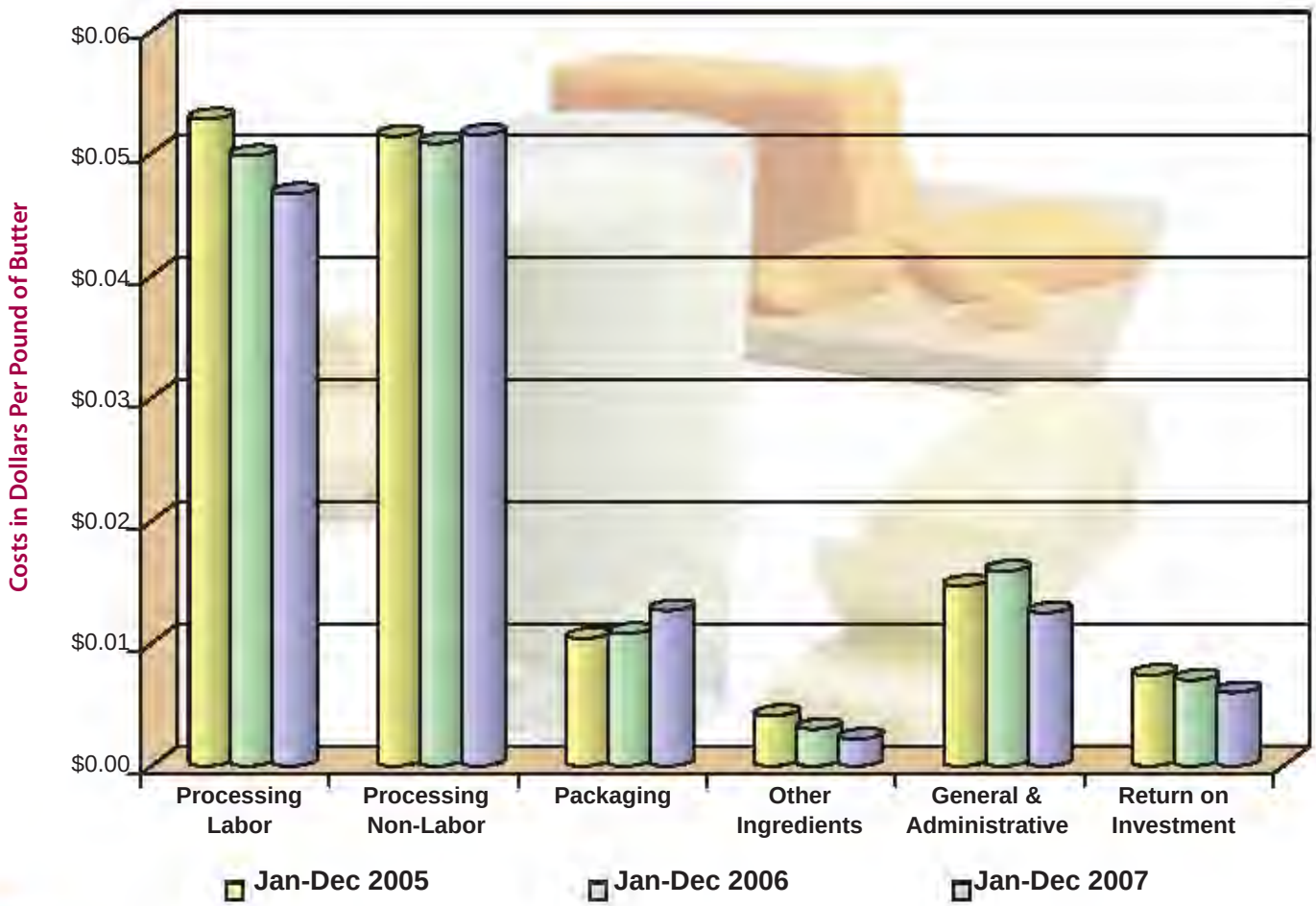


Figure 26: Comparison of Payroll Breakdown for Plant Employees and Salaried Employees



- Total payroll costs of the seven plants amounted to $79 million.
- Hourly plant payroll accounted for 77 percent of the total payroll costs.
- Payroll - includes vacation, sick, and holiday pay.
- Taxes category includes FICA, FUTA, SUTA, and Workers Compensation.

Figure 27. Butter Processing Cost Comparison, 2005, 2006, 2007



Nonfat Dry Milk Study

Cost studies were completed on eight nonfat dry milk (NFDM) plants for 2007. Plant cost summary statistics based on the study plants give an indication of plant size and per pound processing costs for the various categories. The total NFDM production was 701.3 million pounds during the 12-month period, January 2007 through December 2007. NFDM summary statistics indicate the weighted average per pound costs for each of the manufacturing costs *(Table 4)*.

Only costs for bagged NFDM were analyzed although high volume totes accounted for 32 percent of the total production *(Figure 28).*

To avoid revealing plant specific information, the eight plants were assigned to either a Low Cost Group or High Cost Group based on total processing costs. In 2007, 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.

Figure 28. Breakdown of Nonfat Dry Milk Packaging Sizes

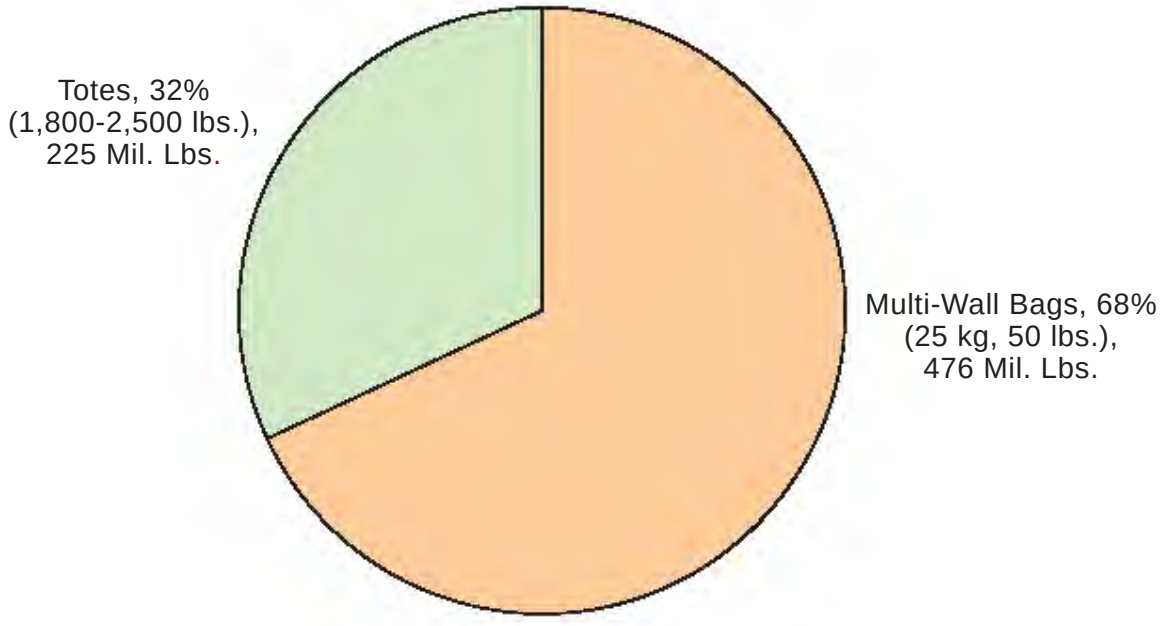


Table 4. Processing Costs for Eight California Nonfat Dry Milk Plants

NONFAT DRY MILK MANUFACTURING COSTS

CURRENT Study Period: January through December 2007
With Comparison to the same time period PRIOR YEAR (2006)

- Manufacturing cost data were collected and summarized from eight California NFDM plants. The eight plants processed 701.3 million pounds of NFDM during the 12-month study period, January through December 2007, representing 96.5% of the NFDM processed in California.
- The 96.5% includes both animal and human consumption. Human consumption representing 99.77% of the 701.3 million pounds of NFDM processed, and animal representing 0.23%.
- 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 92.6% 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 2007

Categories	Low Cost Group	High Cost Group	Range of Costs		CURRENT Weighted Average Cost All Plants Jan-Dec 2007	PRIOR YEAR Weighted Average Cost All Plants Jan-Dec 2006	Actual Difference Current Less Prior Year
			Minimum	Maximum			
	Dollars Per Pound of NFDM						
Number of Plants	4	4	8	8	8	8	0
Processing Labor	$0.0306	$0.0543	$0.0233	$0.0791	$0.0333	$0.0362	-$0.0029
Processing Non-Labor	$0.0904	$0.1061	$0.0798	$0.1985	$0.0922	$0.0965	-$0.0043
Packaging	$0.0151	$0.0128	$0.0117	$0.0161	$0.0148	$0.0147	$0.0001
General & Administrative	$0.0083	$0.0117	$0.0073	$0.0214	$0.0087	$0.0111	-$0.0024
Return on Investment	$0.0077	$0.0079	$0.0035	$0.0137	$0.0078	$0.0079	-$0.0001
Average Total Cost	$0.1521	$0.1928	--	--	$0.1568	$0.1664	-$0.0096
Volume in Group (Lbs.)	619,816,066	81,506,288	--	--	701,322,354	536,370,470	164,951,884
% Volume by Group	88.4%	11.6%	--	--	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.
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.

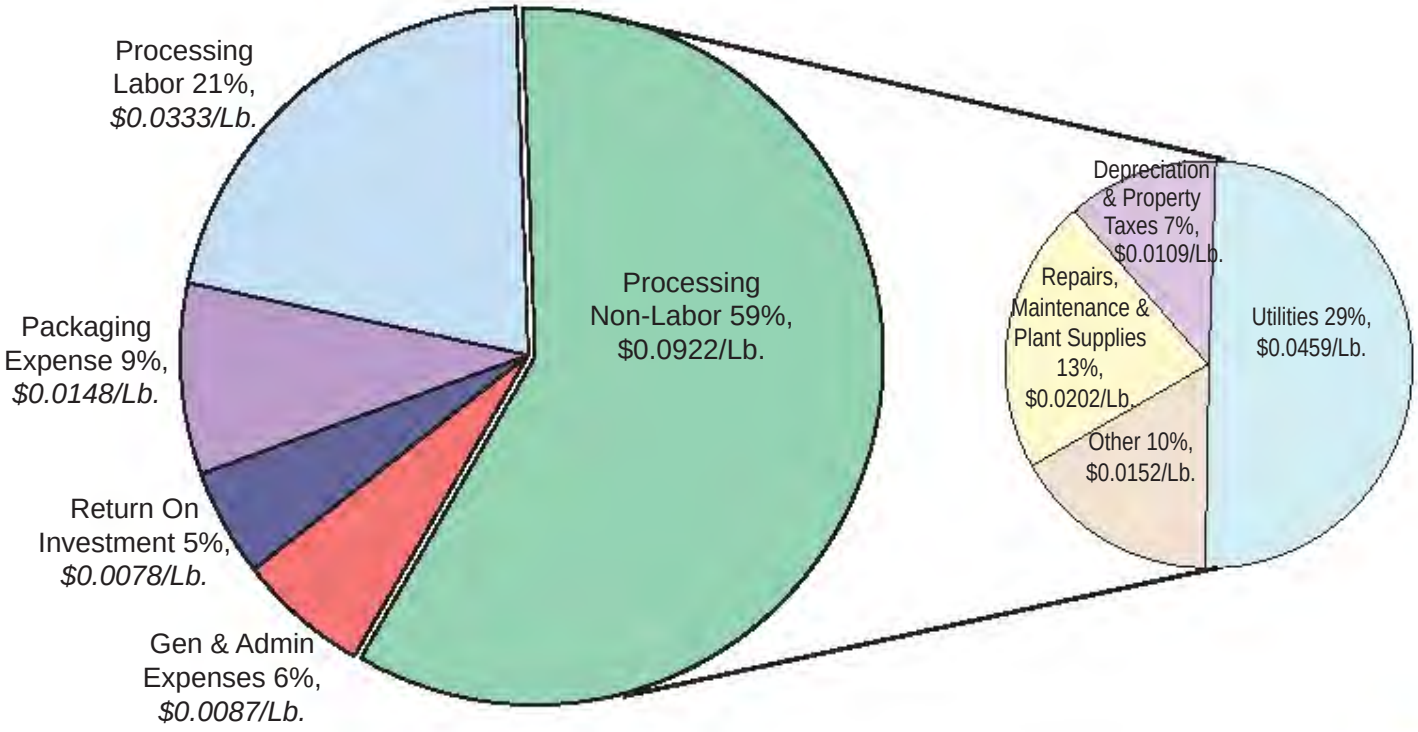
Nonfat Dry Milk Study

Highlights of the Nonfat Dry Milk Manufacturing Costs

Processing Labor Costs were significant and ranged from a weighted average of 3.1¢ per pound in the Low Cost Group to an average of 5.4¢ per pound in the High Cost Group, a difference of 74 percent *(Figure 29)*.

Processing Non-Labor Costs were larger than labor costs but included several different plant expenses, such as utilities, depreciation and property taxes, repairs, maintenance and supplies, and other various costs. Non-Labor costs ranged from 7.9¢ per pound to 19.8¢ per pound.

Figure 29. Breakdown of Nonfat Dry Milk Processing Costs



Nonfat Dry Milk Study

Packaging Costs include non-reusable items, such as boxes, bags, cartons, liners, tape, glue, and stretch-wrap. The weighted average cost of packaging was 1.5¢ per pound.

General and Administrative (G & A) Costs were on weighted average 0.9¢ per pound and included all expenses incurred in the direction, control, and management of the company. Examples of G & A costs are administrative payroll costs, office supplies, short-term interest, and headquarters fees.

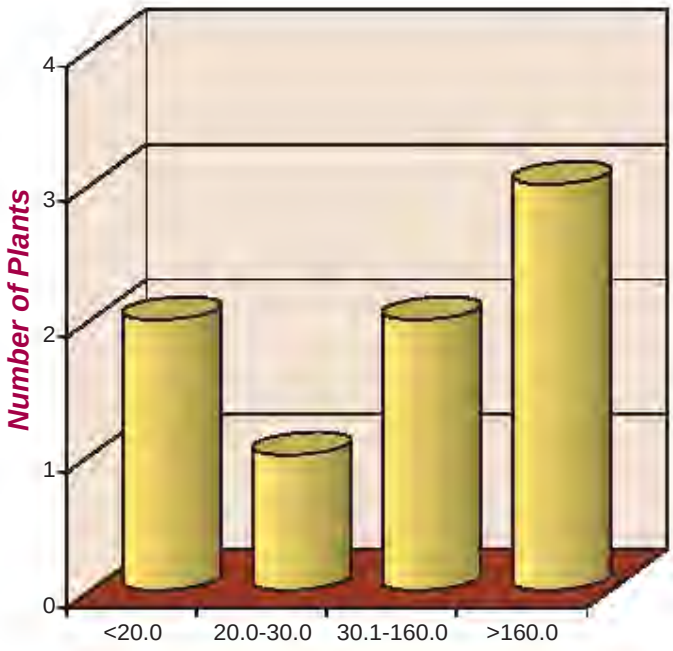
Return on investment (ROI) Allowance is calculated by subtracting accumulated depreciation from the original cost of fixed assets. The remaining book value is multiplied by the Moody's "BAA" corporate bond index. The amounts are then allocated to the products in the plant based on the same methods used to allocate depreciation expense. ROI costs for the eight NFDM plants were on weighted average 0.8¢ per pound.

Characteristics of Nonfat Dry Milk Plants

Historically, the published summary analyses of the cost studies have provided many insights into nonfat dry milk production operations in California. Throughout this section, the statistics, charts, and graphs indicate the variation existing among the nonfat dry milk plants and the relative impact of some individual cost categories.

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 point at which half of the plants are above and half of the plants are below the given figure.

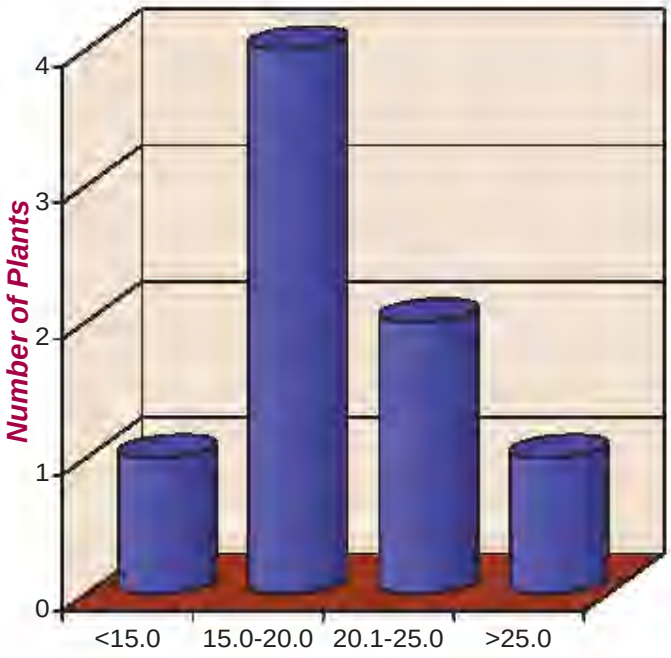
Figure 30. Annual California Nonfat Dry Milk Production



Average	= 88 million pounds
Median	= 78 million pounds
Average Low Cost Group	= 155 million pounds
Average High Cost Group	= 20 million pounds

- Typically, plants that produce the greatest volume of NFDM do so with lower costs.
- The Low Cost Group produced 88 percent of the total production.

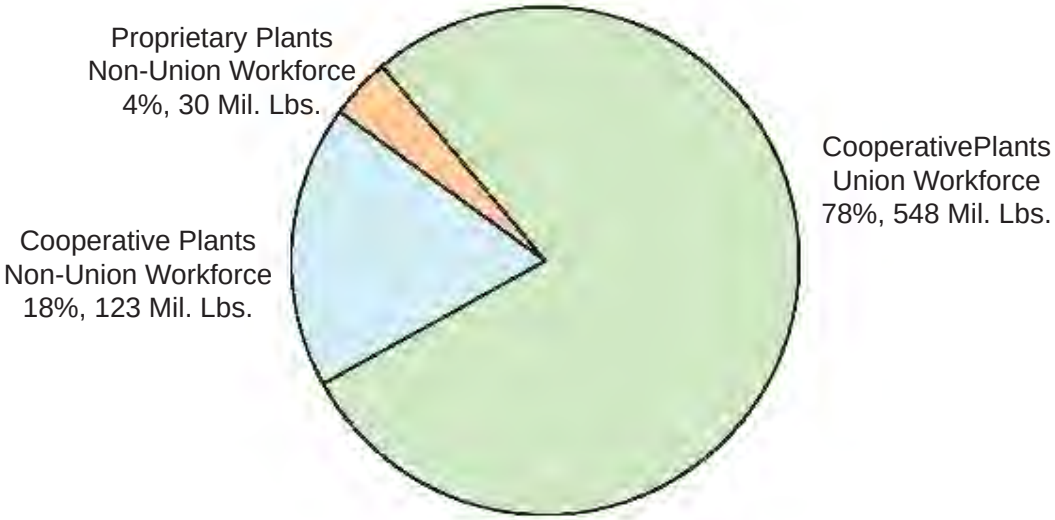
Figure 31. Manufacturing Cost per Pound



Average	= 18.8¢ per pound
Wt'd Average	= 15.7¢ per pound
Median	= 16.0¢ per pound
Wt'd. Aver. Low Cost Group	= 15.2¢ per pound
Wt'd. Aver. High Cost Group	= 19.3¢ per pound

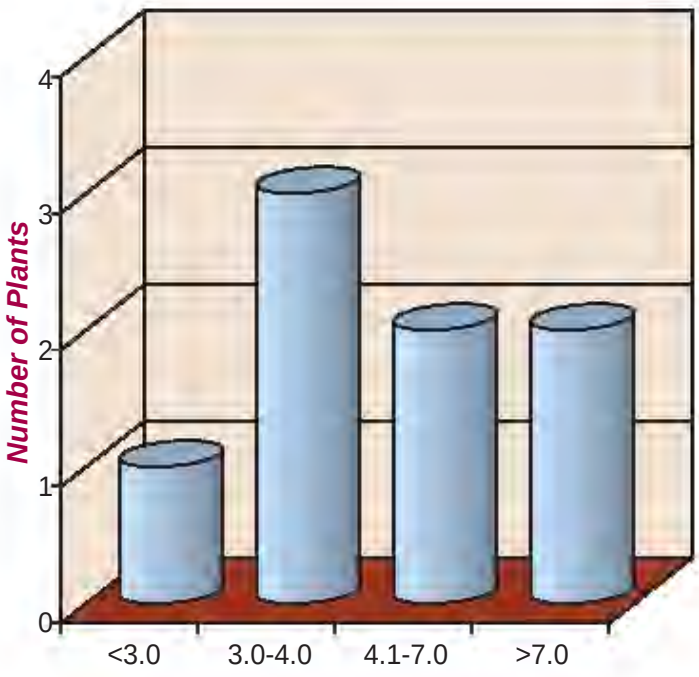
- The Low Cost Group's manufacturing costs were on a weighted average 26 percent lower than those of the High Cost Group.
- NFDM production costs ranged from 14¢ to a little more than 32¢ per pound.

Figure 32. Percent Share of California Nonfat Dry Milk Plants, by Ownership Type and by Workforce Type, Pounds of Total Production



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

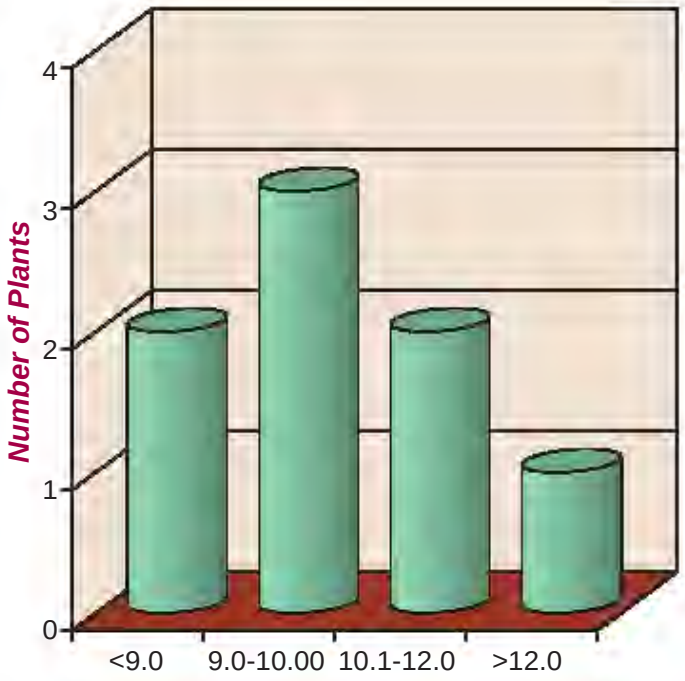
Figure 33. Processing Labor Cost per Pound



Average	= 4.6¢ per pound
Wt'd Average	= 3.3¢ per pound
Median	= 3.9¢ per pound
Wt'd. Aver. Low Cost Group	= 3.1¢ per pound
Wt'd. Aver. High Cost Group	= 5.4¢ per pound

- Labor costs for the Low Cost Group were 20 percent of the total manufacturing cost, and labor costs for the High Cost Group were 28 percent of the total cost.

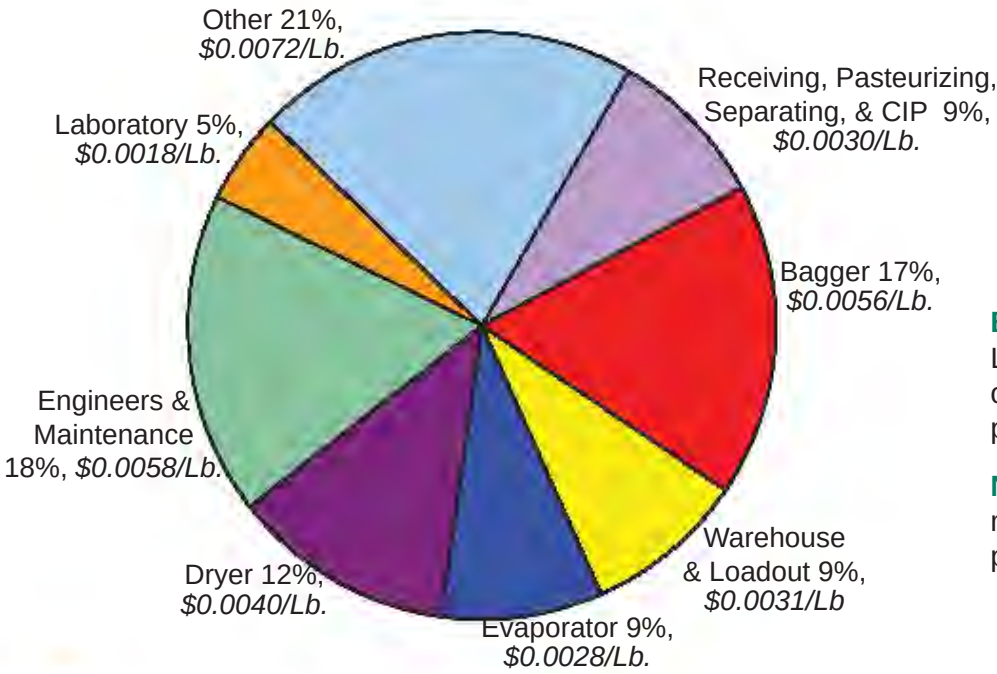
Figure 34. Processing Non-Labor Cost per Pound



Average	= 10.9¢ per pound
Wt'd Average	= 9.2¢ per pound
Median	= 9.4¢ per pound
Wt'd. Aver. Low Cost Group	= 9.0¢ per pound
Wt'd. Aver. High Cost Group	= 10.6¢ per pound

- The variation in non-labor processing costs was substantial.
- Costs ranged from slightly less than 8¢ to more than 19¢ per pound.

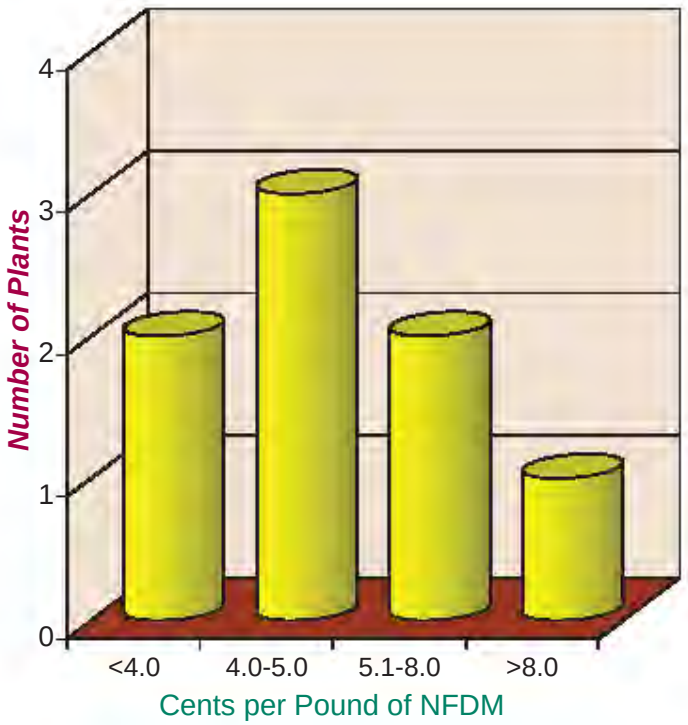
Figure 35. Nonfat Dry Milk Labor Breakdown by Category



Based on detailed data:
Labor costs for producing NFDM were on average 3.3¢ per pound or $1.84 per 25kg bag.

Note: "Other" may include plant manager/superintendent, general plant, plant clerical, and field men.

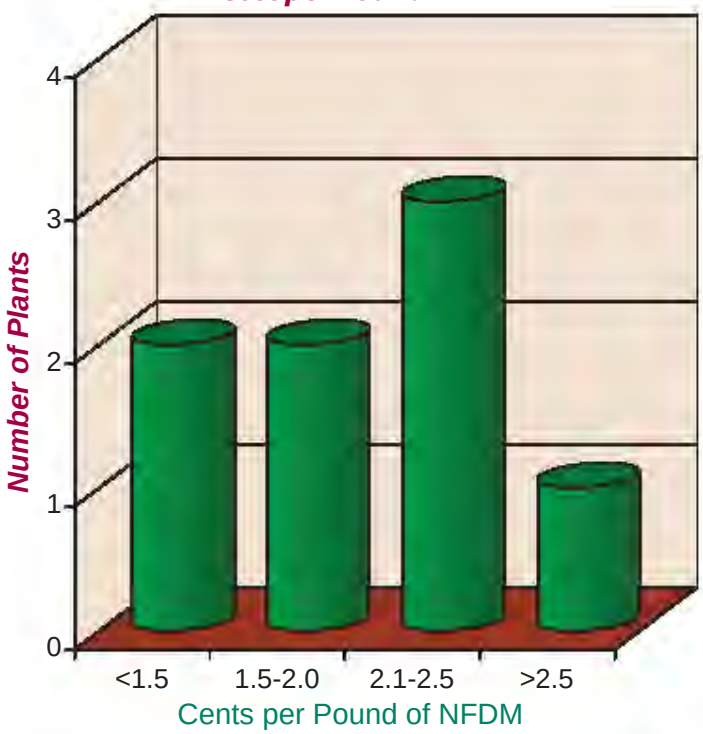
Figure 36. Utility Cost per Pound



Average	= 6.1¢ per pound
Wt'd Average	= 4.6¢ per pound
Median	= 4.9¢ per pound
Wt'd. Aver. Low Cost Group	= 4.4¢ per pound
Wt'd. Aver. High Cost Group	= 6.1¢ per pound

- The operation of the dryers and evaporators add significantly to the utility cost of power production.
- Natural gas costs account for 62 percent of total utility costs.
- Most of the plants kept utility costs under 6.5¢ per pound.

Figure 37. Repairs, Maintenance, and Supplies Cost per Pound



Average	= 2.1¢ per pound
Wt'd Average	= 2.0¢ per pound
Median	= 2.0¢ per pound
Wt'd. Aver. Low Cost Group	= 2.0¢ per pound
Wt'd. Aver.High Cost Group	= 2.3¢ per pound

- On a weighted average basis, supplies costs were more than twice that of repairs and maintenance costs.

Figure 38. Natural Gas, Electricity, and Sewage Cost Per Pound, in Nonfat Dry Milk Plants

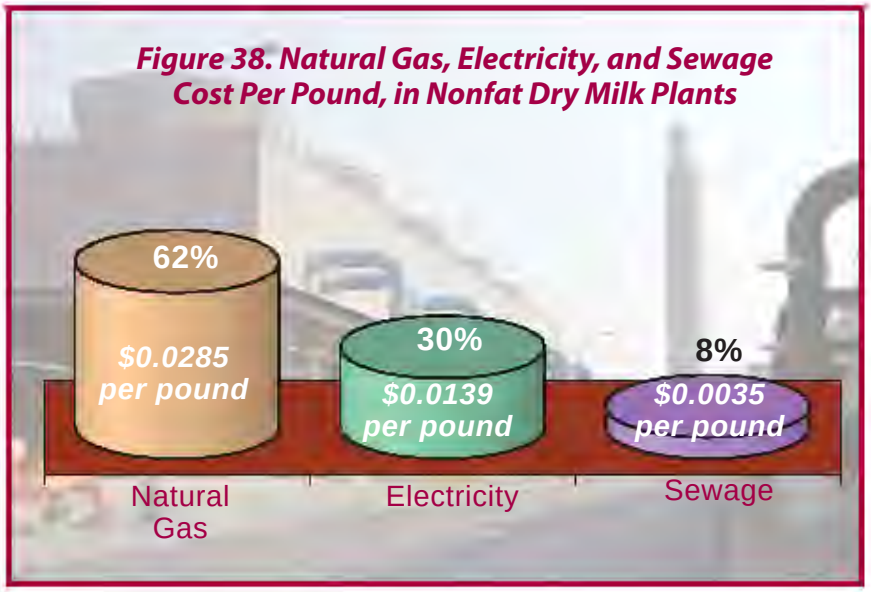
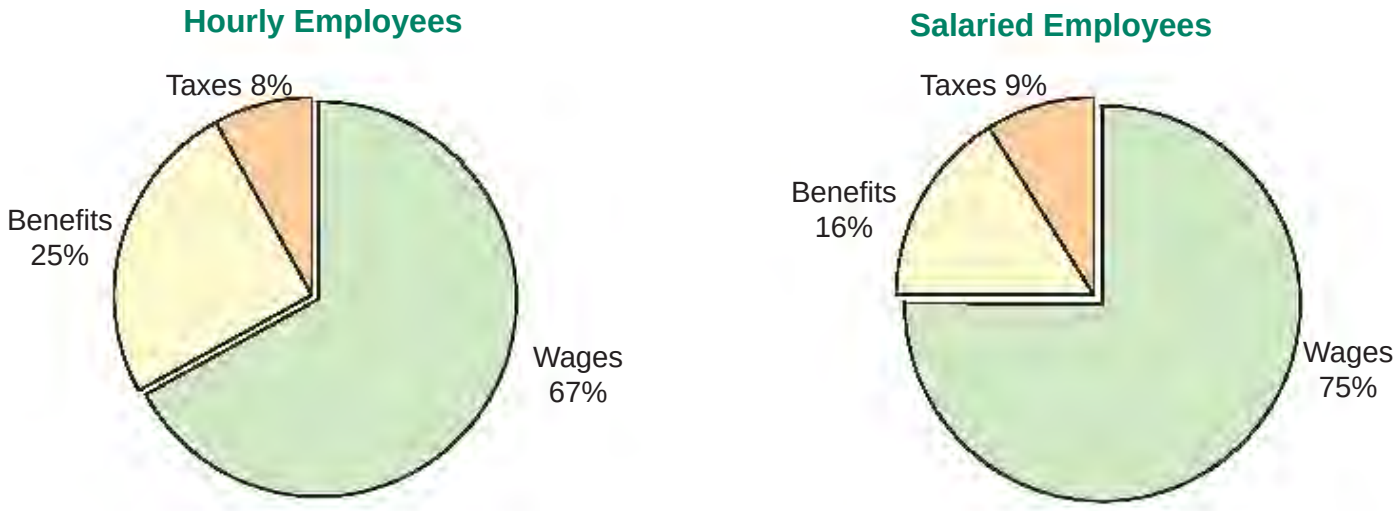
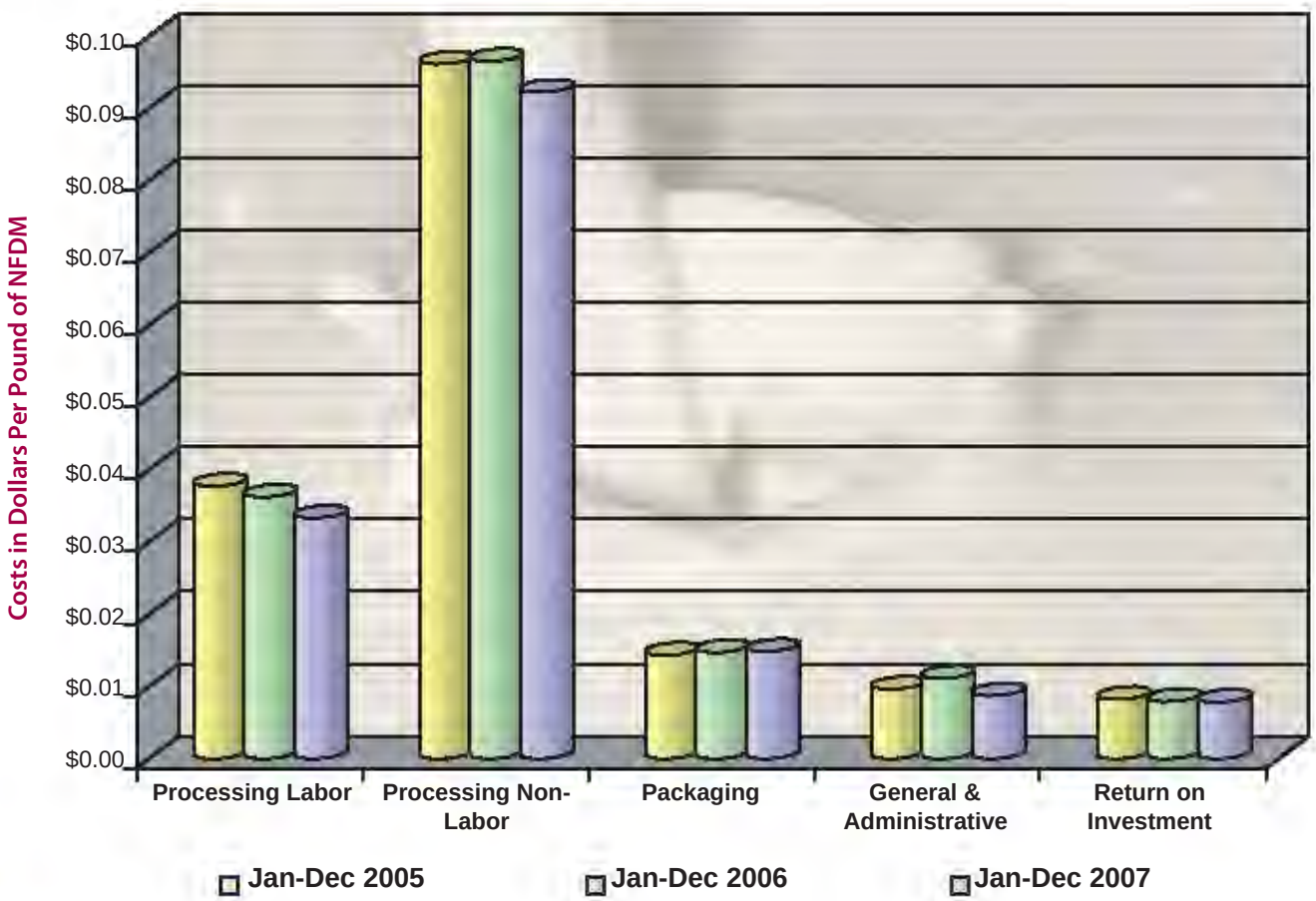


Figure 39: Comparison of Payroll Breakdown for Plant Employees and Salaried Employees



- Total payroll costs of the eight plants amounted to nearly $87 million.
- Hourly plant payroll accounted for 78 percent of the total payroll costs.
- Payroll - includes vacation, sick, and holiday pay.
- Taxes category includes FICA, FUTA, SUTA, and Workers Compensation.

Figure 40. NFDM Processing Cost Comparison, 2005, 2006, 2007



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 per pound of packaged products such as butter, NFDM, and 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.

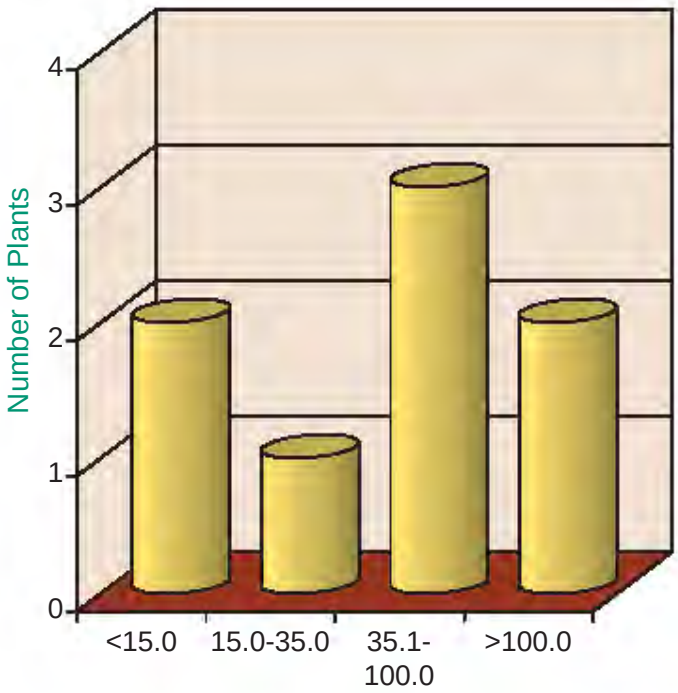
Condensed Skim Overview

Cost studies were completed on eight condensed skim plants for the year 2007. 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 491.3 million pounds *(Figure 41)*.

The eight plants processed on average over 61 million pounds of condensed skim in 2007; however, this is somewhat misleading because of the tremendous disparity in actual processing volume between the plants. The largest two plants alone produced 67 percent of the total volume produced.

The weighted average cost of manufacturing condensed skim was $3.19 per hundredweight (cwt.) *(Figure 43).*

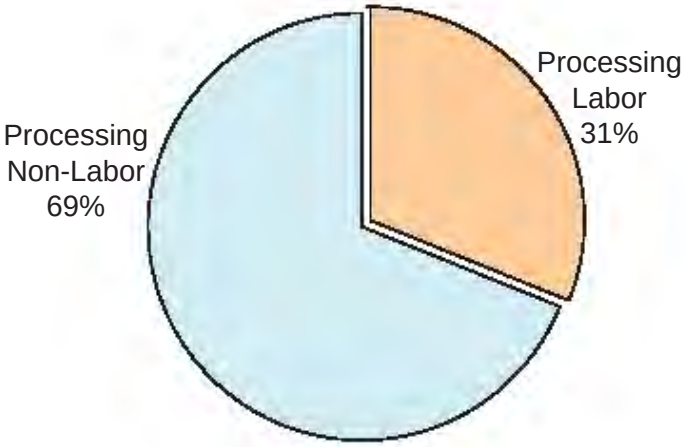
Figure 41. Annual Condensed Skim Production



Average	= 61 million pounds
Median	= 45 million pounds
Average Low Cost Group	= 74 million pounds
Average High Cost Group	= 49 million pounds

- Low Cost Group produced 50 percent more than High Cost Group.

Figure 42. Comparison of Processing Costs for Condensed Skim

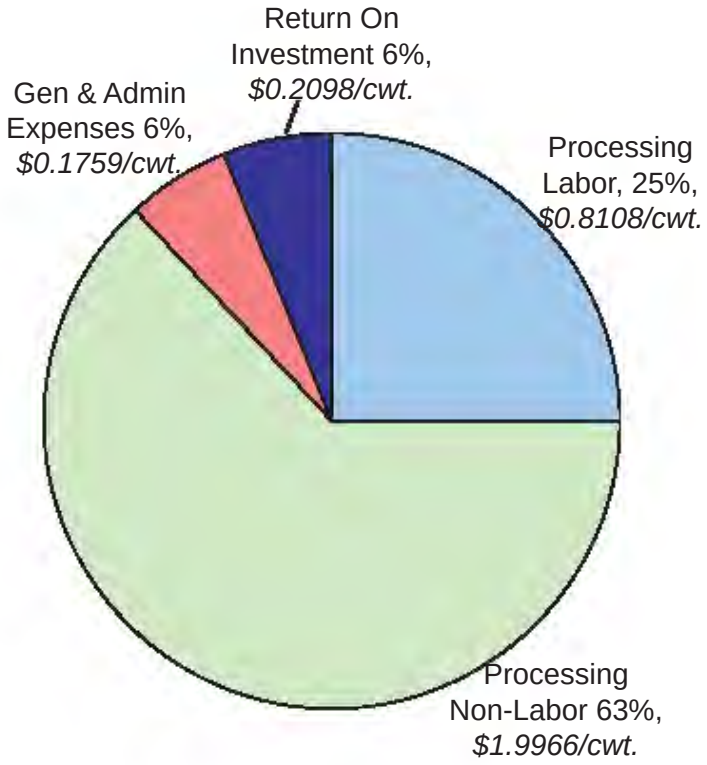


Processing non-labor includes utilities, depreciation, repairs and maintenance, laundry, supplies, and plant insurance

Low ratio	=	21% Labor 79% Non-Labor
High ratio	=	42% Labor 58% Non-Labor

- Non labor processing costs for condensed skim production ranged from 1.4 times to as much as 3.8 times the cost of production labor.
- Non labor processing costs include the plant expenses of utilities, depreciation, repairs and maintenance, laundry, supplies and insurance.

Figure 43. Breakdown of Condensed Skim Processing Costs



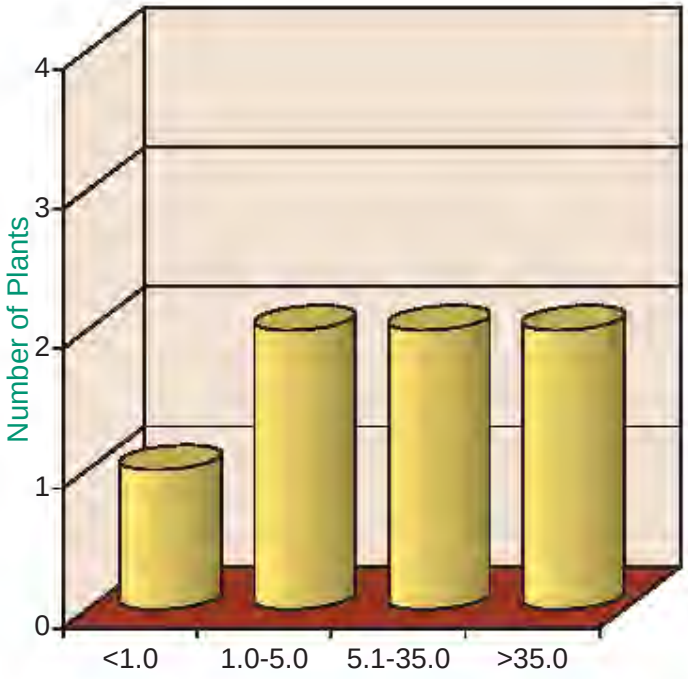
Cream Overview

Cost studies were completed on seven cream plants for the year 2007. The Low Cost Group included three plants, and the High Cost Group included four. The plants combined production totaled 139.8 million pounds *(Figure 44).*

The plants processed an average of 20 million pounds of cream in 2007. Not surprisingly, the volume of cream production varied between the groups of plants with the lowest and highest overall manufacturing costs; those with the highest volume of production normally have the lowest costs.

The weighted average cost of manufacturing cream was $3.21 per cwt. *(Figure 46).*

Figure 44. Annual Cream Production



Average	=	20 million pounds
Median	=	12 million pounds
Average Low Cost Group	=	13 million pounds
Average High Cost Group	=	25 million pounds

- The Low Cost Group's costs were based on the weighted average of three plants while the High Cost Group's costs were the weighted average of four plants.

Figure 45. Comparison of Processing Costs for Cream

Processing non-labor includes utilities, depreciation, repairs and maintenance, laundry, supplies, and plant insurance

Low ratio	=	23% Labor 77% Non-Labor
High ratio	=	55% Labor 45% Non-Labor

- Non labor cream processing costs ranged from 0.8 times less than to 3.3 times greater than processing labor.
- Processing non-labor costs include utilities, depreciation, repairs and maintenance, laundry, supplies, and plant insurance.

Figure 46. Breakdown of Cream Processing Costs

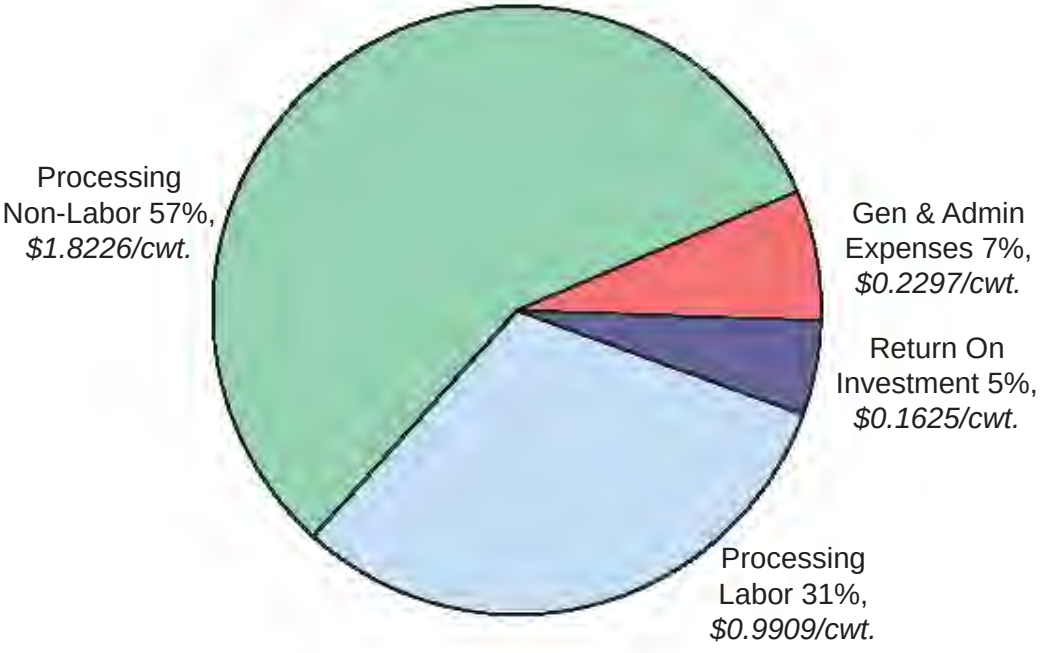


Figure 47. Simplified Product Flow in a Cheese Plant with By-Product Processing

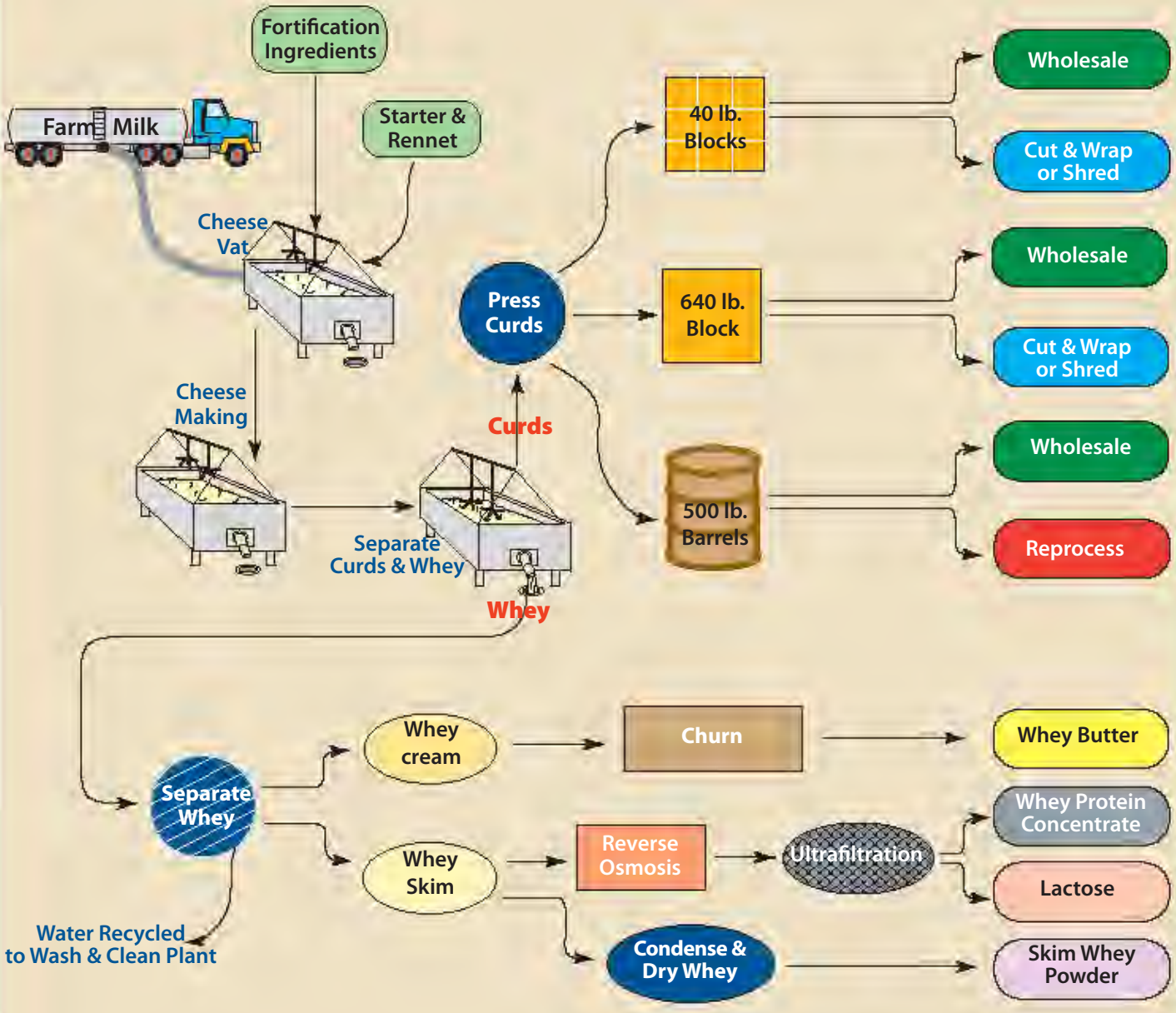
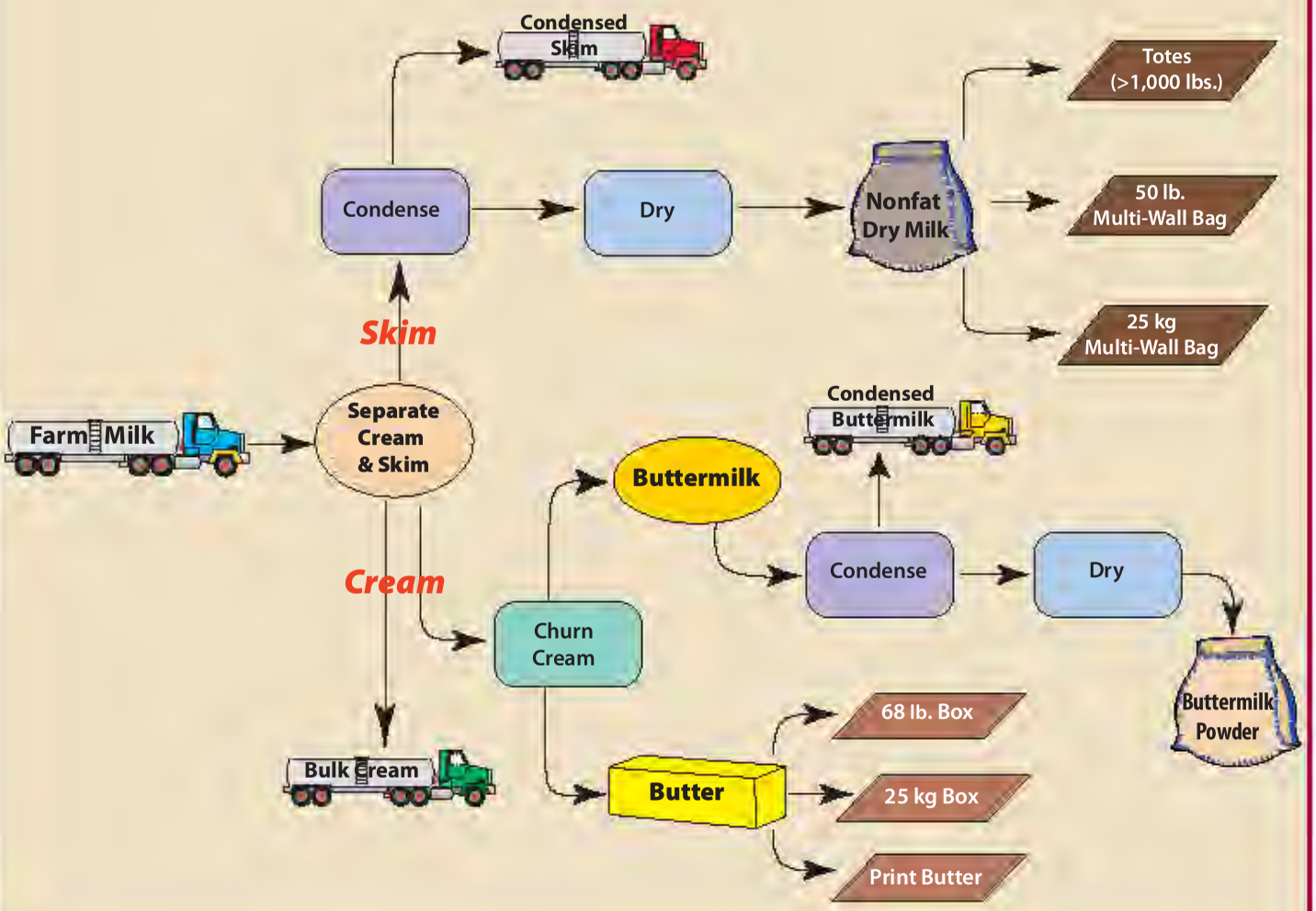


Figure 48. Simplified Flowchart of a Butter and Nonfat Dry Milk Plant



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

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From L to R: Foster Farms CFO Dennis Lund; CDFA staff Joseph Reno, Raymond Greth and Stephanie Qian.

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