

CHAPTER 9. PLANT OPERATIONS


In addition to the costs of fish and workers, you will face a number of other costs in operating your plant. Among the most important factors affecting operating costs that you need to think about are processing yields, supplies, and overhead.

Processing Yields

Your processing yield-- the finished product weight as a percentage of the round pound weight of fish you buy—is a major factor affecting how much money you can make processing fish. Higher-priced products like fillets have a lower yield than lower-priced products like H&G fish. So while your product price is going up, your product weight is going down. That's one of the main reasons that the fish processing business isn't as profitable as it may seem if you just compare the prices fishermen and processors get.

Anything that lowers your processing yield costs you money. This can include machines that are out of alignment, workers not being careful, bottlenecks in processing or transportation problems—and anything that lowers fish quality.

As you plan your production, you need to estimate the processing yields you will obtain. The table below shows average Alaska salmon processing yields for selected products in a study conducted by the University of Alaska Marine Advisory Program. These yields can give you a general idea how your final product weight might compare with the round weight of fish you buy. But remember that yields can vary widely from plant to plant, and will depend on the skill of your workers, the kinds of machines you use, and the size and quality of fish you are working with.



Typical Alaska salmon processing yields reported in Chuck Crapo, Brian Paust, and Jerry Babbitt, *Recoveries and Yields from Pacific Fish and Shellfish*, University of Alaska Marine Advisory Bulletin #37 (1993).

Average Alaska Salmon Processing Yields

Product	Species			
	Sockeye	King	Coho	Chum
H&G	74%	72%	75%	74%
Fillet - bone in, skin on	53%	55%	57%	60%
Fillet - boneless, skin off	35%	36%	38%	38%
Fillet - boneless, skin on (est.)				50%
Smoke - bone in fillet, skin on	33%	34%	36%	35%
Smoke - boneless, skin on (est.)				35%
Can or jar (bone in)	67%		67%	67%
Roe*	4%	6%	7%	8%

*Roe yields may vary widely depending upon the stage of the run and where the fish are caught..

Remember to take processing yields into account when you think about the effects of changes in grounds prices. As a simple example, if your processing yield is 50%, then a \$.20/lb increase in the grounds price would cost you \$.40 per pound of finished product.



As you estimate your processing yields, remember that not all fish are good quality. Part of this fillet can't be used—which will lower the plant's yield and increase its costs.



What processing yields do you expect to average?

Where in your processing operation will yield losses occur?

Supplies

Every year your fish plant will need to buy a wide variety of supplies. The table on the next page lists some of the supplies you may need to buy and what they might cost. Remember that an important part of the cost of supplies is the freight cost for getting them to your village. Freight costs are not shown in the table.

Example of Supply Costs for a Hypothetical Village Processing Plant

<i>Type of Supply</i>	<i>Item</i>	<i>Unit price</i>	<i>Quantity</i>	<i>Total Cost</i>	
Unloading/holding supplies	Slush-ice bags	\$300	100	\$30,000	
General processing supplies	Aprons	\$10	60	\$600	
	Raingear	\$60	5	\$300	
	Hats/Hair restraints	\$15	90	\$1,350	
Cleanup supplies	Totes/tubs for sanitizers	\$56	3	\$168	
	Hoses/nozzles	\$35	3	\$105	
	Scouring pads	\$13	8	\$104	
	Brushes	\$11	6	\$66	
	Brooms	\$72	3	\$216	
	Scrubbing pads/squeegees	\$9	12	\$108	
	Detergents (5 gal pail)	\$80	10	\$800	
	Sanitizers (6 gal case)	\$28	3	\$84	
	Mop heads	\$4	12	\$48	
	Mop handles	\$11	2	\$22	
	Squeegee handles	\$9	3	\$27	
	Mop bucket	\$60	1	\$60	
	Garbage cans	\$12	4	\$48	
	Safety equipment	Hard hats	\$6	6	\$36
		Ear plugs (per box of 100)	\$21	20	\$420
First aid kit		\$50	1	\$50	
Net meat cutting gloves		\$1	72	\$43	
Fish cutting gloves		\$13	24	\$312	
Support belts		\$15	10	\$150	
Preservation supplies	Brine salts	\$11	50	\$550	
Packaging supplies	Boxes - ("mini" 50 Lb)	\$3.50	11,500	\$40,250	
	Boxes - (Export 50 Lb)	\$3	450	\$1,350	
	Box liner - 50 Lb (110/Roll)	\$58	105	\$6,090	
	Soaker pads (1000/case)	\$32	12	\$384	
	Fish sleeves (1500/pack)	\$52	40	\$2,080	
	Vacuum bags (500/case)	\$130	400	\$52,000	
	5 gal. Bucket/lid (eggs)	\$8	1,500	\$12,000	
	Strapping (9000/coil)	\$75	10	\$750	
	Box staples (2000/box)	\$12	90	\$1,080	
	Gel crystals (40 lb box)	\$165	3	\$495	
	Gel ice bags (24 oz) - 2000	\$85	7	\$595	
	Labels (per 1000)	\$100	14	\$1,400	
	Tape machine 2	\$25	3	\$75	
	Tape	\$3	72	\$216	
	Butcher twine 2	\$9	15	\$135	
	Box markers	\$0	1	\$0	
	9/16" clips (boxes)	\$14	30	\$420	
	Freezer paper - 18"	\$36	12	\$432	
	Steak paper - 10"	\$4.25	12	\$51	
TOTAL				\$155,470	

Note: The unit prices in this table were provided by vendors or were taken from supply catalogs. Although they can give you a general idea of prices, you should check with suppliers in estimating your own prices, which may change significantly over time. The quantities shown in the table are examples of potential supply needs for a small village processing plant in western Alaska. Not all supplies shown in the table would be used by all plants.



What supplies will you need to operate your fish processing plant?

Where will you buy supplies? What will the supplies cost?

How will you get supplies them to your plant? What will it cost?

Overhead Costs

Overhead costs—also called “fixed costs”—are costs that need to be paid every year that are not directly tied to how much fish you process. Here are some of the overhead costs that you need to plan for:

- **Rent payments.** If you rent any land or buildings, you will need to make rent payments.
- **Salaries.** You will need to pay salaries for your manager and any other administrative workers such as secretaries. Although some of these people may work only part of the year, the manager will need to work for several months before and after the season, finishing up with business for the season and making plans for the next season. It may be hard to keep a good manager unless you provide full-time or year-round compensation.
- **Bonuses.** In addition to salaries, you may also wish to pay bonuses, which can be an important way of retaining top employees who are crucial to your operation.
- **Building maintenance.** Every year you will need to do at least minor maintenance and sometimes major maintenance. As a rough rule of thumb, you should plan on spending at least 2% of the value of the building on maintenance each year.
- **Equipment maintenance.** Every year you will need to do maintenance on your machinery, including trucks, to fix problems caused by normal wear and tear. Sometimes you will need to do major maintenance on equipment that breaks down.
- **Insurance.** You will need insurance for your buildings and equipment. As a rough rule of thumb, this might cost 1% of the total value of your buildings and equipment. You will also need liability insurance and insurance for any commercial vehicles the plant owns. Under state regulations, you will also need a Fisheries Business Tax Bond and a Fish Processors Bond.
- **Utilities.** In addition to paying for the water and electricity used in your processing operations, you will also have other utility costs such as for telephone and internet service.
- **Professional Services.** You will probably need help each year from an accountant. You may also need to hire lawyers or consultants. These services will probably cost you at least several thousand dollars per year.
- **Travel.** Your manager and sometimes other plant employees will need to travel to places like Anchorage and Seattle to purchase equipment and supplies, make transportation arrangements, meet with consultants and sales representatives and potential customers, and attend trade shows and other meetings. You need to include costs of plane tickets and hotels for this travel in your overhead costs.

- **Loan payments.** If you take out a loan, you will need to make payments on the loan every year.

Remember, the more fish you process, the lower your overhead costs per pound. That's one of the main reasons why it's harder for a lower-volume processing plant to succeed.

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What will your overhead costs be?

How much fish do you need to process to keep your overhead costs per pound to a level you can afford?