COOPERATIVE EXTENSION SERVICE
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UNIVERSITY OF ALASKA FAIRBANKS

The Cost of Preserving and Storing Food in Alaska

Alaskans are known for their great hunting, fishing, gathering and gardening skills. Many of these endeavors result in large amounts of food that need to be preserved safely for future consumption. The cost of preserving food in Alaska varies among regions due primarily to transportation costs for communities off the road systems. This makes the costs of preserving food in rural areas higher.

Costs to consider include the food to be preserved, added ingredients, equipment and supplies, electricity needed to preserve and store the foods, cost of large appliances such as a freezer, personal time and energy, and the cost of similar food preserved commercially.

Food Costs

Food used in home food preservation may come from several sources: home gardens, roadside markets, pick-your-own farms, gathered wild edibles, fishing, hunting or gifts from family and friends.

If you purchase the food, the cost is evident. If you have a garden, some costs to consider include the cost of the land; special costs to till the soil; the cost of such reusable equipment as garden tools; the cost of nonreusable items such as seeds, fertilizer, pesticides and water; and personal time and energy.

If you gather wild edibles, some costs to consider include transportation, collecting containers, personal time and energy and, in some cases, parking fees or park fees.

If fishing and hunting provide the raw materials for preservation, then the cost of a license, lodging, equipment, guns, ammo, fishing gear, transportation and any other added expenses must be considered in the actual cost of preserving this food.

The harvest value of your gardening, gathering and fishing and hunting efforts will depend on the market value of the food produced minus any costs incurred. If you produce a bumper crop, the savings may be great. However, if you're plagued with crop failures, the savings may be small.

Although gardening, gathering, fishing and hunting may not be exceptionally profitable when you consider your time, it does offer many side benefits. In addition to the cash you don't spend at the supermarket, you will gain healthy outdoor exercise, opportunities for family activities, across-the-fence neighborliness and the pleasure of sharing extra food with neighbors and friends. Other benefits include the ready availability of fresh garden produce, wild edibles, and fish and game meat without making a trip to the supermarket. Plus, you'll discover the challenge and ecological satisfaction of producing some of your own food.

The actual cost to obtain the food that will be preserved is not included in the tables in this publication. This cost would be based on your local cost and individual choices for gathering, growing or purchasing the food to be preserved.

Freezing Costs

Freezing has advantages and disadvantages as a method for food preservation. There are several advantages. First, the procedure is simple. Second, freezing keeps food more like fresh produce than any other method of long-term preservation. Third, freezing is an economical way to have local high quality food throughout the year. Also, home-frozen foods can be preserved to your own taste or special diet needs. The disadvantages are the costs of buying and operating a freezer.

Some costs associated with freezing food include:

- initial cost of freezer, divided over 20 years if new, nine years if used
- lost interest on cash outlay for freezer
- maintenance and repair
- electricity needed to reach and maintain 0°F
- packaging materials
- water and electricity to prepare food for freezing
- added ingredients, such as sugar or antidarkening agents

Table 1: Cost for items used in preserving food at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
Electricity (per kWh)	$0.15	$0.22	$0.20	$0.08	$0.20	$0.25	$0.17
Water (per gal)	$0.02	$0.08	$0.01	$0.02	$0.002	$0.01	$0.005
1-pint hard-sided freezer containers (each)	$0.56	$1.10	$0.90	$0.60	$0.55	$0.92	$0.72
Freezer bags (each)	$0.13	$0.20	$0.14	$0.15	$0.19	$0.20	$0.12
Plastic wrap (per yd)	$0.04	$0.05	$0.05	$0.04	$0.04	N/A	$0.04
Freezer paper (per yd)	$0.21	$0.31	$0.16	$0.09	$0.21	$0.26	$0.16
Wide-mouth pint mason canning jars (each)	$0.92	$1.46	$1.17	$0.83	$0.92	$1.50	$1.02
Wide-mouth mason canning jar lids (each)	$0.25	$0.78	$0.44	$0.35	$0.32	$0.56	$0.27
Quart-size vacuum seal bags (8x11 in)	$0.42 each	N/A	$0.43	$0.50	$0.30	$0.58	$0.50
Vacuum seal roll (8x11 in)	$0.32	N/A	$0.22	$0.54	$0.24	$0.58	$0.44

The following items were purchased online with the cost remaining the same for all districts because the delivery costs were free.

15-foot chest freezer	$548.00
23-quart pressure canner	$99.99
21.5-quart water bath canner	$19.99
5-piece canning tool kit	$10.49

The initial cost of a freezer varies with size, type, special features and age. New freezers should require little repair the first year. However, in the long run the U.S. Department of Agriculture (USDA) recommends an expected repair cost on new freezers of 2 percent of the purchase price per year. For used freezers, this rate may be higher.

The money put into a freezer may or may not have been invested to bring cash income or to pay debts. If the interest from an alternative investment is considered in the cost of owning a freezer, the rate would be based on the return that would come from some other investment.

Research shows that it takes 0.l kilowatt hours (kWh) to freeze a pound of food and lower its temperature to 0°F. It takes 2.3 kWh to keep a pound of food at 0°F. for one year. These figures are based on a 15-cubic-foot manual defrost freezer running under optimal conditions. The electrical energy required depends on many factors. Some of these are:

- **Temperature of room where freezer is located.** Freezers in warmer rooms use more energy. Many manufacturers have specified operating temperature ranges for their freezers. Check with the manufacturer for these specifications if you plan to place your freezer in an area that runs outside of the normal operating range.
- **Frequency of door openings.** The more a freezer is opened, the more electricity it uses.
- **Size of freezer.** In general, larger freezers use more electricity than smaller ones.
- **Insulating properties of freezer.** In general, better insulated freezers cost more to purchase but less to operate.
- **Freezer maintenance.** Clean condenser coils and defrost freezers as needed.
- **Amount of food in freezer.** A full freezer uses less total electricity as well as less electricity per pound of food to maintain 0°F.
- **Turnover of food.** Because the cost of maintaining food in a freezer increases daily, the food preservation cost of food stored six months, for example, will be less than the same food stored one year.
- **Type of freezer — chest or upright.** In general, chest freezers store foods more economically than upright freezers. However, upright freezers may be more convenient to use.
- **Type of freezer — manual defrost or frost-free.** Frost-free freezers cost considerably more to operate than manual defrost freezers.
- **Age of freezer.** Newer freezers can be more energy efficient than older models. An ENERGY STAR-qualified freezer will be more energy efficient than a model that does not qualify as ENERGY STAR.

The cost of packaging materials, including reusable containers, can cost as little as $0.10 to more than $1.50 a piece. Rigid containers, such as plastic cartons or glass jars, cost more initially, but not when the initial cost is divided over several years' use. The life expectancy of glass mason jars is about 10 years and hard-sided plastic freezer containers about 5 years.

The cost of water and electricity used in washing, blanching and chilling foods varies with area costs of these commodities and individual practices.

Table 2: Example for figuring the cost of freezing 1 pound of food (not including the cost of the food) for one year in a 15-cubic-foot manual defrost chest freezer. This assumes the freezer is full and running at optimal conditions for one year. Storing food for less than one year under optimal condition will result in a decreased operating cost per pound of food. A less full freezer will increase the operating cost per pound of food.

Item	Cost
Electrical energy: 0.1 kWh/lb to freeze 2.3 kWh/lb to maintain 0°F 2.4 kWh/lb x $0.15/kWh	$0.36
Packaging (est. cost each of hard-sided container/5 yrs)	$0.11
Water and steam (est.) for blanching (electric range large burner uses 2,400 watts per hour) 2,400 watts x .25 hour = 600 watts 600/1,000 = .6 kWh x $.15/kWh = $.09 $0.02 (1 gal. of water) + $0.09 (.6 kWh)	$0.11
Repairs (cost of freezer $548 x 2%/525 lb)	$0.02
Freezer cost, divided over years and pounds food $548/20 yr/525 lb)	$0.05
Interest from alternative investment (cost of freezer $548 x interest rate .25%/525 lb)	$0.0026
Total cost/lb	**$0.6526**

The cost of added ingredients also varies with the amount used. Added ingredients to consider include salt, sweeteners such as sugar and honey, and antidarkening agents such as citric acid and ascorbic acid. Vegetables and many fruits freeze quite well without added ingredients.

As an example, the cost of operating a 15-cubic-foot manual defrost freezer, 525-pound capacity, purchased new, with a single 525-pound turnover of food per year is about $0.65 per pound of food. Add the price of the food to be frozen and any added ingredients to the example in Table 2 to get the actual cost of the food preserved at home by freezing. This example assumes the food is stored in a full freezer for one year. A shorter storage life will decrease the operating cost per pound of food, and a less full freezer will increase it. Table 3 shows the cost of freezing food for one year in seven locations in Alaska.

Freezing foods at home is not cheap, nor is the cost of storing frozen foods purchased commercially. However, a well-managed freezer can save time, energy and gasoline in fewer trips to the supermarket.

To get the most out of your home freezer, select a freezer to fit your family needs, use it properly, freeze only those foods the family likes to eat in amounts that can be enjoyed, and find economical sources of those foods.

Canning Costs

Preserving food in jars is a more economical method of preserving food in the home than freezing. But the canning operation, and therefore the cost, varies from household to household. Variations might include types of foods canned, how foods are processed, kinds of containers or equipment used and amounts processed at a given time.

Table 3: Cost of freezing 1 pound of food (not including the cost of the food) for one year in a 15-cubic-foot manual defrost chest freezer at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
Energy	$0.36	$0.53	$0.48	$0.19	$0.48	$0.60	$0.41
Packaging	$0.11	$0.22	$0.18	$0.12	$0.11	$0.18	$0.14
Water/steam	$0.11	$0.21	$0.13	$0.07	$0.12	$0.16	$0.11
Repairs	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02	$0.02
Freezer	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05
Interest from alternative investment	$0.0026	$0.0026	$0.0026	$0.0026	$0.0026	$0.0026	$0.0026
Total cost per pound of food	**$0.65**	**$1.03**	**$0.86**	**$0.45**	**$0.78**	**$1.01**	**$0.73**

In addition to the cost of produce or the gathered foods, special costs associated with preserving food by canning include:

- purchase of canners (pressure and/or water bath)
- purchase of special equipment such as jar funnels and lifters
- purchase of jars and lids (new lids must be purchased each year)
- water and electricity needed to jar foods
- added ingredients, such as sugar, salt, vinegar and spices.

A **pressure canner** is the most expensive piece of equipment needed for home canning, ranging in price from $100 to $275 or more depending on the size of canner and where it is purchased. The initial cost may be divided over a 20- to 40-year life expectancy. Additional costs include allowances for repair and replacement of gaskets, safety valves and pressure gauges.

A **large water-bath canner** is useful in processing high-acid foods, such as fruits, tomatoes, pickles and preserves. Prices range from $15 to $35. Sometimes a container already in the home can be used.

Special equipment such as a jar lifter ($3 to $4) and a jar funnel ($1 to $2) are other helpful pieces of equipment for canning.

The cost of **new canning jars** with lids ranges from $10 to $20 per dozen. The jars and screw bands may be divided over an average 10-year lifespan, but lids need to be purchased yearly, varying in cost from $0.25 to $1 per lid.

The cost of **added ingredients** with home-canned foods may be low, in the case of vegetables (usually ½ teaspoon salt per quart) or high for foods such as jams, jellies and some pickles. When figuring the cost of sugar, allow 2½ cups of sugar per pound.

As with freezing, the cost of **water and electricity** to prepare and process foods by canning will vary with area costs, personal practices and the type of food being processed.

The **energy cost to process the food** will vary with the length of processing time and the efficiency of the burner used in maintaining the desired processing temperature. The large burner of an electric range uses 2,400 watts per hour and the small burner uses 1,300 watts per hour.

How to calculate the energy cost and consumption of an electric range burner:

wattage x hours used per day/1,000 (1 kilowatt = 1,000 watts)	=	kilowatt-hour (kWh)
kilowatt-hour x cost per kWh	=	energy cost
Example:		
2,400 watts x .25 hours/1,000	=	6 kWh
6 kWh x $.20/kWh	=	**$0.12**

Other factors that home canners should consider are:

- **Year-round availability of food** at a reasonable cost. Some foods are reasonably priced throughout the year (e.g., carrots). Others vary greatly with seasons (e.g., strawberries, apricots). Preserving seasonal foods when plentiful results in the greatest savings.
- **The cost of the food for the nutrients gained**. Some foods are a more expensive source of nutrients than others. When canning supplies and freezer space are limited, consider the comparative nutritional value of foods available for preserving.
- **Adequate storage space.** Store filled, processed jars in a clean, cool, dark, dry place. For best quality, store between 50° and 70°F. Can no more food than you

Table 5: Cost for pressure canning/jarring 14 pint jars of food (not including the cost of food) at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
23-quart pressure canner	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00
Small equipment	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52
Jars and screw bands	$1.26	$2.10	$1.68	$1.12	$1.26	$2.10	$1.40
New lids	$3.50	$10.92	$6.16	$4.90	$4.48	$7.84	$3.78
Water	$0.02	$0.08	$0.01	$0.02	$0.002	$0.01	$0.005
Electricity	$0.72	$1.06	$0.96	$0.38	$0.96	$1.20	$0.82
Total cost for 14 jars	$11.02	$19.68	$14.33	$11.94	$12.22	$16.67	$11.53
Total cost per jar	**$0.79**	**$1.41**	**$1.02**	**$0.85**	**$0.87**	**$1.19**	**$0.82**

Table 6: Cost for pressure canning/jarring 56 pint jars of food (not including the cost of food) at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
23-quart pressure canner	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00	$5.00
Small equipment	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52
Jars and screw bands	$5.04	$8.40	$6.72	$4.48	$5.04	$8.40	$5.60
New lids	$14.00	$43.68	$24.64	$19.60	$17.92	$31.36	$15.12
Water	$0.08	$0.32	$0.04	$0.08	$0.01	$0.04	$0.02
Electricity	$2.88	$4.22	$3.84	$1.54	$3.84	$4.80	$3.26
Total cost for 56 jars	$27.52	$62.14	$40.76	$31.22	$32.33	$50.12	$29.52
Total cost per jar	**$0.49**	**$1.11**	**$0.73**	**$0.56**	**$0.58**	**$.90**	**$0.53**

Table 4: Example of figuring the cost for pressure canning/ jarring per pint jars of food (not including the cost of food). Estimates based on one batch of 14 jars and four batches of 14 jars. Cost will be less or more depending on the number of jars canned in a season, amount of energy and water used.

Item	Cost (14 jars)	Cost (56 jars)
23-quart pressure canner (cost/expected 20 yr) ($99.99/20)	$5.00	$5.00
Allowance for repair, replacement	$0.00	$0.00
Small equipment (cost/expected 20 yr) ($10.49/20)	$0.52	$0.52
Jars and screw bands (cost/expected 10-yr life/# of jars) ($10.99/10)/12) ($0.09 x 14 jars)	$1.26	$5.04 (56)
New lids (cost/# of lids) ($2.99/12) ($0.25 x 14 lids)	$3.50	$14.00 (56)
Water (# of gallons x cost per gal) (1 gallon x $0.02)	$0.02	$0.08 (4 gal)
Fuel for preparing and processing (electric range large burner uses 2,400 watts per hr) (2,400 watts x 2 hours = 4,800 watts 4,800/1,000 = 4.8 kWh $0.15/kWh x 4.8 kWh)	$0.72	$2.88 (19.2 kWh)
Total of the above figures	$11.02	$27.52
Number of pint jars canned this year	14	56
Total cost per pint jar (Total/#of jars canned this year) ($11.02/14) ($27.52/56)	**$0.79**	**$0.49**

Table 7: Example of figuring the cost for pressure canning/ jarring per pint jars of food (not including the cost of food). Estimates based on one batch of 14 jars and four batches of 14 jars. Cost will be less or more depending on the number of jars canned in a season, amount of energy and water used.

Item	Cost (7 jars)	Cost (49jars)
21.5-quart water bath canner (cost/expected 20 yr) ($19.99/20)	$1.00	$1.00
Small equipment (cost/expected 20 yr) ($10.49/20)	$0.52	$0.52
Jars and screw bands (cost/expected 10-yr life/# of jars) ($10.99/10)/12) ($0.09 x 7 jars)	$0.63	$4.41 (49)
New lids (cost/# of lids) ($2.99/12) ($0.25 x 7 lids)	$1.75	$12.25 (49)
Water (# of gallons x cost per gal.) (3.5 gallon x $0.02)	$0.07	$0.49 (24.5 gal)
Fuel for preparing and processing (electric range large burner uses 2,400 watts per hr) (2,400 watts x 2 hours = 4,800 watts 4,800/1,000 = 4.8 kWh $0.15/kWh x 4.8 kWh)	$0.72	$5.04 (33.6 kWh)
Total of the above figures	$4.69	$23.71
Number of pint jars canned this year	7	49
Total cost per pint jar (Total / #of jars canned this year) ($11.02/14) ($27.52/56)	**$0.67**	**$0.48**

Table 8: Cost for water bath canning/jarring 7 pint jars of food (not including the cost of food) at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
23-quart pressure canner	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00
Small equipment	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52
Jars and screw bands	$0.63	$1.05	$0.84	$0.56	$0.63	$1.05	$0.70
New lids	$1.75	$5.46	$3.08	$2.45	$2.24	$3.92	$1.89
Water	$0.07	$0.28	$0.04	$0.07	$0.01	$0.04	$0.02
Electricity	$0.72	$1.06	$0.96	$0.38	$0.96	$1.20	$0.82
Total cost for 14 jars	$4.69	$9.37	$6.44	$4.98	$5.36	$7.73	$4.95
Total cost per jar	**$0.67**	**$1.34**	**$0.92**	**$0.71**	**$0.77**	**$1.10**	**$0.71**

Table 9: Cost for water bath canning/jarring 49 pint jars of food (not including the cost of food) at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
23-quart pressure canner	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00
Small equipment	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52	$0.52
Jars and screw bands	$4.41	$7.35	$5.88	$3.92	$4.41	$7.35	$4.90
New lids	$12.25	$38.22	$21.56	$17.15	$15.68	$27.44	$13.23
Water	$0.49	$1.96	$0.25	$0.049	$0.05	$0.25	$0.12
Electricity	$5.04	$7.39	$6.72	$2.69	$6.72	$8.40	$5.71
Total cost for 49 jars	$23.71	$56.44	$35.93	$25.77	$28.38	$44.96	$25.48
Total cost per jar	**$0.48**	**$1.15**	**$0.73**	**$0.53**	**$0.58**	**$0.92**	**$0.52**

will use within a year. Do not store jars above 95°F or near hot pipes, a range, a furnace, in an uninsulated attic or in direct sunlight. Under these conditions, food will lose quality in a few weeks or months and may spoil. Dampness may corrode metal lids or break seals.

- **Possible food spoilage or foodborne illness issues.** Always check annually with the Cooperative Extension Service for the most recent food preservation recommendations.

Drying Costs

Drying may be an economical method to preserve foods. It does not require expensive equipment, and dried foods need little space or energy for storage. On the other hand, drying foods is time consuming and the end product may be less desirable than if foods are preserved by canning or freezing.

Special costs associated with preserving foods by drying include:

- cost of dehydrator and/or screens
- cost of water and energy to prepare foods for drying
- added ingredients, such as salt, marinades or antidarkening agents
- energy to dry food in oven or electric dehydrator
- water and energy to rehydrate foods to their original state.

Commercial home dehydrators vary from $30 to $300, depending on size, features and quality of construction.

Table 10: Cost per hour for food dehydrators at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts		Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
Electricity (kWh)		$0.15	$0.22	$0.20	$0.08	$0.20	$0.25	$0.17
Dehydrator wattage (hr)	Peak wattage (hr)							
125 watts	87.5 watts	$0.01	$0.02	$0.02	$0.01	$0.02	$0.02	$0.01
400 watts	280 watts	$0.04	$0.06	$0.06	$0.02	$0.06	$0.07	$0.05
550 watts	385 watts	$0.06	$0.08	$0.08	$0.03	$0.08	$0.10	$0.07
600 watts	420 watts	$0.06	$0.09	$0.08	$0.03	$0.08	$0.11	$0.07
700 watts	490 watts	$0.07	$0.11	$0.10	$0.04	$0.10	$0.12	$0.08

How to calculate the energy consumption and cost of using an electric food dehydrator.

Peak wattage - 600 watts x .7 x 1 hour = 420 watt-hours (W-hr)
or
([600W x .7] 1 hour = 420 W-hr)

Next, you will need to change watt-hours to kilowatt-hours by dividing the watt-hour by 1,000 as 1 kilowatt = 1,000 watts.
420 W-hr/1,000 = .42 kWh

To determine the cost of electricity used by your dehydrator, you need to know the cost of a kilowatt-hour (kWh) in your area. Your electric bill will have the cost of electricity by kilowatt-hours. For example, in your area you may be paying $0.20 per kWh.

The formula for determining the amount of electricity used is:

local kWh rate x peak kWh x hours used = cost
Example: $0.20 per kWh x .42 kWh x 1 hour = **$.084**

This works out to cost $0.08 per hour to run a 420-W-hr dehydrator when the cost of electricity is $0.20 per kWh.

Screens used in ovens or homemade dehydrators may be a piece of nylon netting, cheesecloth or stainless steel hardware cloth set in a wooden frame.

The energy required to dry the food will vary with the type of dehydrator and the length of time needed to dry the food. Sun drying may be an option in some locations where humidity is low.

By law, a food dehydrator must state its peak wattage draw. The peak wattage includes the wattage drawn by the fan and the heating coil when the appliance is running. The peak wattage number is usually located on a label on the backside of the dehydrator.

The fan runs all the time but the heating coils go on and off as needed. Since the peak wattage is figured with both the fan and the heating coil running all the time, a special formula must be used to calculate the actual energy consumption of the food dehydrator.

To figure the power usage for 1 hour of running a food dehydrator, multiply the peak wattage by 0.7. This multiplier takes into account that the heating coil is not on all the time. Manufacturers suggest using a 0.7 multiplier as a reasonable way to determine an estimated amount of the actual wattage used by most dehydrators.

Smoking Costs

In earlier times, smoking was a common form of food preservation; large amounts of salt and long smoking times were used to help preserve fish, poultry or meat. Today, smoking is used more for flavor and appearance, so the amount of salt and smoke used are NOT sufficient to prevent bacterial spoilage. Home-smoked products must be stored in a refrigerator or freezer.

Special costs associated with smoking food are:

- cost of the smoker
- cost of the food
- cost of water to prepare food for smoking
- cost of electricity to prepare food for smoking
- cost of the wood chips
- cost of brine or marinade ingredients
- cost of electricity for the smoker
- cost packaging material
- cost of electricity for storing the smoked product in the refrigerator or freezer

How to calculate the energy cost and consumption of an electric outdoor smoker:

Smoker's wattage x hours used per day/1,000 (kWh) consumption = Daily kilowatt-hour
(1 kilowatt = 1,000 watts)
daily kWh x cost per kWh = energy cost

Example:
600 watts x 6 hours used/1,000 watts per hour = 3.6 kWh
3.6 kWh x $0.20/kWh = **$0.72 energy cost**

Table 11: Electrical cost per hour for Little and Big Chief Smokers at seven Cooperative Extension districts during the summer of 2009.

Alaska Districts	Anchorage	Bethel	Fairbanks	Juneau	Kenai	Nome	Palmer
Electricity (kWh)	$0.15	$0.22	$0.20	$0.08	$0.20	$0.25	$0.17
Little Chief/250-watts	$0.04	$0.06	$0.05	$0.02	$0.05	$0.06	$0.04
Big Chief/450-watts	$0.07	$0.10	$0.09	$0.04	$0.09	$0.11	$0.08

Cold Storage Costs

Root cellars or cold storage also may be an economical way to preserve some foods if you live in a location where this is possible. Fruits and vegetables that store well this way include beets, cabbage, carrots, celery, parsnips, potatoes, rutabagas, turnips, apples and pears. Onions store well, through the winter in any well-ventilated, cool, dry place. Store pumpkin, winter squash and sweet potatoes in an unheated room or basement through the winter. Green or white tomatoes will keep from one to six weeks.

Special costs associated with preserving foods in a root cellar:

- Building or making a storage cellar or room. This may be anything from the unheated corner of a basement or wooden barrel buried in the ground and covered with straw and a waterproof top, to a walk-in outdoor cellar.
- The required storage space is lost to other uses.
- Time and produce lost in keeping the storage area clean and free of decaying fruits and vegetables. This is most important to prevent further spread of decay.

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Roxie Rodgers Dinstel, Extension Faculty, Health, Home and Family Development. Originally written by Kristy Long, former Extension Foods Specialist, and Marci Johnson, former Program Assistant, Health, Home and Family Development.

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