

MEAT STORAGE AND PRESERVATION

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Storage and preservation are best accomplished by cold. Other methods include smoking, curing, making jerky, and pemmican, salting and pickling, canning and using sugar solutions, and antibiotic treatment.

(a) Smoking. The process of smoking meat as a means of preservation and flavor enhancer is extremely old. Although it has largely been replaced by more modern, faster methods of food preservation, it is still a viable procedure for the SF Medic in a field environment during UW operations.

There are several acceptable methods, and the one outlined below should not be considered as the only safe method.

There are also variations in the step-by-step instructions, depending on the type of meat. Regardless of the type of meat, there are several basics for smoking meat that do not change.

(1) No matter what type of meat is smoked, a smokehouse will be needed. This can be any type of building that has a roof vent (or have one installed), that is otherwise fairly well sealed, and that has a floor that will take a firepit.

The fire pit (or box) should be centered in the floor and be about 2 feet deep and 2 feet wide, depending on the amount to be cured at one time and the size of the smokehouse.

(2) The wood used for the fire should be from deciduous trees (shed leaves in winter) and preferably green. Do not use conifers (needle leaf), such as pine, fir, spruces, cedars, as the smoke these woods produce gives the meat a disagreeable taste.

Start the fire and let it burn down to coals only, and then stoke it with green wood. The fire should be a "cold smoke" fire (less than 85 degrees F.) that has only coals, not flames, during the smoking process. The meat should then be placed in the smokehouse and hung from the rafters.

(3) The rafters should be wooden poles of green wood to prevent burning and should run the length of the smokehouse.

Suspension line or string may be used to connect the meat to the rafters. When hung, the bottom of the meat should be at least 4 feet but no more than 5 feet from the top of the firepit.

All meat should hang free (not touching any other meat or the walls of the smokehouse) so it will smoke evenly and prevent spoilage from contact.

Usually meat is smoked a minimum of 4-5 days depending on the size of the smokehouse and size of pieces of meat being smoked. After the meat is smoked, it should be stored in the smokehouse if feasible.

(4) Preparing meat for smoking varies with the type of meat.

(a) Beef.

1. Remove the large bones, especially the joints, to prevent souring during the smoking process.

2. Trim the fat from the outer surfaces of the meat.
The fat should be kept for making pemmican and candles.
3. Section the meat into manageable pieces, always cutting across the grain, not with the grain. This makes for more tender meat and helps speed up the smoking process.
4. Cut a hole in the meat and string it with heavy twine, suspension line, etc. The hole should be placed as to prevent the string ripping through the meat during the smoking process.
5. Hang the meat in the smokehouse and fill out a smoking record. The record will enable you to follow the same procedure the next time you smoke meat.

(b) Pork

1. Pork smoking is much like the beef process. Hot water can be used to help remove the hair from the skin of the animal.
2. Do NOT remove the layered fat or the bones except ball and socket joint bones. Do not scrape off the rendered fat (fat oozing from the pork during smoking).

3. follow steps 3, 4, and 5 above.

(c) Smoked meat will generally stay in good shape for up to 1 year, depending on how well the instructions are followed, the climate, insect and rodent control, the condition of the meat prior to smoking, and other factors.

If the meat should appear sour around a bone area, section the meat to expose the sour area for 24 hours. If the sour appearance

clears up, the meat is generally safe. If it does not clear up, dispose of the meat.

(D) Curing.

One way to keep meat fresh in conjunction with smoking is by curing it. This process works well by itself, but is best used with smoking. Various spices, sugar, salt and brines may be used, but the method described below is a dry salt (coarse not table) treatment. like smoking, curing is a simple process.

(1) A work/storage area protected from insects and rodents is important in this method. The initial step is the same as in the beef smoking process. After this step has been completed, rub salt into the meat to prepare it for the salt box.

(a wooden container large enough to hold the sectioned salt-covered meat). Cover the bottom of the salt box with salt. place the salted meat in the salt box. If more than one piece of meat is placed in the box, be sure that the pieces do not touch each other.

Cover the meat with salt. This procedure should be repeated again in 2 days and repeated again 2 days later. The salt should be changed for each repetition. On the sixth day remove the meat from the salt box.

Place a layer of green pine straw, hay, etc. on the ground or floor (again in an area protected from rodents and insects), cover the hay with salt, and place the meat on the layer of salt.

Cover the meat with salt and place a layer of straw on the salt-covered meat.

2) The meat may be left this way for up to 1 year, depending on

the same factors as for smoked meat. It should be inspected regularly.

- 3) It is generally recommended that the meat be smoked. If smoking and curing are to be done, curing should be done first.
 - 4) When the meat is to be used (if cured), It should be washed thoroughly and inspected. Again, if in doubt as to quality, throw it out. If the meat is still very salty soak it in water for 2 or 3 hours, changing the water every 30 minutes.
 - 5) If possible, salt should be stored in a tightly sealed container. Do not reuse the salt. If sugar or other spices are to be used as well as salt they should be added during the "rubbing" stage while curing.
- C). Meat preservation records. Records should contain the following information:
- (1) Type of meat prepared.
 - (2) Source and date the meat was obtained.
 - (3) Weight and cut of meat.
 - (4) Time cured, time smoked, as applicable.
 - (5) Type and amount of salt (for curing)
 - (6) Approximate temperature of smoke.
 - (7) Type and amount of salt (for curing).
 - (8) Type and amount of seasoning, if any (for curing)

(9) Color and texture of meat when completed.

(10) Overall assessment:

D). Jerky. For field-prepared food that is light and nutritious, jerky fits the bill.

Red meat(beef, venison, etc.) should be used.

(1) To prepare jerky --

(A) Trim the fat from the meat.

(B) Cut the meat with the grain of the muscle into 12-inch-long strips. No more than 1 inch thick and 1/2 inch wide.

(C) Pack the meat in dry salt for 10-12 hours with each strip completely covered and no contact between strips.

(D) Smoke the meat.

(2) The meat may also be sun dried (sprinkle liberally with pepper to cut down on insects and store above the insect line, 20 feet or higher) or dried over slow coals, as with smoking, also sprinkled liberally with pepper.

(3) If salt cured, wash thoroughly before eating.

E). Pemmican. Pemmican is also light and nutritious and can be made in the field. The two basic ingredients are lean meat--sun, wind, or smoke--dried (not salt cured)-and rendered fat.

(1) Render fat by placing ground-up (preferred) or cut-up fat

into a container. Boil the fat and pour off the tallow to use in pemmican. (Tallow can also be used to make candles.)

The fat residue, called cracklings, can be eaten. one ounce of beef cracklings provides 207 calories; one ounce of pork cracklings provides 219 calories.

2) You need about 6 pounds of meat to make about a pound of pemmican.

A) Dry, pound and shred the meat.

B) Prepare a casing such as intestine, by cleaning & tying one end.

C) Lightly place (do not pack) the shredded meat in the casing.

D) Pour hot tallow into the casing, heating the meat and filling the bag. The mixture in the casing should be about 60% fat (tallow) and 40% meat.

E) Seal (sew or tie) the casing, then seal further by pouring tallow on the seal.

3) Pemmican will stay safe for consumption for about 5 years, depending on the type of tallow used.

F). Salting and pickling.

Dry salt meat or immerse in a salt solution. Use 10: 1 table salt and saltpeter (potassium nitrate) for both. With pickling, mix 50 pounds of salt & 5 pounds of saltpeter with 20 gallons of water.

G). Canning. Heat is used to destroy harmful microorganisms but this is not as good as above since thermophillic bacteria may remain stable. Canning is better with fresh fruit and vegetables.

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H). Sugar solutions and antibiotic treatment is suggested for preservation, but again this process is not as effective as those listed above.

HAPPY EATING!!

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