Mississippi State University Extension Service

Curing and Smoking Poultry

GENERAL COMMENTS

Curing and smoking meats is an ancient method used for preparing all types of meats. Before refrigeration was available for food storage, this process was a primary food preparation process for enhancing flavor and preventing spoilage. This page offers comments on the process and several recipes are proposed for different poultry species. The same procedures can be modified and used to prepare many other types of meats.

Salt is the main ingredient common to all curing/smoking processes. It contributes to the flavor and texture of the meat, and discourages growth of spoilage microorganisms that could render the meat inedible. Additional ingredients are often used to enhance the flavor and improve the appearance of the finished product. In some cases the addition of sugar counteracts the salty flavor, drying, and toughening that results when only a salt brine is used.

Additional preservatives like potassium nitrate (saltpeter) or sodium nitrate were used in the past to protect against the growth of spoilage organisms like *Clostridium botulinum* that causes botulism. Today, many people prefer to avoid use of these preservatives due to possible health risks. When nitrates are used, the cured meats exhibit a pinkish color.

The basic ingredients for curing include salt, sugar, preservatives like saltpeter, flavors like sauterne wine and spices like pepper, onion or garlic.

The curing solution and meat are kept cool to discourage possible growth of microorganisms. Temperatures of 35 to 40 degrees F. are ideal during the curing phase. After the curing process is complete, carcasses are removed from the brine and allowed to drain. Additional brine can be removed by rinsing in cool water. Before smoking, allow the carcasses to dry slightly to improve the adhering of the desirable smoked color.

Various woods are used to smoke the meat. Each type of wood contributes a distinctive effect on the flavor and color of the finished product. Woods frequently used include hickory, oak, maple, mesquite, apple, cherry, plum, and peach. Soft woods are never used due to the presence of resinous substances in the woods.

The internal temperature of the meat at its deepest point must reach 160 degrees F. or higher. If this temperature is not attained, additional cooking in a conventional oven is necessary to produce a safe product. Using a cooking thermometer ensures complete cooking. Smoking at 185-190 degrees F. during the first 2-3 hours, followed by lower

temperatures reduces shrinkage and undesirable bacterial populations while producing a more desirable color.

SMOKED/CURED QUAlL

Brine Solution:

5 gallons	**water**
$4^1/_2$ pound	**salt**
$^3/_4$ pound	**sugar**
$^1/_2$ pound	**saltpeter (optional)**

The addition of saltpeter to the curing solution is optional. It is not necessary unless a preservative is needed for storage.

The quail are submerged in the brine solution for $3^1/_2$ to 4 hours in a refrigerator or cool environment. Remove the carcasses and allow to drain completely.

Place the drained birds in a smoker preheated to 165 degrees F., without added moisture. When surfaces of birds are dry, add moisture and cook for one hour. Increase temperature to 195 degrees F. and cook for an additional hour or until leg or wing joints can be dislocated easily.

Remove from smoker, cool, and freeze for later consumption.

SMOKED BROILERS

Make a curing solution of:

1 gallon	**water**
1 pound	**salt**
$^1/_3$ pound	**sugar**
1 teaspoon	**saltpeter**

Cover chickens with solution and let cure for 24 hours. Remove from solution, wipe dry and store in refrigerator an additional 6 hours to equilibrate.

Cook in smoker-steamer for 12 hours. at 195 to 200 degrees F. Remove from heat. When cool, place smoked broilers in suitable packaging and refrigerate or freeze until needed.

Note:
For best results, keep water in a pan above fire in cooker to help prevent the meat from drying. Also, use dry wood hickory chips as a fuel source or add moistened chips to charcoal fire to cause good smoke production.

Recipe developed by Dr. T. C. Chen, Food Scientist, Poultry Science Department, Mississippi State University.

SMOKED TURKEY

Brine solution:

1 gallon	water
$1^1/_2$ cup	salt
$^1/_2$ cup	sugar

Select 10-12 pound turkeys. Inject the solution into all meaty portions of the birds with a livestock syringe. Place the birds in the same solution in a clean plastic container and keep refrigerated for 48 hours.

Place drained turkeys in a smoker heated with charcoal, at 160 degrees F. for 12 hours. Add hickory chips to provide the smoked flavor. After 12 hours add extra charcoal and raise temperature to 170 degrees F. and continue smoking with hickory chips. Cook the turkeys until golden brown and thoroughly cooked (about 6-8 additional hours).
