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Making Processed Meat Products Without a Smokehouse

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The manufacture of specialty cooked sausage products can be profitable for any meat processor. But many shy away from attempting to make these items because they think it requires elaborate, expensive equipment and a smokehouse.

This just isn't so! In fact, millions of pounds of processed meats are produced annually in the United States without use of a smokehouse, including boiled hams, braunschweiger, liver sausage, souse, headcheese, panned loaves, and even franks and bologna.

Any processor who has a grinder and stuffer can make many of these items. Some don't even require a stuffer but rather can be formed in molds or pans, such as boiled hams, souse, headcheese and Jaternice.

This publication describes four common methods of cooking manufactured meat products without use of a smokehouse. They are: (1) *water cooking* for hams, braunschweiger or bologna; (2) *steam cooking* for covered loaves or braunschweiger; (3) *pre-cooking* for souse, headcheese or liver sausage; and (4) *dry-heat cooking* for panned loaves or summer sausage. From the information provided, you can determine which procedure best fits your operation and what type of specialty processed meats would contribute to your profits.

WATER COOKING

Water cooking is a very popular method with many processors. Regardless of the size of your operation, a number of sausage products can be made by cooking in hot water.

Any cooking container in which water temperature can be controlled will work with this

method. Some small operators use portable roasting ovens (available from any hardware store), which can process about 25 pounds of product at a time. Jacketed lard cookers are also suitable if the temperature can be controlled. Processors with large production volumes generally use sausage tubs which have steam or electric heating coils installed.

Regardless of which container you choose, *do not let your water exceed 165°F (74°C)*. At temperatures above 165°F, in the presence of water or steam, the collagen meat protein shrinks, causing the product to wrinkle and gelatin pockets to form.

Products stuffed into casings or covered molds (e.g., boiled hams, braunschweiger, olive loaf, pickle and pimento loaf, spiced loaf, pressed luncheon loaf, honey loaf, bologna and even franks) can be cooked to an internal temperature of 152°F (67°C) in from 1½ to 5 hours, depending on diameter of the product (larger diameter items requiring more time). Simply place the products in your cooking container, cover with cold water and heat to 165°F. When internal temperature reaches 152°F, drain the water and remove the products.

STEAM COOKING

Steam cooking is usually limited to products that are in water-tight containers and that will shrink no more than 5 percent. Such items include olive loaf, pickle and pimento loaf, spiced loaf and honey loaf stuffed in stainless steel molds as well as braunschweiger and bologna stuffed in water-tight artificial casings. Natural casings or edible collagen casings should not be used for steam cooking because of the collagen shrinkage problem discussed above.

The two requirements of this cooking method are (1) a cabinet in which steam can be introduced and (2) temperature control. Some processors have made their own steam cabinets by placing an electric heating coil in a pan of water enclosed in an old refrigerator and installing a fan to circulate the steam.

A typical steam cooking schedule is: 140°F (60°C) for the first hour, then 165°F (74°C) until done. Under this schedule, molded items usually require 5 hours cooking time, while artificial casing braunschweiger takes 2-2½ hours.

PRE-COOKING

This is a method whereby the raw ingredients are cooked first *then* formed into the desired shape. Among the meat specialties that can be prepared this way are headcheese, souse, liver pudding, Jaternice, Kischka, blood and tongue sausage, scrapple, mock chicken loaf, corned beef loaf and jellied roast beef loaf.

Pre-cooking requires only a lard cooker or stove with a pan on it. Simply place your meats (cured or uncured) in the cooking container, cover with water, and cook until the meat tem-

perature reaches 158°F (70°C). Then, while the cooked meats are still hot, add spices, mix and stuff or pour into a pan or mold. Products stuffed into natural casings should be recooked in 165°F (74°C) water for approximately 10 minutes to cook the casing.

Chances are your spice salesman can provide you with excellent formulations and seasonings for products that can be prepared using the pre-cooking method.

DRY-HEAT COOKING

Panned loaves (old fashion, Dutch, olive, pickle and pimento, honey, pepper, etc.) may be dry-heat cooked in any oven where the temperature can be controlled. Pizza ovens, kitchen ovens, bread-cooking ovens or even portable roasting ovens are suitable.

Simply prepare your products, stuff into an oiled pan that can withstand heat (stainless steel) and cook. One popular cooking schedule is: 165°F (74°C) for the first 1½ hours, then 180°F (82°C) until done. Most products weighing 5-6 pounds will take 4-5 hours to reach an internal temperature of 152°F (67°C) with this schedule.

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