



Culinary Institute
of America

Curing, Brining, and Smoking



Learning Objectives

- Compare and contrast the various types of cures used in charcuterie.
- Prepare brines and dry cures.
- Properly cure meats by pumping or dry curing.
- List three acceptable methods of controlling trichinosis in pork products.
- List ways to prevent salmonella contamination in sausage products.
- List the various ingredients used in the charcuterie.
- Explain the function of each charcuterie ingredient.
- Understand how to use the factor chart for creation of new products.

Sausage Classifications

- Fresh Sausages
- Uncooked Smoked Sausages
- Cooked Sausages
- Cooked, Smoked Sausages
- Dry and Semi-dry Sausage
- Cooked Meat Specialties



Charcuterie Ingredients

Item	Use
Salt	Preservation Flavor Secondary binder Kills trichina
TCM (Tinted Curing Mix / Prague Powder)	
Prague 1 = 6% Sodium Nitrite	Cooked & smoked sausages (franks, garlic sausage, etc.) Smoked / cured meats (ham, pastrami)
Prague 2 = Sodium Nitrate, Sodium Nitrite	Nitrate slowly converts to nitrite over time Smoked and dried items– Jerky, dried salami



Charcuterie Ingredients

Item	Use
Dextrose (sugar)	Balances flavor, stabilizes color Aids in Fermentation Hygroscopic
Sodium Caseinate (Dry Milk)	Binder Hygroscopic Dairy note flavor
Sodium Phosphate	Binder, emulsifier
Soy Protein/ Concentrate/ Isolate	Filler, binder
Water/ Ice	Dispersing agent for spices Adds moisture Maintains temperature



Relative Sweetness

Sugar	Relative Sweetness
Fructose	173
Sucrose (table sugar / baseline)	100
Glucose / Dextrose	74
Lactose	16

- Different forms of sugar have different relative sweetness
- 1 lb. / 500 g dextrose
- 10 oz. / 330 g table sugar
- 8 oz. / 250 g honey

Curing/ Brining Times

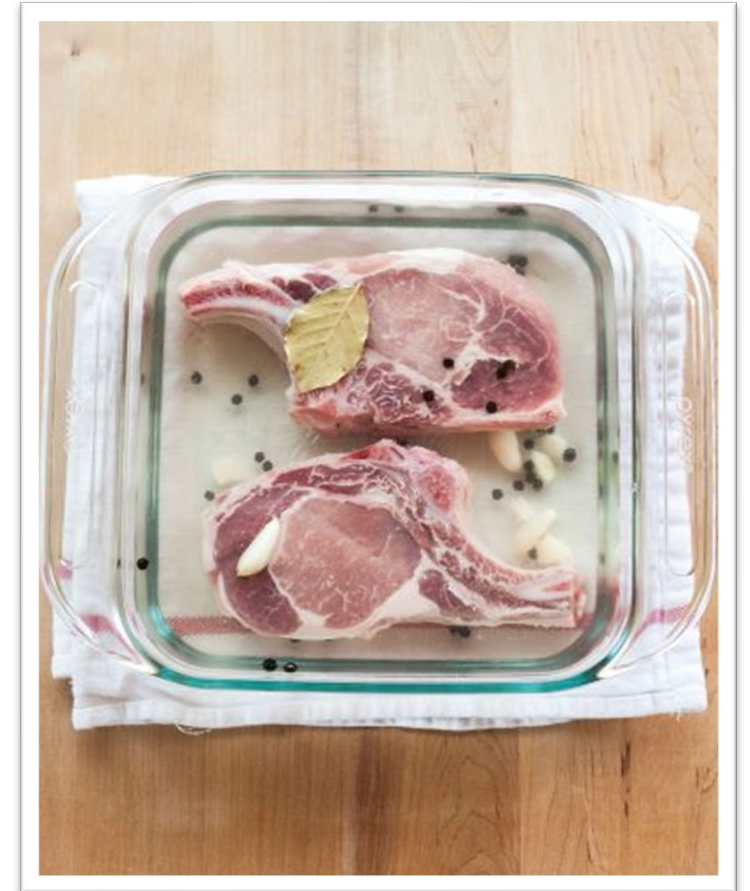
Item (Dry Cure)	Approximate Time
Meat ¼ - ½ Inch	1-2 hours
Lean Meat 1" Thick	3-8 hours
Pork Belly (1 ½" Thick)	7-10 days
Ham (bone in)	40-45 days
Shrimp/ Scallop	30 mins – 1 hour
Trout Fillet	2-4 hours
Whole Trout	4-6 hours
Salmon Fillet	8 hours (1 hour per lb. of whole fish)

Curing/ Brining Times Cont.

Item	Not Pumped	Pumped
Chicken/ Duck Breast	24-36 hours	4-5 hours
Whole Chicken	24-36 hours	12-16 hours
Pork Butt/ Loin	5-6 days	2-3 days
Whole Turkey (10 lb.)	5-6 days	3 days
Corned Brisket	7-8 days	3-5 days
Ham, boneless	6 days	4 days
Ham, bone-in	20 days	6-7 days

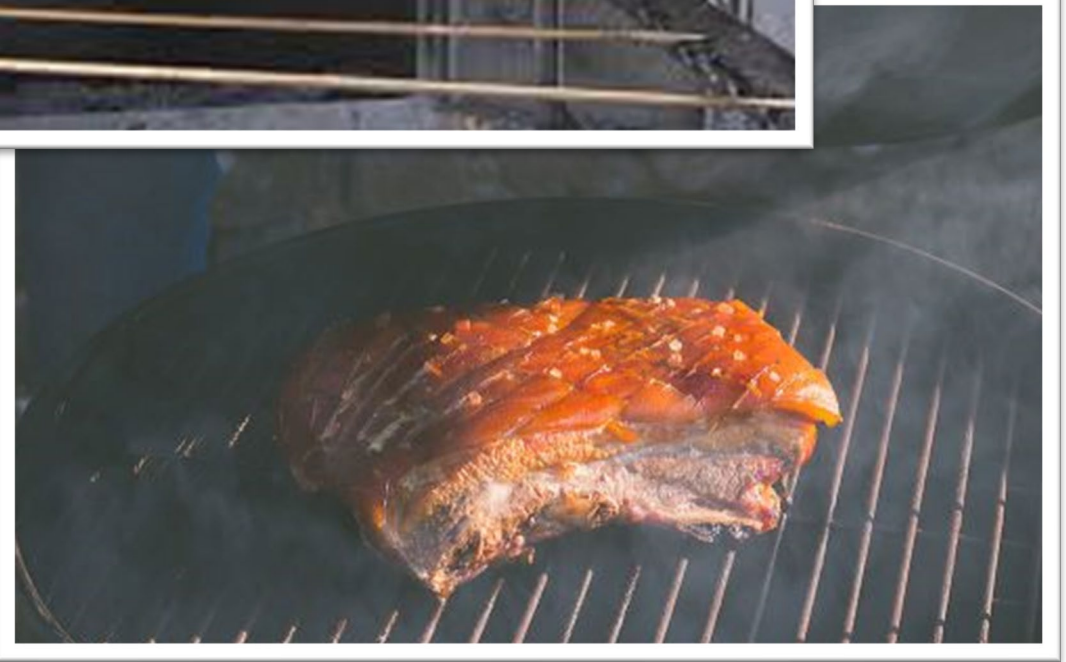
Brine Strength

- Weight of item + weight of water * 3%
- If pumping, pump 10% of the weight of the item



Types of Smoking

- Cold Smoke
- Hot Smoke
- Pan Smoke
- Smoke Roast

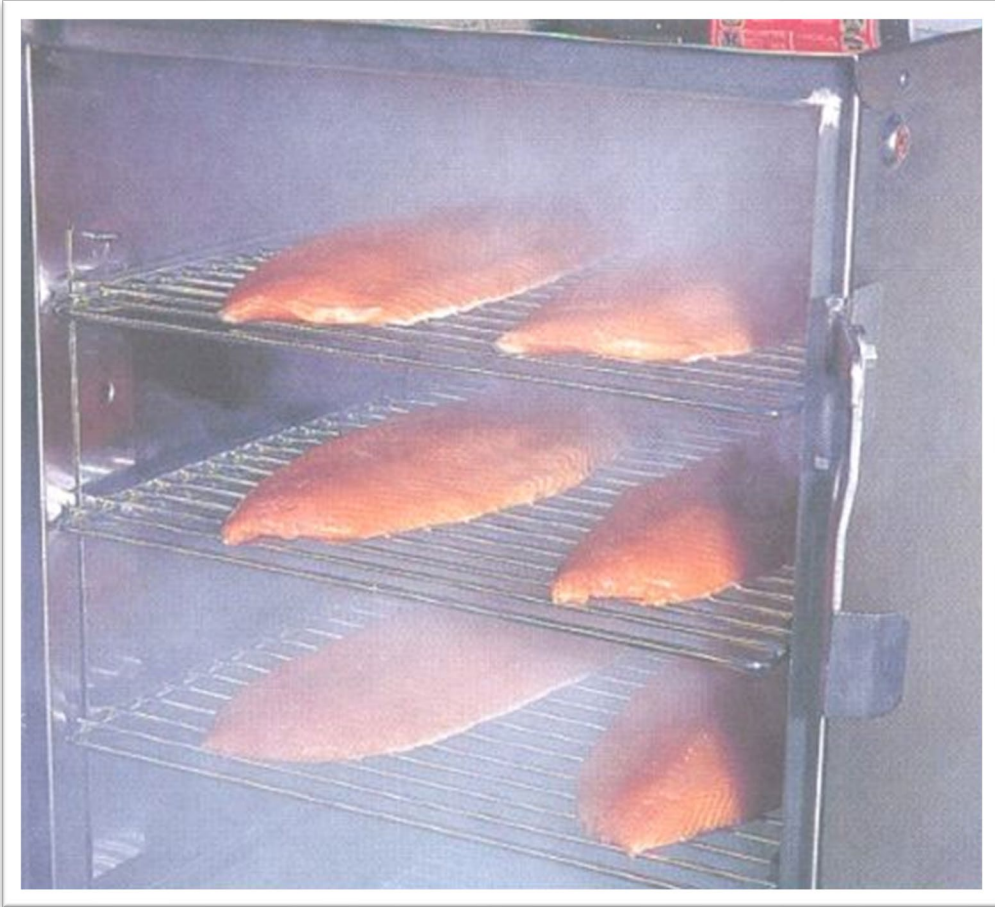


Types of Wood/ Medium for Smoking

- Hard fruit or nut woods (apple, pecan)
- Other hard woods (oak, hickory, alder)
- Chunks, chips, dust
- Peanut shells
- Herbs/ tea
- Burlap bags/ hemp



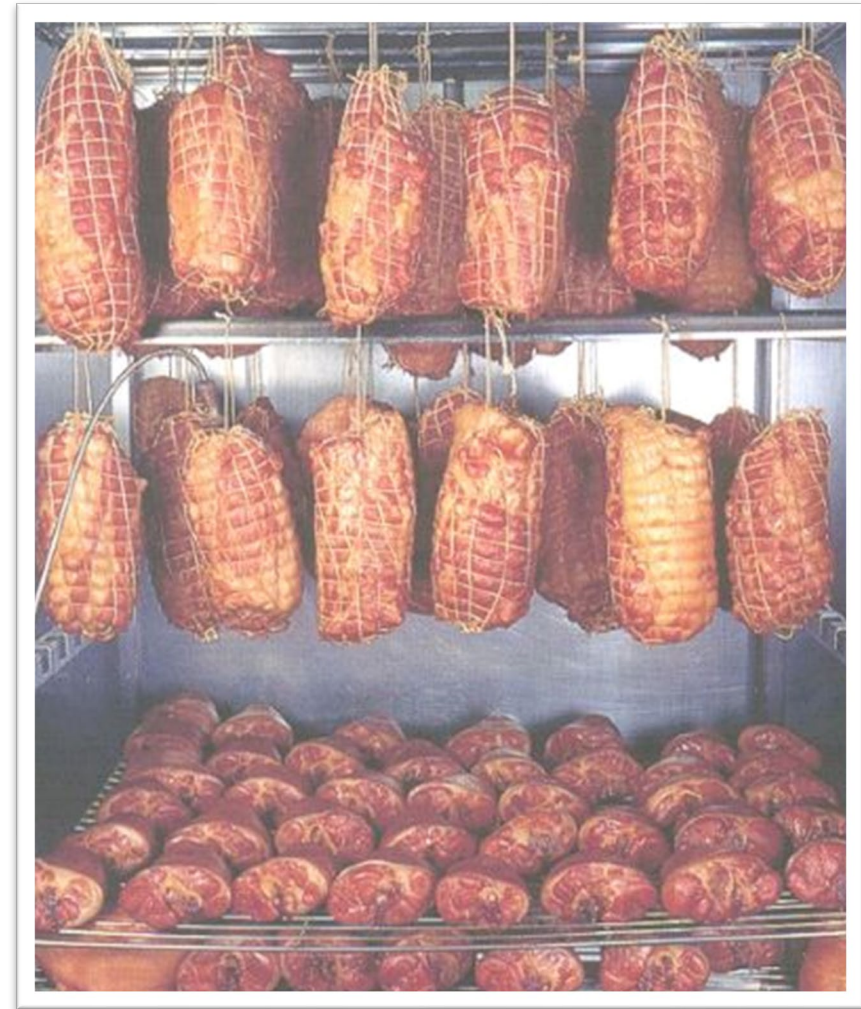
Cold Smoking



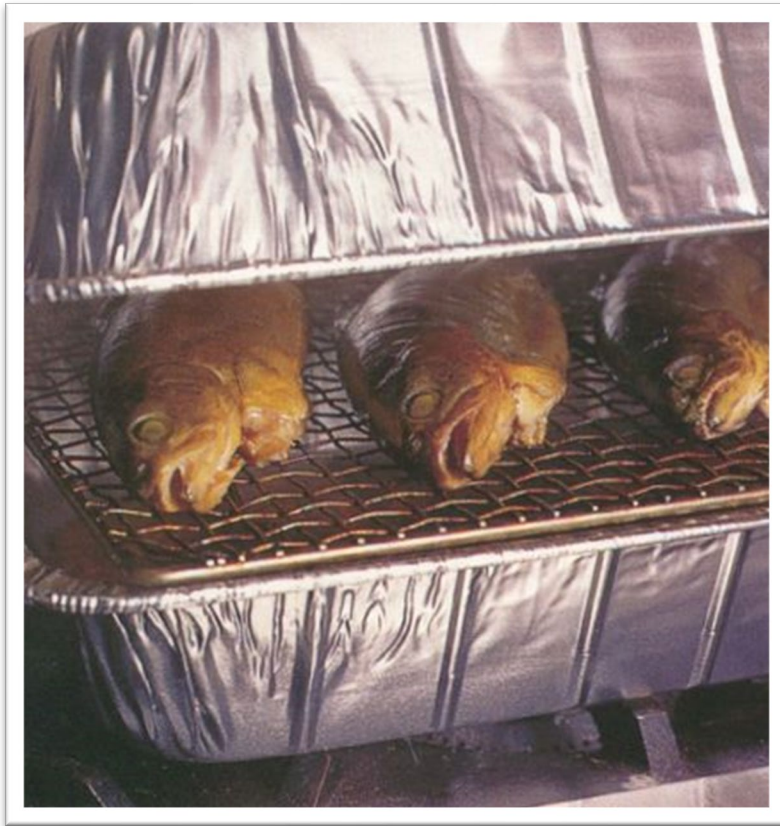
- **Temp:** 70-100°F (21-37°C)
- Product does not cook, minimizes texture change
- **Used for:**
 - Meats and seafood (flavor, not preservation)
 - Cheeses
 - Sugar / salt

Hot Smoking

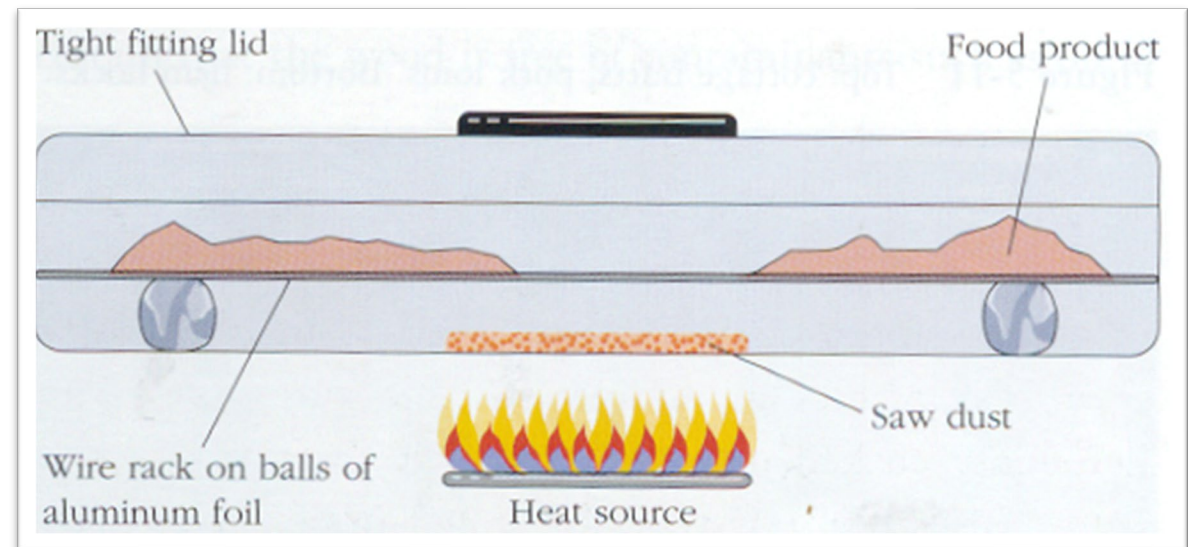
- 160° F (71°C) = Sausages
- 185°F (85°C) = Whole-Muscle Meats
- Cook to safe internal temperature
 - Poultry: 165°F (71°C)
 - Other meats: 155°F (68°C)



Pan Smoking



- Minimal equipment
- Quick infusion of flavor
- Inconsistent results
- Can become bitter/ acrid if heat gets too high



Smoke Roast

- **Temp:** Above 250°F (121°C)
- Pit Roast or BBQ
- Lower temperatures, longer times
- Deeper flavors, tenderization (ribs, brisket, butts)

