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Smoke is the complex production of very complicated compounds that occur during the thermal decomposition of wood (chips or sawdust). This process primarily occurs between a temperature range of 390°F and 750°F. Although at the point of generation smoke is a gas, it rapidly separates into a vapor and a particle state. It is the vapor phase that contains the components largely responsible for the flavor and aroma that smoke imparts to foods. More than 300 different compounds have been isolated from wood smoke, but not all of these compounds occur in smoked meat products. The components most commonly found are phenols, organic acids, alcohols, carbonyls, hydrocarbons, and some gaseous components such as carbon dioxide, carbon monoxide, oxygen, nitrogen, and nitrous oxide.

SMOKE IS APPLIED TO MEAT FOR THE FOLLOWING REASONS

- For preservation: Phenolic compounds and formaldehyde have antimicrobial action; this affects only the surface of the meat as smoke does not penetrate deeply into items.
- Acids: smoke emits a number of acids which cling to the meat and form an outside layer or skin. The acids help the coagulation of the surface meat, and also help preserve the meat by preventing the growth of surface mold and bacteria.
- Add aroma & flavor: Phenols, carbonyl compounds and organic acids contribute the smoky taste. Excessive smoke flavor can become bitter.
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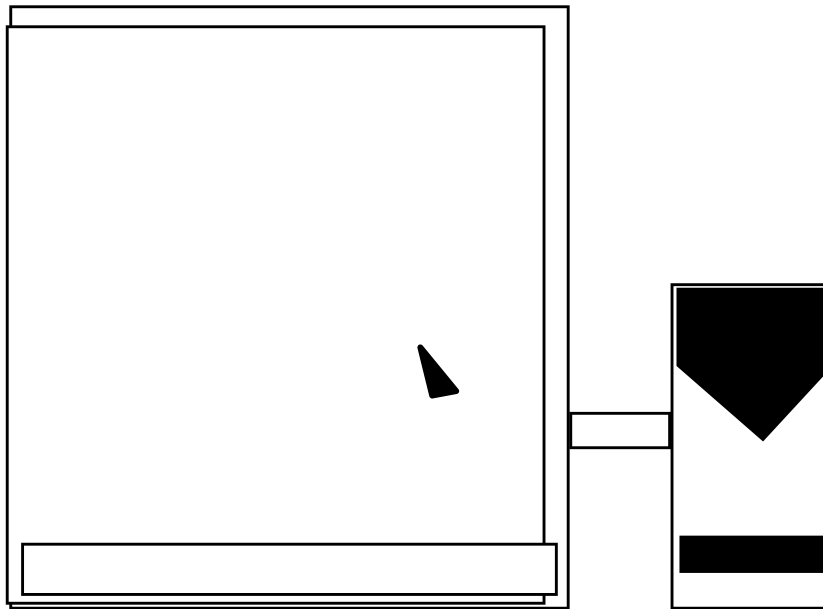
WOODS AND OTHER ITEMS USED FOR SMOKING

SMOKY FIRES ARE CREATED BY CONTROLLING

- Oxygen:

HOW A SMOKEHOUSE WORKS

Below is a simplified diagram of how a smokehouse works. Many of the larger smokehouses are computer programmed as to time and temperature.



TYPES OF SMOKING

Cold Smoke

SUGGESTIONS FOR USE OF WOOD CHIPS IN SMOKING

Alder

This has quite a mild taste, ideal to use with vegetables and fish.

Apple

This has a unique fruity flavor, ideal to use with fresh ham, frog legs, pork chops, sweet sausages, Cornish hens and salmon.

Cherry

This is similar to the characteristics of apple, but with a slight tart aftertaste, ideal to use with lamb, pheasant, duck, venison and steak.

Maple

This has a universal subtle hint of sweet flavor, ideal to use with turkey, ham Canadian bacon, tenderloin of beef and pork, poultry, most kinds of game and vegetables.

Hickory

This has a strong heavy bacon flavor, ideal for use with ribs, barbecue items, steaks, chops, and spicy food, broiled chicken.

Oak

This is a mellow version of mesquite, ideal to use with steaks, duck, and hamburgers.

Mesquite

This has authentic Southwest twang, leaving a little bit of a hot burning sensation as an aftertaste, ideal to use with pork, spare ribs, steaks, and most red meats. If used with great care it can also be used across the whole ingredient spectrum.

Sweet Birch

This leaves a sweet delicate taste on the palate, ideal to use with chicken, swordfish, tuna, salmon, lamb, barbecued pork items, all vegetables especially members of the lily family.

Pecan

This has quite a mellow flavor to it similar to hickory; cool burning is one of its major characteristics, ideal to use with chicken and duck and most game that is of the winged variety.

SMOKED PORK CHOPS

Yield: 6 Portions

Ingredients	Amounts
Pork chops, one-inch thick	6 ea.
Wood chips	2 cups
Cilantro, fresh chopped	½ cup
Salt and Pepper	
Olive Oil	1 oz

Method

1. Fabricate 1-inch thick pork chops and remove excess fat.
2. Moisten the wood chips in cold water.
3. Marinate pork chops with spices, herbs and pepper for 1 hour.
4. Pan-smoke the chops, for 3 to 5 minutes until they reach a light yellow color. Grill the chops, finishing on a rack in the oven at 375°F if needed.
5. Repeat twice, using different woods for smoking.

HOT SMOKED SWORDFISH

Yield: 6 Portions

Ingredients	Amounts
Sword or tuna sh, thick steaks	1½ lb.
<i>Marinade</i>	
Lemon juice	1 ea.
Salt	1½ tsp.
Worcestershire sauce	1 oz.

Method

1. Combine all ingredients for the marinade.
2. Rub marinade over half of the sh, refrigerate for 1 - 2 hours. Leave the other half of the sh plain.
3. Blot-dry with paper towels and hot-smoke until desired doneness.
4. Repeat twice, using different woods for smoking.

TEA AND SPICE SMOKED CHICKEN

Yield: 1 Chicken

Ingredients	Amounts
Chicken, whole	1 each
<i>For Smoking the Chicken</i>	
Dry black tea leaves	¼ cup
Brown sugar	¼ cup
Raw rice	1/3 cup
Szechwan brown peppercorns	1 Tbsp.
Star anise	3 ea.
Cinnamon sticks, broken into small bits	2 ea.
Brown sugar, for smoking the second side of the chicken	¼ cup
Sesame oil	2 Tbsp.

Method

1. Combine the smoking ingredients and spread evenly in the bottom of the pan.
2. Pan-smoke the chicken for 10-15 minutes. Turn the chicken over and continue to pan smoke the chicken for an additional 5-8 minutes. If necessary, finish the chicken in 375°F oven until an internal temperature of 170°F has been reached. Rub the outside of the chicken with the sesame oil.
3. Repeat the process twice, using different tea (e.g. orange pekoe or green tea) for smoking.

PAN SMOKED CHICKEN BREAST WITH ARTICHOKE AND MUSTARD SAUCE

Yield: 10 servings

Method

1. Trim and cut the chicken into ten 3 ½ oz portions. Lightly pound the chicken to an even thickness.

SMOKE ROASTED STRIP LOIN OF BEEF

Yield: 10 Portions

Ingredients	Amounts
Sirloin	4 lbs.
<i>Marinade</i>	
Garlic powder	1 Tbsp.
Onion powder	1 Tbsp.
Salt, kosher	3 Tbsp.
Sugar	4 Tbsp.
Cumin, ground	2 Tbsp.
Black pepper, fresh cracked	2 Tbsp.
Cayenne	1 Tbsp.
Paprika	4 Tbsp.
Chili powder	2 Tbsp.

Method

1. Combine all and mix well to evenly distribute the spices.
2. Trim the sirloin of excess fat and connective tissue.
3. Rub the dry spice mixture all around the sirloin strip and allow to sit for 15 minutes before smoke roasting.
4. Smoke roast the sirloin strip over low heat as instructed by the manufacturer of the gas or charcoal grill.
5. Cook to an internal temperature of 120 – 125 degrees for medium rare.
6. Remove from the grill and allow to rest for 20 minutes to allow the juices to settle.
7. Slice and serve.

