



Manufacturing
Tips for
Perfection

Legg's Signature



A.C. Legg, Inc., started with a single sausage seasoning. As times have progressed and people's tastes and habits have changed, we have expanded our line of seasonings to cater to the needs of contemporary customers. Now, you can find flavors like Italian, Greek, and Creole seasonings, as well as tried-and-true favorites. We have organized our offerings into several categories, including rubs and marinades, jerkys, and—you guessed it—sausage seasonings.



Fresh Sausages
Smoked Sausages
Jerky Seasonings
Snack Sticks
Marinades
Rubs
Bottles
Miscellaneous Seasonings

Fresh Sausage

The manufacturing instructions listed below can be used for all of A.C. Legg's fresh sausage blends. These include all Breakfast Sausages (Blends NS4, 6, 7, 8, 10, and 29), as well as the Italians (Blends 100-103), Bratwursts (Blend 104), Polishes (Blends 108 and 179), Chorizos (Blend 111 and 162), Hot Pork (Blend 109), Cajun (Blend 110), Sweet Onion & Garlic (Blend 220), and Hot Link (Blend 112) varieties.

We recommend the following procedure to manufacture a fresh meat product using one bag of A.C. Legg seasoning:

- 25.00 lbs. of pork (70% lean and 30% fat)
 - 12.00 oz. of water
 - 1 bag of A.C. Legg Seasoning
1. Coarse grind the meat through a 1 inch plate.
 2. Add the water and seasoning and mix for 3 to 5 minutes.
 3. Fine grind the seasoned meat through a 3/16 inch plate.
 4. Form into patties or stuff into chubs or links.
 5. Refrigerate or freeze.

Tips for Perfection

- A. Beef, pork, poultry, or venison may be substituted or used in combination to provide variety.
- B. Fat level should be at least 20% and not exceed 35% to achieve optimum results.
- C. When utilizing venison, the rule of thumb is 18.00 pounds of lean venison in combination with 7 pounds of fat pork.
- D. Mix the seasoning and water together before adding to the meat block. This will provide for a more even distribution of the non-meat ingredients.
- E. Use 20 to 26 mm edible casing for breakfast links. Use 28 to 36 mm edible casings for dinner links.
- F. Add 1.00 to 2.00 ounces of ground red pepper to create a spicy version of the blend.
- G. Add 2.00 ounces of sugar to create a sweet version.
- H. In fresh sausages, there is a maximum limit of 3% water in the formulation. Water helps to distribute the ingredients and contributes to the juiciness and texture of the cooked finished product.
- I. For best results, vacuum package before storing in a freezer or refrigerator under 40°F.

Cured Sausage

Making cured, smoked, and fully cooked sausage products can be as simple as further processing your fresh sausages with the instructions listed below. To optimize the finished product, we suggest using one of A.C. Legg's blends formulated for perfection of these flavors. We include cure accelerator in these blends to assist in making the best possible meat products. The A.C. Legg, Inc., line of cured, smoked, and fully cooked sausages include Smoked Sausage (Blend 105), Smoked Polish Kielbasa (Blends 106 and 180), Smoked Andouille (Blend 163), Jalapeno Smoked (Blend 139), and Cracked Pepper Smoked (Blend 210).

To manufacture a cured, smoked, and fully cooked meat product using one bag of seasoning, we recommend the following procedures:

- 25.00 lbs. of pork (70% lean and 30% fat)
 - 2.50 lbs. of water
 - 1 bag of A.C. Legg's Seasoning
 - 1.00 oz. of tinted curing salt (6.25% sodium nitrite)
1. Coarse grind the meat through a ½ inch to 1 inch plate.
 2. Mix the water, 1 bag of seasoning, and curing salt into the coarse ground meat block.
 3. Mix for approximately 6 to 8 minutes (until the meat is tacky) and fine grind through a 1/8 inch to 3/16 inch plate.
 4. Stuff into 32 to 38 mm edible casings and cook to an internal temperature of 155°F.
 5. Chill to an internal temperature of 40°F and package.

Tips for Perfection

In addition to the suggested tips in the Fresh Sausage section, also consider:

- A. Do not exceed 30% fat in the meat block for a cooked sausage.
- B. Darker meats such as beef and venison will result in a richer color (due to the curing reaction) in the finished product. When using these proteins, supplement 30% of the meat block with pork fat or pork trim.
- C. Reducing the grind size or grinding the meat multiple times will bind the sausage tighter, giving it more of a snap when eating.
- D. Add 5 to 8% of the formulation weight in high-temp cheese for an elevated flavor experience.
- E. In cured sausages, do not exceed 10% of the meat block in added water. Water helps to distribute the ingredients and contributes to the juiciness of the cooked finished product.
- F. Use up to 0.5% of the formulation weight in sodium phosphates to retain moisture in cured sausages.

Fermented Sausage

Fermented sausages are a category of cured sausages that, in addition to utilizing the manufacturing guide in the previous section, are made with additional steps to impart a unique flavor profile. The “tangy” flavor can be achieved with the incorporation of encapsulated citric acid. A.C. Legg’s blends suitable for this category of products include Summer Sausages (Blends 114 and 189), Salami (Blend 186), and Snack Sticks (Blends 116, 157, 158, 188, 205, and 207).

To manufacture a fermented sausage meat product using one bag of seasoning, we recommend the following procedure:

- 25.00 lbs. of pork (75% lean and 25% fat)
 - 2.50 lbs. of water
 - 1 bag of A.C. Legg’s Seasoning
 - 1.00 oz. of tinted curing salt (6.25% sodium nitrite)
 - **Optional:** 3 oz. of encapsulated citric acid
1. Coarse grind the meat through a ½ inch to 1 inch plate.
 2. Mix the water, 1 bag of seasoning, and curing salt into the coarse ground meat block.
 3. Mix for approximately 6 to 8 minutes (until the meat is tacky) and fine grind through a 1/8 inch to 3/16 inch plate.
 4. Add in the encapsulated citric acid after grinding and mix thoroughly.
 5. Stuff into 45 mm fibrous casings for summer sausage or 18 to 24 mm edible casings for snack sticks.
 6. Cook to an internal temperature of 155°F.
 7. Chill to an internal temperature of 40°F and vacuum package.

Tips for Perfection

In addition to the suggested tips in the Fresh Sausage and Cured Sausage section, also consider the following:

- A. Do not grind the encapsulated citric acid. The acid is released at the end of the cooking cycle as the product’s internal temperature approaches 120°F. This prevents breakdown of the product due to a premature low pH.
- B. For snack sticks, use 20% fat.
- C. Snacks sticks are not shelf-stable unless vacuum packaged and meet one of the following three requirements:
 - pH of 5.2 or under with a water activity of 0.92 or under
 - pH under 5
 - Water activity of 0.90 or under

Bologna and Franks

The recognizable and popular products, bologna and franks, are classic examples of cured sausage products that offer convenience and a delicious flavor. To create the perfect bologna or frank, using the right blend of seasonings and functional ingredients is essential for achieving a consistent, high-quality taste and texture. A.C. Legg, Inc., offers a specially formulated blend that enhances the flavor and ensures optimal results in every batch. Whether you're making a traditional bologna or savory franks, A.C. Legg's carefully crafted blend will help you create the best possible product.

To manufacture a bologna or frank using one bag of seasoning, we recommend the following procedure:

- 20.00 lbs. of pork (70% lean and 30% fat)
 - 5.00 lbs. of beef (70% lean and 30% fat)
 - 3.00 lbs. of ice
 - 1 bag of Bologna/Frankfurter (Blend 125)
 - 1.00 oz. of tinted curing salt (6.25% sodium nitrite)
1. Cube meat into 2 inch pieces.
 2. Add meat to the bowl chopper with 1 oz. of the tinted curing salt and chop until meat is 42°F.
 3. Add in 1 bag of seasoning and 1.5 lbs. of ice and chop until the meat batter reaches 46°F.
 4. Add in the remaining ice and chop until the meat batter reaches 60°F.
 5. Transfer meat batter into a stuffer and stuff into 80-105 mm fibrous casings for bologna or 26 to 28 mm edible or peelable plastic casings for franks.
 6. Hang on smokehouse truck and cook to an internal temperature of 155°F.

Tips for Perfection

- A. Do not exceed 30% fat and 10% water in a bologna or frank.
- B. When processing beef or venison products, bring the meat batter temperature to above 70°F. This will help your emulsion stay stable.
- C. When processing poultry products, bring the meat batter temperature to about 52°F. This will help your emulsion stay stable.
- D. Use up to 0.5% of the formulation weight in sodium phosphates to retain moisture in cured sausages.
- E. Do not overcrowd bologna/franks on the smokehouse truck. Smoke is essential for skin color development.
- F. Adjustments to the smokehouse's relative humidity may need to be made.
- G. Darker meats such as beef and venison will result in a richer color (due to the curing reaction) in the finished product.

Jerky

A.C. Legg, Inc., offers a variety of seasonings for jerky. Flavors include Original (Blend 131), Cajun (Blend 132), Peppered (Blend 133), Jalapeno (Blend 187), Teriyaki (Blend 134), and Hot Teriyaki (Blend 135).

To manufacture whole muscle jerky, use the following procedures:

Vacuum Tumbled Jerky

- 25.00 lbs. beef, pork, or venison strips, cut no more than 1/4 inch thick
 - 16.00 oz. of water
 - 1 bag of A.C. Legg's Jerky Seasoning
 - 1 oz. of tinted curing salt (6.25% sodium nitrite)
1. Place 25.00 pounds of lean meat strips into the vacuum tumbler.
 2. Mix the seasoning, water, and curing salt together and add to the tumbler.
 3. Seal, pull a vacuum of 25 sq inches Hg, and tumble at 6 to 8 RPM for 10 minutes.
 4. Place on racks or hang on hooks and cook/dehydrate.

Tips for Perfection

- A. A good rule-of-thumb to follow is once fully dehydrated, the jerky should be half the weight of the batch going into the dehydrator.
- B. Replace a portion of the water with fruit juices, honey, molasses, soy sauce, or any other liquid that will add an extra dimension of flavor. Always chill water and other liquids to below 40 °F when possible.
- C. Freeze meat before slicing for ease of cutting.
- D. When slicing meat, cut strips 1/8 inch thick and across the muscle fibers (grain).
- E. Jerky is not shelf stable unless vacuum packaged and has a water activity under 0.85.
- F. Add a small amount of pineapple juice to the marinade to help tenderize the meat.



Marinades

Marinades are a simple and tasty method to expand product lines. A.C. Legg, Inc., offers a variety of marinades that begin with a basic natural enhancement and circle the globe with other exotic flavors. The benefits to using A.C. Legg's marinades include variety, increased juiciness, and dollar value added to beef, pork, lamb, poultry, seafood, and wild game.

Marinade Manufacturing

The first factor to consider is how much percentage pickup over green weight (starting meat weight) to achieve. A.C. Legg's marinades work excellently in the 8.00% to 20.00% range. Review the simple formulas listed below for calculating percentage pickup.

25.00 lbs. of meat with a 10% pickup = 27.50 lbs. of final product weight.

25.00 lbs. of meat with a 15% pickup = 28.75 lbs. of final product weight.

In the case of 10% pickup, the weight of the marinade is 2.50 lbs. or 40.00 oz. Subtract the weight of the seasoning from the total marination weight (in this case, 2.50 lbs. or 40 oz.) and that value is the amount of water to add.

Example:

Blend 121 Lemon Pepper Marinade for 25 lbs. of meat weighs 7.25 oz.

For 10% pickup: 40.00 oz. - 7.25 oz = 32.75 oz. water

For 15% pickup: 60.00 oz. - 7.25 oz. = 52.75 oz. water

In the formula above, take the total marination (water and seasoning) weight, subtract the seasoning weight, and you are left with the amount of water you will need.

A.C. Legg, Inc., offers a variety of marinades. Flavors include Natural (Blend 119), Cajun Style (Blend 120), Lemon Pepper (Blend 121), Hot and Spicy (Blend 122), Italian (Blend 128), Barbecue (Blend 129), Mesquite (Blend 142), Butter Garlic (Blend 144), Greek (Blend 146), Teriyaki (Blend 147), Buffalo (Blend 148), Fajita (Blend 151), Zesty Fajita (Blend 154), New Orleans (Blend 166) and Garlic Parmesan (Blend 172).



Vacuum Tumbled Marinades

Vacuum tumbling marinades is one the most efficient ways to achieve percentage pickup.

10% pickup = 40.00 ounces

Example for vacuum tumbling at 10%:

- 25.00 lbs. of meat
 - 24.00 oz. of water
 - 16.00 oz. or 1 bag of A.C. Legg's Marinade
1. Mix seasoning with water, then add to 25.00 pounds of meat in the vacuum tumbler.
 2. Seal the tumbler and pull a vacuum to 25 sq inches Hg. Tumble at 6 to 8 RPM for 20-30 minutes.

This procedure will work for various percentage pickups and all A.C. Legg, Inc., marinades by simply adjusting the added water.

Static Marinades

Success can still be achieved without the use of a vacuum tumbler. It will be necessary to use additional water to adequately cover the meat.

1. Place 25.00 pounds of meat into a holding container.
2. Mix 1 bag of seasoning with 48.00 ounces of water (add more water until meat is completely covered).
3. Pour onto meat and mix until adequately distributed.
4. Place in refrigeration for a minimum of 4 hours and up to 24 hours before cooking or packaging.

Tips for Perfection

- A. Replace a portion of the water with fruit juices, honey, molasses, soy sauce, or any other liquid that will add an extra dimension of flavor. Always chill water and other liquids to below 40 °F when possible.
- B. Add 1.00 ounce of ground red pepper to the marinade to make a spicy version of the flavor profile.
- C. Add parsley flakes or any whole herb to enhance the overall appearance of the finished product.



Specialty Products

A.C. Legg, Inc., can further extend a processors current product line by offering a variety of ground steak flavors, taco seasoning, specialty topical rubs and flavor additives such as A.C. Legg's Natural Hickory Smoke (Blend 127) and Ham Spice (Blend 126).

Salisbury and Onion Steak

- 25.00 lbs. of beef (80 to 85% lean and 20 to 15% fat)
 - 8.00 oz. of water
 - 1 Bag of Salisbury Steak (Blend 117) or Onion Steak (Blend 118)
1. Coarse grind beef through a 1 inch plate.
 2. Mix seasoning with water and add to meat.
 3. Mix only long enough to distribute non-meat ingredients.
 4. Coarse grind through a 3/16 inch plate. Form into patties or bulk pack and chill.

Tips for Perfection

- A. Add up to 16.00 ounces of fresh, diced onions or onions and peppers to create a gourmet version. Note: If adding fresh onions and peppers, it is suggested to sell frozen because these vegetables will reduce the shelf life.
- B. Change the final grind size to impart variation in the particle definition.

Meat Loaf

- 8.00 lbs. of meat (80% lean and 20% fat)
 - 2.00 lbs. of water
 - 1 bag of Meat Loaf (Blend 113)
1. Rehydrate seasoning in water for up to 5 minutes.
 2. Coarse grind meat through a 1 inch plate.
 3. Mix the hydrated seasoning to the meat block and grind through a 3/16 inch plate.
 4. Form into loaves or patties, package, and refrigerate or freeze.

Tips for Perfection

- A. Replace up to half of the water with ketchup.
- B. Change the final grind size to impart variation in the particle size.
- C. Incorporate up to 8.00 ounces of fresh onions and/or bell peppers to create a gourmet version. Note: If adding fresh onions and peppers, it is suggested to sell frozen because these vegetables will reduce the shelf life.

Taco Manufacturing

- 25.00 lbs. of beef (80% lean and 20% fat)
 - 16.00 oz. of water
 - 1 bag of Taco (Blend 124)
1. Coarse grind the meat through a ½ inch to 1 inch plate.
 2. Combine the seasoning with water and add to meat.
 3. Mix only long enough to distribute the non-meat ingredients.
 4. Fine grind through a 1/8 inch plate. Package and chill.

Tips for Perfection

- A. Add 1.00 ounce of ground red pepper to make a spicy taco.
- B. Add up to 8.00 ounces of fresh onions for a bold flavor.

Smoke Flavor

To enhance the hickory flavor, or to impart a smoke flavor in the absence of a smokehouse, use 2.00 oz. of Smoke Flavor (Blend 127) per 25 lbs. of meat or use 8.00 oz. per 10 gallons of brine at a 10 to 15% pump.

Ham Spice

Take ham, picnic, and bacon brines to the next level by adding 8.00 ounces of Ham Spice (Blend 126) per 10 gallons of water, which enhances flavor profile at this level up to a 15% pump.





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