

Fresh Fork Market

Butcher Series #2: Sausage Making Beer Dinner

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Making Sausage

The Culinary Institute of America defines sausage as a forcemeat mixture shaped into patties or links, typically highly seasoned; originally made to preserve the meat and use edible scraps. Sausage is made from ground meat, fat, and seasoning. Sausage varies in size, shape, curing time, degree of doneness, and type of casing. Forcemeat is defined as “a basic component of such charcuterie and garde manger preparations as sausages, pates, and terrines, is prepared grinding lean meat together with fat and seasonings to form an emulsion (a mixture of protein, fat and water; the proteins bind to the water surrounding fat and keep them dispersed).”

There are four traditional types of forcemeat:

Mousseline: this is usually a mixture of meat, blended with cream and eggs.

Straight forcemeat: A lean meat ground together with fatback.

Country-style forcemeat: A forcemeat that with a coarser texture and often features the addition of liver or other offal.

Gratin forcemeats: a forcemeat in which a portion of the meat is seared then cooled before it is ground together with the other ingredients.

Forcemeats have three basic components: the main, the fat and the seasonings.

The main, or dominant meat, provides the flavor and body.

Fat gives a richness and smoothness.

Seasonings are critical, especially salt. Salt not only enhances the forcemeat's flavor, it also plays a key role in developing the forcemeat's texture and bind. Salt helps extract the protein from the meat and help stabilize the emulsion.

Equipment: Proper equipment is essential to producing good sausages. The following are the basic components that you will need to produce sausages in casings.

Meat Grinder

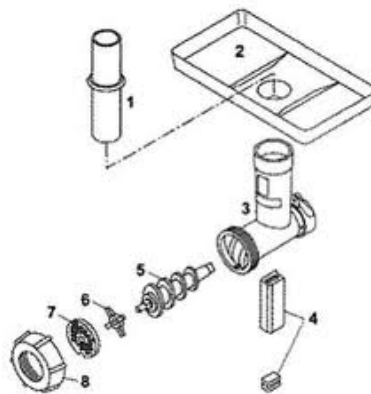
Paddle Mixer

Boning Knife (or any sharp knife)

Sausage Stuffer and Sausage Casings

Kitchen Scale

Digital thermometer



Temperature: It is essential to keep both your equipment and your meat, below 40 degrees. When you start the production process (cutting, grinding, mixing) the meat needs to stay cold in order for the “emulsion” to stay together. At temperatures above 40 degrees, the fat and the protein will separate. The fat will render and leach out of the sausage during cooking and will result in a dry, crumbly meat. To prevent this from happening, follow these tips:

- Once your meat is cut into grindable pieces, place it back into the refrigerator while you continue setting up.
- Before you grind, place your meat, grinding parts (body, worm/auger, knife, plate, and face plate), and mixing bowl into the freezer for about ½ an hour. This will ensure your meat will stay at a safe and workable temperature.
- When you are ready to grind your meat, place your mixing bowl in an ice bath and grind directly into the chilled bowl.
- Once your meat is thoroughly mixed, place it immediately into the refrigerator to chill back down before casing or cooking.

Meat Cutting: Whether you are working with primal cuts, sub-primal, or just random parts and pieces, make sure that you meat it broken down into reasonably sized pieces to fit in your equipment. Pay attention to remove any glands, veins, sinew, or any other disturbing anomalies from your meat before you grind. These undesirable bits can tangle around your blade, clog up your die, and in some cases break your emulsion. They can also cause “chewy” and “stringy” textures in your sausage. (Note, if your pig is fresh and of high quality, you can grind the glands with the meat when making pates or terrines...flavor, flavor, flavor!!). When your meat is processed to your liking, place it back under refrigeration.

Grinding: Before you run any meat through your grinder, make sure it is completely clean and sanitary. Pay special attention to the knife and plate or “die” as they tend to oxidize easily. Sanitation is always a must but is particularly important in regards to dry cure sausages (sausages that receive no cooking, hence no heat to kill off pathogens).

Next ensure that your equipment and meat are of a very cold working temperature. Start by grinding meat a few pieces at a time. Even though you probably have a plunger to force the meat through the hopper into the grinder body, it is preferred to add just the right amount of meat that your grinder can handle at a time. Conversely, when the worm spins in the grinder it creates friction, which results in heat. If the worm spins with no cold meat, it can get warm and start to separate the fat from the meat (only a concern when grinding large batches of meat). So find a good pace when dropping your meat into the grinder.

It is important to pay attention to the meat coming out of the die. It should look like a fresh batch of hamburger meat. Uniformed in structure and being extruded out of the grinder with no clumping occurring around the center or the rim and no mushy/stringy meat being squeezed through the die. If this occurs you will see a change in color in the meat. The meat will take on a much lighter, paler color due to the fact that the fat and the meat are being squeezed through

the grinder and not being properly extruded. If this happens, simply turn off your grinder, remove the face plate, pull out the die and the knife, remove the meat tangles and sinew that has built up, reassemble, and continue grinding. Remember to grind into a chilled mixing bowl!!

Seasoning: Regardless of any other spice or ingredients you are going to add to your sausage, salt is the most important. Not only does it enhance the flavor of the meat and helps to balance the other ingredients, it also helps to extract the meat protein “myosin” which is an integral part in stabilizing the emulsion and the homogeneity of the sausage. A basic ratio of salt to meat in a sausage is about 6-7g per pound of meat (about 1 teaspoon, depending on brand of kosher salt), depending on your personal taste.

Adding the rest of your spices can happen in two stages of the production. The first option is to add all the seasoning to your bulk meat before the grind, which could result in some seasoning left behind in the grinder. The more preferred method is to add your salt and ingredients to chilled water or liquid and add that to your ground meat in the mixing bowl and mix thoroughly by hand or with a paddle mixer.

Mixing: This is a very important and often over-looked step in the sausage making process. Mixing not only distributes salt and seasoning throughout the ground meat, but the kneading and forceful paddle mixing help the myosin protein to develop a tacky characteristic which allows the meat to bind to itself. Mixing is also the final stage in the building of a meat emulsion. While the meat mixes, the salt helps to extract the myosin protein. The water that is naturally present and the extra that may have been added help to disperse the proteins so that they can absorb fat.

The meat emulsion process is generally the same as any other emulsion. Take for example, the basis of making a simple Caesar dressing. You start with egg yolk (protein), you next thin it out with vinegar (water) in order to accept more fat (olive oil), which you add last. When mixing your sausage, it is important to pay attention to how the meat looks and not so much attention on how long it is mixed. Time will vary greatly depending on meat temperature and batch size.

If you watch the meat in the mixer, you will see it develop into a homogenous “sponge” like mixture. At this point the sausage is done mixing. To test, simply grab a handful of sausage and form a ball. Hold the ball, toward the top half with your fingertips. The meat should hold together and should not split in half. If your meatball splits immediately, return to the mixer and mix for a little while longer then retest. Once you are satisfied with your mixture, wrap it with plastic wrap and place it into the refrigerator to come back down to temperature.

Test: Get a small pot of simmering water going or gently heat a sauté pan. If poaching, simply wrap a spoonful of sausage in a secure/water tight plastic wrap “casing” and gently poach in the simmering water until cooked. If sautéing, form a small patty and gently sear off the sausage until cooked (heating it too fast will result in fat loss, which will give you inaccurate seasoning and texture results). Taste the cooked sausage. If it needs more salt or spices, add

more and then thoroughly mix. If your sausage has too much salt and/or is too heavy on the spices, you can add more ground meat or fat and mix thoroughly. Retest until you are satisfied.

Casing/Stuffing: Make sure that your stuffer is clean and sanitary. Fill your stuffer cylinder with the meat mixture, making sure to compact it with your hands. Do not fill to the very top of the cylinder as it will make a mess.

Next, crank down the cylinder piston until it begins to fill the nozzle up $\frac{3}{4}$ quarters of the way. Then take your soaked, rinsed, and cleaned casings and run over the nozzle. Wetting the nozzle will help the casing slide on with ease. Also, make sure to wet your workstation (allows the sausage to slide). Leave a few inches of the casing hanging off from the end of the nozzle. Turn the crank a bit more until the sausage meat forces all of the air out of the nozzle and then back crank it a bit to stop the meat from coming out (you will most likely get a little bit of meat in the casing at this point which is just fine).

Tie the end of the casing, either in a knot, or secure with butcher's string. Then run any casing slack you have back onto the nozzle. Now you are ready to begin. With your hand over the end of the nozzle (to support the weight of the sausage), slowly and steadily turn the crank, forcing the meat through the nozzle into the casing. As the meat comes out, allow the casing to pass underneath your hand, applying a bit of tension when needed.

You will most likely have what is known as a "blow-out" occur. This is where the casing explodes and the meat pours out of the side. Simply back crank to stop the meat, tie off the stuffed casing, cut away the blown out area, then retie another casing and start again. Add the "lost" meat back into your mixing bowl to get added to the stuffer later.

Once you come to the end of the casing, back crank to stop the meat from coming out, and either tie a knot with the left over casing or with butcher's string. When you are at this stage, gently squeeze the sausage into desired lengths by twisting them in alternating directions. You can also simply tie each link with butcher's string. Forcing the meat into links will force any remaining air to the surface, just underneath the casing. With a sharp knife tip or a sausage pricker, carefully pop each one of these air bubbles paying attention not to create a large hole.

Cover and refrigerate, or freeze, until ready to cook. If you are going to smoke the sausage, leave it unwrapped and refrigerate overnight to develop a pellicle (in short, a tacky outer layer that will allow smoke to adhere to the sausage) then smoke.

Cooking: There are many different ways to cook a sausage, however poaching, grilling, and pan searing seem to be the popular favorites.

Let's start with grilling. You should never put a raw sausage on a grill directly over high heat. The grill is too hot, and will cause the casing to explode and little moisture is retained. The sausage is often charred on the surface before the internal temperature reaches a safe level for

consumption. To grill a sausage it is best to slowly cook the sausage over indirect heat until it is cook through, then get a good browning over direct heat on the surface of the sausage. The same can be said with sautéing a sausage. You gently brown the sausage and finish “low and slow” in a 275-300 degree oven.

To poach a sausage, simply bring a pot of water up to about 180 degrees and place you sausage in, and softly cook until desired temperature. If you have a vacuum sealer, seal your sausages and poach in the warm (not boiling) water. This will help maintain your seasonings. To vacuum seal, you should freeze or partially freeze your sausage first to keep it from losing its shape.

Once the sausage is poached, it is ready for high heat. Add it to a hot pan with some high heat oil and sear it. After good color and crisp is achieved, move the sausage to the oven to finish at 300 degrees. Another option is to throw it on a hot grill then move it to a cooler section of the grill to finish.

The poaching step can be done in advance. This makes cook-outs more fool proof and one can do the poaching the day before.

Sous Vide For more advanced and adventurous cooks, you can perfectly cook your sausage to an exact temperature and doneness using a technique called “sous vide” (which translates to under vacuum). This technique requires you to first, put a slight freeze on your sausage (so that it doesn’t explode and so it holds its shape when vacuum packed), vacuum pack it in a cooking pouch or bag, then using a thermo immersion circulator, poach off the sausage to your desired internal temperature. Benefits of using this cooking technique are: perfectly cooked sausage, little to no loss of moisture or flavor (everything is sealed in the bag!), and a longer shelf life. Disadvantages are few but important to know. First the startup price is very expensive for a professional circulator (\$500-\$1000). Second, once you seal raw meat into a bag, the atmosphere shrinks and can incubate anaerobic bacteria like *Clostridium botulinum* (Botulism). So you have to pay attention to your danger-zone temperatures and length of time the meat is exposed. A general rule is to make sure the meat is below 40 degrees when it is sealed (colder the better). Once the meat is done cooking, pull it out of the water bath, allow it to reabsorb its juices at room temp for 10 minutes, then immediately submerge in a large ice bath (there should be enough ice so that is doesn’t melt away). Let the meat stay in the ice bath until its internal temperature drops well below 40 degrees.

Basic Sausage Recipes

Hank's Sweet Italian Sausage

4 pounds pork shoulder
1 pound pork fat
40 grams kosher salt
35 grams sugar
20 grams toasted fennel seeds
6 grams cracked black pepper

4 grams ground nutmeg
1 cup minced fresh parsley
1 head garlic, peeled and chopped
¾ cup dry sherry
¼ cup sherry vinegar

Basic Garlic Polish Sausage

5 lbs boned pork butt
6 cloves crushed fresh garlic
1 tablespoon pickling salt

2 teaspoons fine ground black pepper
2 teaspoons dried marjoram
1 cup ice water

Breakfast Sausage

2 teaspoons dried sage
2 teaspoons salt
1 teaspoon ground black pepper
1/4 teaspoon dried marjoram

1 tablespoon brown sugar
1/8 teaspoon crushed red pepper flakes
1 pinch ground cloves
2 pounds ground pork

For a whole list of sausage and spice combinations, visit a great website called [Sausage Mania](#). Here you can download an entire spreadsheet of sausage recipes.

The Side Dishes

These side dishes are Parker's favorites for serving with sausages.

Warm German Potato Salad

6 slices bacon, cut in 1 inch pieces
10 medium potatoes (See Note Below)
1 medium red onion, minced

3-4 TBS red wine or apple cider vinegar
salt and pepper
minced flat leaf parsley

Place the chopped bacon in a non-stick pan set over medium-low heat. As the fat begins to render, raise the heat gradually. Sauté the bacon until it is nearly crisp. Remove it from the fat with a slotted spoon and set aside. Save the bacon fat.

Add the minced onion to the bacon fat and sauté until the pieces start to soften. Remove the onion from the fat and set aside with the bacon. Keep the bacon and onions warm in a low oven.

Boil the potatoes in salted water while the bacon and onions are being prepared. Don't overcook the potatoes to the point where they are falling apart. When the potatoes are fork tender, turn off the heat. The potatoes can stay warm in the cooking water. Prepare about a tablespoon of minced flat-leaf parsley.

Assemble the potato salad. Drain the potatoes and place them in a bowl. Add the onions and bacon. Sprinkle with the vinegar. Season with salt and pepper and mix carefully.

Add a couple of tablespoons of the bacon fat to the salad. Toss the ingredients and taste. Add more salt, pepper, vinegar or bacon fat according to your preference.

Serve immediately while the potatoes are warm. You can re-warm the salad in a non-stick sauté pan with just a teaspoon or so of bacon fat and a couple of drops of vinegar. Or you can re-warm it in a low oven for a few minutes.

Note: Choose firm flesh potatoes such as Yukon Gold or Kennebec White. This kind of potato is sometimes referred to as a yellow flesh or a waxy potato. Flakey, white flesh potatoes (like a russet) do not hold together properly for this salad. Peel the potatoes or scrub the potatoes and leave the skins on if you prefer. Cut the potatoes into 1 to 1 ½ inch pieces before boiling.

Carrot and Parsnip Pudding

6 medium carrots (1 ¼ lbs.) peeled and cut into chunks	2 TBS flour
4 medium parsnips (1 lb.) peeled and cut into chunks	½ cup milk
1 small onion, peeled and minced (1/2 cup)	2 eggs, lightly beaten
2 TBS butter	1 TBS lemon juice
	¼ tsp salt or to taste
	freshly ground pepper and nutmeg

Optional: add a small garlic clove, minced very fine. Another option is to add some fresh parsley or dried thyme.

Cook the carrot and parsnip chunks in a large pot of boiling, salted water until tender. Cook them separately as they will cook at different rates and you want them to have a consistent texture when finished. While the carrots and parsnips are cooking, sauté the onion in the butter until lightly browned. Set aside.

Drain the cooked vegetables and puree in a food processor. Transfer the pureed vegetables and the onion to a mixing bowl. Stir in the flour and the milk. Add the eggs and lemon juice. Season the mixture and whisk to thoroughly combine.

Bake for 45 minutes at 350 degrees in a greased gratin dish or a round soufflé dish.

Caulibiac

This is a classic French dish of sauteed cabbage, hard cooked eggs, onion and potatoes baked in a pastry crust

For the dough

1 cup flour	½ cup butter, cut into pieces
½ tsp salt	4 oz cream cheese, cut into pieces
1 tsp baking powder	

Place flour, salt and baking powder in the bowl of the food processor. Pulse two or three times. Place the butter and cream cheese, cut in small pieces, on the flour mixture. Pulse the machine to create a soft dough.

For the filling

½ cup diced onion	1 large potatoes, peeled, chopped and boiled
2 TBS butter or oil	
2-3 TBS olive oil	1 tsp salt
4 cups shredded cabbage, about ¼ head	½ tsp pepper
2 hard cooked eggs, chopped	1 tsp dried thyme and/or sage

Saute the onion in the butter just until softened. Set aside.

In a non-stick sauté pan cook the cabbage in the oil. Start the cabbage over medium low heat to soften and wilt it. As the cabbage softens, slowly raise the heat to medium. Toss the cabbage continually to prevent any burning. The cabbage will retain a little crunch but become soft and wilted. Set aside to cool.

Boil, peel and chop the eggs. Mix the onion, eggs, cabbage and potatoes together in a bowl and season them very well. Set aside to cool completely.

Roll out the pastry to create a 10 x 14 inch rectangle. The longer part, 14 inches, should go from your left to right as you face the piece. Trim the edges of the pastry to make a perfect rectangle. (You can use the pieces to decorate the top of the pastry if you choose.)

Using a slotted spoon, place the vegetable mixture in the center from left to right leaving about 2 ½ inches above and below the mixture and 2 inches of pastry uncovered should remain on each end. Think of this as if you are going to make a calzone.

Do not include any liquid from the mixing bowl. Fold the long 14 inch sides over the mixture to meet and overlap in the middle and seal/pinch them together with egg wash. (Egg Wash—1

egg yolk beaten with a pinch of salt and 2-3 drops of water.) Fold the ends over and seal together.

Carefully place the filled pastry seam side down on a greased baking sheet or in a very shallow baking dish. Paint the top with egg wash and “glue” pieces of the trimmed edges of the pastry on top with the egg wash. Bake at 400 degrees for 20—30 minutes. Let the pastry cool for 10 or 15 minutes before slicing.

Tomato Pudding

4 cups dried bread cut into 1 inch pieces, crust included	½ cup grated cheese, FFM Flat Rock or Goat Gouda or Cow Mild Gouda
1 large container FFM frozen tomatoes, thawed	2 TBS dark brown sugar
3 TBS tomato paste	2 TBS. fresh lemon juice
3 TBS salted butter	2 tsps dried thyme
1 medium yellow onion, thinly sliced	salt and freshly ground black pepper, to taste

If the bread pieces are not firm and very dry, toast them in the oven.

In a bowl, combine the tomatoes with the tomato paste. Add the bread, the brown sugar, lemon juice and thyme. Add the onions and season the mixture very well with salt and pepper.

Pour the mixture into an 8 x 11 baking dish or an oval dish of equal size or a round shallow soufflé dish. Bake at 350 until all the liquid has evaporated and the pudding is dense and spongy.

Potato Cake

(using Goat Gouda and Mozzarella from Wholesome Valley)

4 oz mozzarella, diced	4 oz Flat Rock cheese (FFM product) grated to make 1 cup
4 oz smoked mozzarella, diced	2 large eggs, beaten
2 lbs. potatoes, peeled and cut into chunks	¼ cup chopped flat-leaf parsley
8 TBS butter	Optional: 1 cup diced ham or prosciutto
½ cup bread crumbs	salt and pepper

Peel and boil the potatoes in salted water.

Grease an 8-inch spring form pan with 1 or 2 TBS of the butter. Coat the bottom and sides of the spring-form pan with bread crumbs. Place the pan in the refrigerator. If you do not have a spring form pan you can use a deep pie dish. Heat the oven to 375.

When the potatoes are cooked, drain them and return them to their cooking pan. Set over medium heat. Toss and shake the potatoes to “dry” them. Put the potatoes through a ricer or a food mill. Add the remaining butter. Mix with the potatoes to melt it. Add the beaten eggs, and the grated cheese, salt and pepper and the minced flat leaf parsley.

Place a little more the half of the potato mixture in the spring form pan. Push the mixture up the sides to create a well in the center. Place the mozzarella (if smoked mozzarella is not available or if you are not a fan of smoked cheeses use 8 oz of regular mozzarella or a mixture of mozzarella and provolone. You can also add half Wholesome Valley Goat Gouda to replace some of the mozzarella) and the ham (if using) in the center.

Now cover the mozzarella cubes with the remaining potatoes. Use the back of the spoon or spatula to smooth out the “cake” and cover the top with bread crumbs. Make sure the cheese does not touch the sides of the pan. There should be a layer of potatoes between the cheese and pan or pie dish.

Bake at 375 for 50 minutes. The top should become golden. Let the cake cool for about 15 minutes before removing the sides of the spring form pan. Cut into wedges and serve. If you have used pie dishes, slice and serve as you would a pie using a triangular serving spatula.

Red Onion Jam

(a condiment, not a dish)

4 red onions, peeled and sliced thin into half circles	1 cups Ruby Port
3-4 TBS butter	1 cup chicken stock or water
	salt and pepper

Use a non-stick sauté pan large enough to hold all the sliced onions. Melt the butter over medium-low heat. Add the onions. Use tongs to carefully turn the onions over and over to prevent burning. As the onions soften raise the heat to medium. You may need to add more butter. When the onions are completely softened raise the heat to high. Use a spatula to scrap the bottom of the pan and turn over the mass of onions.

Add the Ruby Port. Continue to scrap the bottom and sides of the pan. Boil until the wine has nearly all evaporated. Add the stock or water. Continue cooking. Add more water if the onions have not created a jam. Season with salt and pepper. Place the onions in a container and refrigerate. Serve with cold meat.