

Meat Smoking Mastery - Part I

Your Complete Time & Temperature Guide

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MEAT SMOKING MASTERY PART I

Your Complete Time And Temperature Guide

Welcome to Part I of this guide on your way to mastering the art of cooking meat on a smoker. In this e-book you will find techniques to prepare your meat for smoking and tips and tricks for different cuts from different animals. In the last pages you will find a chart complete with temperatures and cooking times you can use as a reference when smoking in your back yard. If you feel like you already know enough about the different cuts of meat, and want to learn more about the process of controlling your smoker and the different woods you can use, head over to Part II of this guide.

Smoking meat is awesome! There's nothing like cooking a delicious brisket on the weekend, or some juicy chicken legs when your friends are coming over. And who doesn't want to be a pitmaster, the one who has mastered the elements of Fire and Air to produce mouth-watering BBQ meals for their loved ones!

It is definitely an alluring picture, but it can also seem daunting if you are just getting started. There are so many variables and so many different kinds of meat, one might not know where to begin. That is why this guide was created: to help the aspiring pitmaster find their way to becoming a pro, but also for the more advanced, who will find some interesting new tips and tools in here to perfect their skills.

By the way, if you don't have a smoker yet, then you really should check out the **Pit Barrel Cooker** (<http://www.ilovegrillingmeat.com/pbc>). They're built to last right here in the good ole USA by a veteran-owned company. They're super portable, PLUS you can cook up to 4 whole chickens or 8 entire racks of ribs at the same time! So simple to use there is no assembly required. 20 minutes from out of the box to cooking, and you don't have to fuss with heat management! It automatically creates the ideal cooking environment so everything comes out moist and juicy the first time, every time. It's perfect for beginners, but sophisticated enough that the pros use it to cook award winning meats in competitions. One of our resident pitmasters shot a quick 5 minute video overview for you. **You really should check it out here now because you're going to absolutely love it!** (<http://www.ilovegrillingmeat.com/pbc>)



Chapter I AN INTRODUCTION TO MEAT CUTS

When planning your weekend BBQ, one thing you will definitely not run out of is options. Beef, pork, chicken, turkey, lamb, fish, rabbit, venison, and all the different parts of each animal create a huge list of possibilities you can choose from. Here are some of the most popular meat cuts sorted by the animal they come from and a little bit of info about each one.

1. Beef

Beef is the undisputed king of American BBQ meats. It can be harvested from bulls, heifers or steers. One of the most nutritious foods, beef has appetite-sating high-quality protein, which has all the essential amino acids. Beef cuts include:



Brisket

BBQ Brisket, Smoked Brisket



Chuck

Roasts, Hamburgers



Rib

Short Rib, Rib Eye Steak, Prime Rib



Plate

Short Ribs, Outside Skirt Steak. Typically inexpensive, tough, fatty meat.



Short Loin

T-bone Steaks



Sirloin

Less tender than short loin, but more flavorful. Divided into Top & Bottom.



Tenderloin

Most tender. Filet mignon served separate, or left in T-bone & Porterhouse steaks.



Flank

Used mostly for grinding, except for the long and flat flank steak.



Round

Lean cut, moderately tough, lower fat marbling. Moist cooking & medium doneness.



Shank

Used primarily for stews and soups. Toughest of the cuts.

2. Pork

Beef is the undisputed king of American BBQ meats. It can be harvested from bulls, heifers or steers. One of the most nutritious foods, beef has appetite-sating high-quality protein, which has all the essential amino acids. Beef cuts include:



Blade Shoulder (Butt)

The top part of the shoulder also called Pork Butt, Boston Butt, or Boston-Style Shoulder. Used in BBQ to make Pulled Pork.



Arm Shoulder (Picnic)

The bottom part of the shoulder also called Picnic can be used in BBQ, cured on the bone to make a ham-like product, or used in sausages.



Spare Ribs

Spare ribs, or side ribs, are taken from the pig's Side Ribsribs and the meat surrounding the bones. St. Louis-style spareribs have the sternum, cartilage, and skirt meat removed.



Back Ribs

Also called baby back ribs, or riblets are taken from the pigs loin (top of the rib cage between the spine and the spare ribs, below the loin muscle).



Loin

Cured for back bacon or Canadian bacon. Cure loin & belly for side bacon. Divided into roasts (blade loin, center loin, sirloin, crown roast). Pork Tenderloin, Pork Cutlets and Pork Chops.



Legs/Hams

Cured bone-in or bone-out to make ham. Legs are usually cut bone-in for roasting, or leg steaks can be cut from the bone. Three common cuts of the leg: rump (upper portion), center, and shank (lower portion).

3. Chicken

Because of its relatively low cost, chicken is one of the most used meats in the world. Nearly all parts of the bird (breast, wing, leg) can be used for food, and the meat can be cooked in many different ways.



Whole

Whole chicken, sometimes with the backbone and/or sternum removed, in which case it is called "Spatchcock"



Half

Full length split down the breast and back producing approximately equal left and right sides.



Breast Quarter

Half breast, a wing and portion of the back.



Leg Quarter

A thigh, a drumstick, and portion of the back.

4. Other meats

Smoking is tightly associated with meat, but that does not mean that you cannot get creative with what you put on your smoker. Although this e-book does not include cooking times for most of these, it is definitely worthwhile to do some research and try them out next time you want to impress your family and guests. Some popular choices include:



Seafood

salmon, shrimp, crab, lobster, scallops, tuna



Vegetables

Corn, green pepper, chile relleno, mushroom, potato, cabbage



Fruit

peaches, Apples, bananas, pears, pineapple, figs, apricots (any fruit that dehydrates well)



Misc.

Cheese, capers, eggs, olives, nuts, even beer!

Chapter II BBQ MEAT GRADES

In order to provide consistency and palatability (tenderness, flavor, juiciness) at the consumer level a meat quality grade standards are in place. In the US there is a standardized USDA grading system. The quality grades are awarded for 3 parameters: tenderness, juiciness and flavor.

1. Beef

The USDA defines 8 quality levels for beef. They are stamped on the carcass, but by the time you buy your cuts at the butcher counter, you'll only know by examining the shield shaped sticker tacked onto the package. While, as mentioned, there are 8 grades, you generally only want to buy one of the top 3, namely Prime, Choice or Select. Lower grades, like Standard, Commercial or Utility are seldom encountered outside of ground meat or processed products.



Prime Beef (Highest Quality, Most Tender, Juicy, Flavorful)

USDA Prime or Canada Prime beef is the superior grade with amazing tenderness, juiciness, flavor and fine texture. It has the highest degree of fat marbling and is derived from the younger beef. That's why Prime steaks are generally featured at the most exclusive upscale steakhouse restaurants. Prime brisket makes excellent BBQ. In competition BBQ a prime brisket is what the champions use to achieve a little more tenderness and flavour.



Choice Beef (Most Popular Quality, Very Tender, Juicy, Flavorful)

USDA Choice or Canada AAA is the second highest graded beef. It has less fat marbling than Prime. Choice is a quality beef particularly if it is a cut that is derived from the loin and rib areas of the beef such as a tenderloin filet or rib steak. A choice beef brisket makes great BBQ. If you look around you should be able to find a good cut of untrimmed Choice brisket for as low as \$1/ pound. Generally Choice (AAA) will be a little less tender, juicy and flavorful with a slightly more coarse texture versus Prime. The truth is that only an experienced palette will taste the difference.



Beef - Select (Very Lean Quality, Tender, Not as Juicy or Flavorful)

USDA Select or Canada AA is generally the lowest grade of beef you will find at a supermarket or restaurant. You will find it tougher, less juicy and less flavorful since it is leaner than Prime and Choice with very little marbling. The texture of Select is generally more coarse. Therefore, Select is not nearly as enjoyable or desirable. Select brisket is a good choice for BBQ beginners as it allows you to practice with your smoker and experiment with different rubs, sauces and wood smoke flavors for a lower cost per pound.

Chapter III PREPARING YOUR MEAT

Now that you know how to choose your meat, time to learn how to prepare it for smoking. The preparation of a cut of meat might seem like a trivial task, but while it is a simple one, it is also very important to the outcome. Apart from rinsing and trimming your meat cut, you also have the choice of using a marinade, dry rub, wet rub, seasoning, injecting, sauce, brining, etc. As you can see, there are a ton of ways to prepare each cut of meat, and which one you end up choosing is completely up to your preference- but here are some of the most popular practices.

1. The Rub

A rub is simply a combination of seasonings that are, as the name implies, literally rubbed into meat (or vegetables) before grilling. There are two kinds of rubs: Dry rubs and Wet Rubs, and they both have a unique calling.

The Dry Rub

is a mixture of herbs and spices, with no liquids. It creates a crust; enhancing flavor without adding moisture. A dry rub is great on food that that is cooked faster (at a higher temperature, like on a gas grill) and on food that probably won't tenderize much, like shrimp or thick chicken breasts. Fish, whether flaky or oily, loves the crunch of a good dry rub. Fish can be great with either rub style but many grill men use dry to add an explosion of taste to the outside without overpowering the taste inside. You might not want to mess with the natural flavor and juices in a fresh, tender steak—a light dry rub will not disturb the internal chemistry.

The Wet Rub

is essentially the same as a dry rub, only with added moisture. This moisture can be almost anything, such as beer, wine, bourbon, soy sauce, cider vinegar, vegetable oil (peanut, olive, canola etc.), Worcester sauce, honey, molasses, tomato sauce, fruit juice, melted butter, etc.

The wet rub realizes it's full potential when applied generously and cooked in slowly. Slow cooking is the ideal method for flavoring meat all the way through. Ribs, pork chops and bone-in chicken beg for a wet rub; they draw moisture in from the rub while charring the outside. There is nothing quite like pulling a juicy, well glazed pork chop or sticky, bronzed spare ribs off the grill.



Grading of other meats (Very Lean Quality, Tender, Not as Juicy or Flavorful)

While beef is the meat with the most extensive grading system, meat from other animals is also graded by the USDA.



Lamb

grades you will find at your butcher include Prime Lamb, which has abundant marbling and is generally very juicy and tender, and Choice Lamb, which has less marbling than Prime grades, but is still high quality.



Chicken and Turkey

meat is divided into Grades A, B and C. Grade A poultry is free of defects such as bruises and broken bones. Whole birds and parts are fully fleshed and meaty. For birds and parts with the skin on, there are no tears in the skin and a good covering of fat under the skin. Grades B and C are used in processed meat products. If sold in retail stores they are not usually grade identified.



Pork

is not given US quality grades as the meat is generally more uniform & tender. When buying pork, look for meat that is firm, grayish-pink in color and has good marbling.

Regardless of which of the two you are using, you can rub with nothing more than a couple of spices, or a grand mixture of complimentary flavors. The base for almost any rub are coarse salt and black pepper, and any number of spices can be added to that.

“Pro tip: Always buy the freshest, best quality spices you can find.”

Take your time and try different combinations at different analogies to find the one that suits your taste for each dish. Here are some ingredient ideas:



Chili Powder



Oregano



Thyme



Coriander



Peppercorns



Rosemary



Sage



Cumin



Light brown sugar



Cayenne pepper



Onion powder



Garlic powder

Mix your ingredients in a bowl until it is uniform. Apply the rub directly on the meat, or in the case of a dry rub you can slather the meat with olive oil or table mustard to make it stick better. Apply liberally, then wrap in plastic wrap, or your favorite non-reactive container and put in the fridge to let it absorb the flavors. Pull the meat from the fridge about one hour prior to cooking.

2.The Marinade



One of the simplest ways to flavor food is to marinate it. That is, treat it like a sponge. All you have to do is pour sauce on the food, let it soak for a while and then cook it. There are many different types of marinades including a teriyaki marinade for Asian dishes, marinades for steak or a yogurt-based marinade for Middle-Eastern dishes.

Marinades typically consist of an acidic ingredient like vinegar, lemon juice, wine or yogurt, plus oil and spices. The acidic ingredient softens the food, allowing it to absorb the flavors of the sauce. Marinating works on all kinds of meat, as well as fish, tofu and vegetables.

Do think ahead: If possible, start marinating meat the night before, or in the morning before you leave for work. Marinate food in the refrigerator, rather than at room temperature. Marinate in re-sealable plastic bags, rather than in bowls or other containers. They cut down on cleanup and allow you to evenly distribute the marinade. But you can marinate in plastic, stainless steel or glass containers too. Don't use marinade from raw meat or fish as a sauce unless it's boiled first for several minutes. It probably contains bacteria from the raw meat. Don't reuse leftover marinade for other food. Don't marinate in aluminum containers or foil, because a chemical reaction could spoil the food.

When you are just getting started with BBQ cooking, you will probably want to follow recipes. But as your experience grows, feel free to experiment with whatever ingredients you have on hand!



Marinating Beef

Marinating is best suited for the tougher steak cuts like flank, skirt, sirloin, round and hanger. These cuts can usually marinate up to 24 hours. You can actually ruin better quality steaks, like porterhouse or rib-eye, by marinating them.



Marinating Poultry

You can marinate an entire chicken or chicken parts. Piercing the chicken with a fork, or cutting it into smaller pieces will help it absorb marinade. Removing the skin from the chicken will help it absorb marinade. In general, two hours of marinating is long enough for the meat to soak up the flavor, but poultry can marinate for up to two days in the refrigerator, according to the USDA Food Safety and Inspection Service. Very acidic marinades can actually toughen the meat over time, so follow the recipe or package directions.



Marinating Fish

Fish and shellfish should marinate for only 30 minutes to an hour; any longer and the flesh might start to “cook” and go mushy.



3. Brining the meat

Brining comes from the root word “brine” meaning salt. Brining was originally used for food preservation in the pre-refrigeration era. However, there are two solid reasons why you should brine your meat in this century: flavor and texture. Brining infuses the meat with flavor, all while tenderizing it to butter-soft texture.

This is how it works: When you put salt into a bucket of water and add a piece of meat, a scientific process called osmosis begins to take effect. The solution will then travel into the meat in order to equalize the salt levels. This means that, before even hitting the heat, your meat has a higher liquid content -- so when you cook it, your meat will lose the same amount of moisture, but will still end up juicier. To take full advantage of this process, you can add other spices, herbs, flavorings, etc. down into the bucket with the salt water solution and it will get drawn in as well and thereby flavoring the meat.

The water to salt ratio is 1:16 or 1 cup of Kosher salt per gallon of non-chlorinated water. Any seasonings you choose to add after the base solution should contain little or no salt else the brining meat you are using can become too salty. You can use something heavy (like a brick) inside a large zip-loc bag to keep the turkey submerged.

Some meats benefit from brining more than others. Drier, leaner meats are at the top of the list, as they don't have as much fat to contribute moisture and flavor. Poultry breasts, pork chops, shrimp, and turkey are all good candidates for brining. Racks of ribs can also use a briny dip, which will help them retain moisture through a long smoke.

Pro tips:

1. Before purchasing a piece of meat to brine, check the label to make sure it hasn't already been injected with a salty solution.
2. If your meat has skin on it, pat it dry a few hours before cooking time, then leave it in the fridge, uncovered. It will end up juicy and tender, with an amazing crisp skin.
3. To avoid scary bacteria, **always** brine in the fridge and try to avoid contact with the air as much as possible.

4. Injecting The Meat

Rubs, spice pastes and glazes sit on the meat's surface, Marinades penetrate only a few millimeters into the meat, and brining and curing solutions do reach the center, but only after several days or weeks (a process that takes up major real estate in your refrigerator). Do you need to reach all the way to the core of your meat with flavor, without wasting days waiting? Injecting gets the flavor to the center of the food in seconds with the push of a plunger.

Typically you will want to inject cuts that are large, lean, or bland. This includes pork butts (large), pork loin (bland & large), beef eye of round (lean), and whole poultry (bland, lean).

“Think of injecting as marinating from the inside out.” – **Steven Raichlen**

To inject your food you need two things: the injection liquid (similar to marinade), and a Marinade Injector. Inject the needle all the way in. Then as you push the piston to inject, slowly pull the injector out at the same time still pushing the piston. If the meat is packaged in cryo-wrap, leave it in the wrap and inject it through the plastic. This helps cut down on the accidental sprays that happen when you pull the needle out of the meat.

Pro tips:

1. When making your own injections, use finely ground spices or your injection will frequently clog your needle, a total pain in the butt.
2. The hollow tip of the needle will get meat caught in it as the needle is pulled out each time. Simply washing the needle when done won't get that out and you'll have icky creatures growing in there for your next use. Use a paper clip or wire to clear this area out.

[Click Here](http://www.ilovegrillingmeat.com/injector)
(<http://www.ilovegrillingmeat.com/injector>) to get your high quality stainless steel meat injector now!

Chapter IV SMOKING THE MEAT

After preparing your meat, there is only one thing left to do: Getting it on the smoker! **Below you will find an extensive guide to smoking times and target temperatures for most popular cuts on the market.** Although this e-Book will not go into details about smoking techniques, temperature control and different wood types, you can find all that and even more in Part II of "Meat Smoking Mastery" which you can find here.

Cut of meat	Target temperature of smoker	Approximate smoke time	Final internal temperature
Beef			
BRISKET Thin Sliced (8-12 lbs)	225°F to 250°F	1.5 hrs per pound	185°F
BRISKET Thick Sliced (8-12 lbs)	225°F to 250°F	1.5 hrs per pound	195°F
BRISKET Pulled (8-12 lbs)	225°F to 250°F	1.5 hrs per pound	205°F
BRISKET Rare Sliced	225°F to 250°F	1 hr per pound	155°F
BRISKET Medium Sliced	225°F to 250°F	1.25 hrs per pound	185°F
BRISKET Well Done Sliced	225°F to 250°F	1.5 hrs per pound	195°F
CHUCK ROAST Pulled	225°F to 250°F	1.5 hrs per pound	185°F
HAMBURGERS ¼ lb Patties	225°F to 250°F	30 - 40 minutes	Until Desired
JERKY Thin Sliced	140°F	3 - 4 hours	160°F
MEAT LOAF	250°F to 300°F	2 - 3 hours	125°F
PRIME RIB Rare	225°F to 250°F	10 minutes per pound	185°F
PRIME RIB Medium	225°F to 250°F	15 minutes per pound	135°F
PRIME RIB Well Done	225°F to 250°F	20 minutes per pound	185°F
RUMP ROAST	225°F to 250°F	30 minutes per pound	185°F

Cut of meat	Target temperature of smoker	Approximate smoke time	Final internal temperature
SHORT RIBS	225°F to 250°F	5 hours	Pulls back from bone
TENDERLOIN Rare (3-4 lbs)	225°F to 250°F	1 - 2 hours	120°F to 125°F
TENDERLOIN Medium Rare (3-4 lbs)	225°F to 250°F	2.5 - 3 hours	130°F to 140°F
TENDERLOIN Medium (3-4 lbs)	225°F to 250°F	3.5 - 4 hours	150°F
TENDERLOIN Well Done (3-4 lbs)	225°F to 250°F	1 - 2 hours	160°F
TRI-TIP Rare	225°F to 250°F	1 - 2 hours	120°F to 125°F
TRI-TIP Medium Rare	225°F to 250°F	2 - 3 hours	130°F to 140°F
TRI-TIP Medium	225°F to 250°F	3 - 3.5 hours	150°F
TRI-TIP Well Done	225°F to 250°F	3.5 - 4 hours	160°F
Chicken			
BREAST (5-8 oz.)	275°F to 350°F	1 - 2 hrs	170°F
QUARTERS	275°F to 350°F	1 - 2 hrs	170°F
THIGHS	275°F to 350°F	1 - 2 hrs	170°F
WHOLE (2.5=3 lbs)	275°F to 350°F	2 - 2.5 hrs	170°F
WHOLE (3.5-4.5 lbs)	275°F to 350°F	2 - 3 hrs	170°F
WINGS	275°F to 350°F	1 - 1.5 hrs	170°F
Turkey			
LEGS	275°F to 350°F	2 - 3 hrs	170°F
WHOLE (10-12 lbs)	275°F to 350°F	2.5 - 3 hrs	170°F

Cut of meat	Target temperature of smoker	Approximate smoke time	Final internal temperature
Lamb			
LEG Rare (7-9 lbs)	4 - 8 hrs	1 - 2 hours	135°F
LEG Medium Rare (7-9 lbs)	4 - 8 hrs	2 - 3 hours	140°F to 150°F
LEG Medium (7-9 lbs)	4 - 8 hrs	3 - 3.5 hours	160°F
LEG Medium Well Done (7-9 lbs)	4 - 8 hrs	3.5 - 4 hours	165°F to 175°F
SHANK	225°F to 250°F	4 hrs	Till Tender
Other Meats			
DUCK Whole (4-5 lbs)	225°F to 250°F	3 - 4 hrs	170°F
RABBIT (3-4 lbs)	200°F	3.5 - 4.5 hrs	170°F
VEAL CHOPS	200°F	1 hr per pound	170°F
VENSION ROAST	220F to 250°F	1 hr per pound	170°F
VENSION TENDERLOIN	225°F to 250°F	1 hr per pound	170°F
Pork			
BELLY BACON	Less than 100°F	6 hrs	140°F
CANDIED BACON (Pig Candy)	225°F to 250°F	30 - 45 minutes	Done
BUTT Sliced (6-8 lbs)	225°F to 250°F	1.5 hrs per pound	205°F
BUTT Pulled (6-8 lbs)	225°F to 250°F	1.5 hrs per pound	160°F
CHOPS	225°F to 250°F	1.5 hrs per pound	155°F to 165°F
FATTY	225°F to 250°F	1.5 hrs per pound	160°F

Cut of meat	Target temperature of smoker	Approximate smoke time	Final internal temperature
HAM BONE-IN	225°F to 250°F	1.5 hrs per pound	160°F
LOIN (8-10 lbs)	225°F to 250°F	4 - 6 hrs	170°F
CANDIED BACON (Pig Candy)	225°F to 250°F	30 - 45 minutes	Done
BUTT Sliced (6-8 lbs)	225°F to 250°F	1.5 hrs per pound	205°F
BUTT Pulled (6-8 lbs)	225°F to 250°F	1.5 hrs per pound	160°F
CHOPS	225°F to 250°F	1.5 hrs per pound	155°F to 165°F
CROWN ROAST (8-10 lbs)	225°F to 250°F	1.5 hrs per pound	170°F
FATTY	225°F to 250°F	1.5 hrs per pound	160°F
HAM BONE-IN	225°F to 250°F	1.5 hrs per pound	160°F
LOIN (8-10 lbs)	225°F to 250°F	4 - 6 hrs	170°F
RIBS BABY BACK (1.5-2.5 lbs)	225°F to 250°F	5 hrs	Pulls back from bone
RIBS SPARE (2.5-3 lbs)	225°F to 250°F	5 - 7 hrs	Pulls back from bone
SAUSAGE (1-2.5 in)	225°F to 250°F	1 - 3 hrs	165°F
SHOULDER Sliced (6-10 lbs)	225°F to 250°F	5 - 8 hrs	175°F
SHOULDER Pulled (6-10 lbs)	225°F to 250°F	8 - 12 hrs	205°F
TENDERLOIN (1.5-2 lbs)	225°F to 250°F	2.5 - 3 hrs	160°F
WHOLE HOG (up to 85 lbs)	225°F to 250°F	16 - 18 hrs	205°F

If this seems a little overwhelming, believe me, I completely understand! If you get yourself a Pit Barrel Cooker (<http://www.ilovegrillingmeat.com/pbc>) along with a Digital Wireless Meat Thermometer (<http://www.ilovegrillingmeat.com/thermo>), it will come out perfect the first time, every time...guaranteed! And you'll never have to worry about time or temperature ever again! Man, it just doesn't get any easier than that!

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