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Planning A Roast Pig Barbeque

Michigan State University Extension Service

Alden Booren and Christopher Oberg, Department of Food Science and Human Nutrition

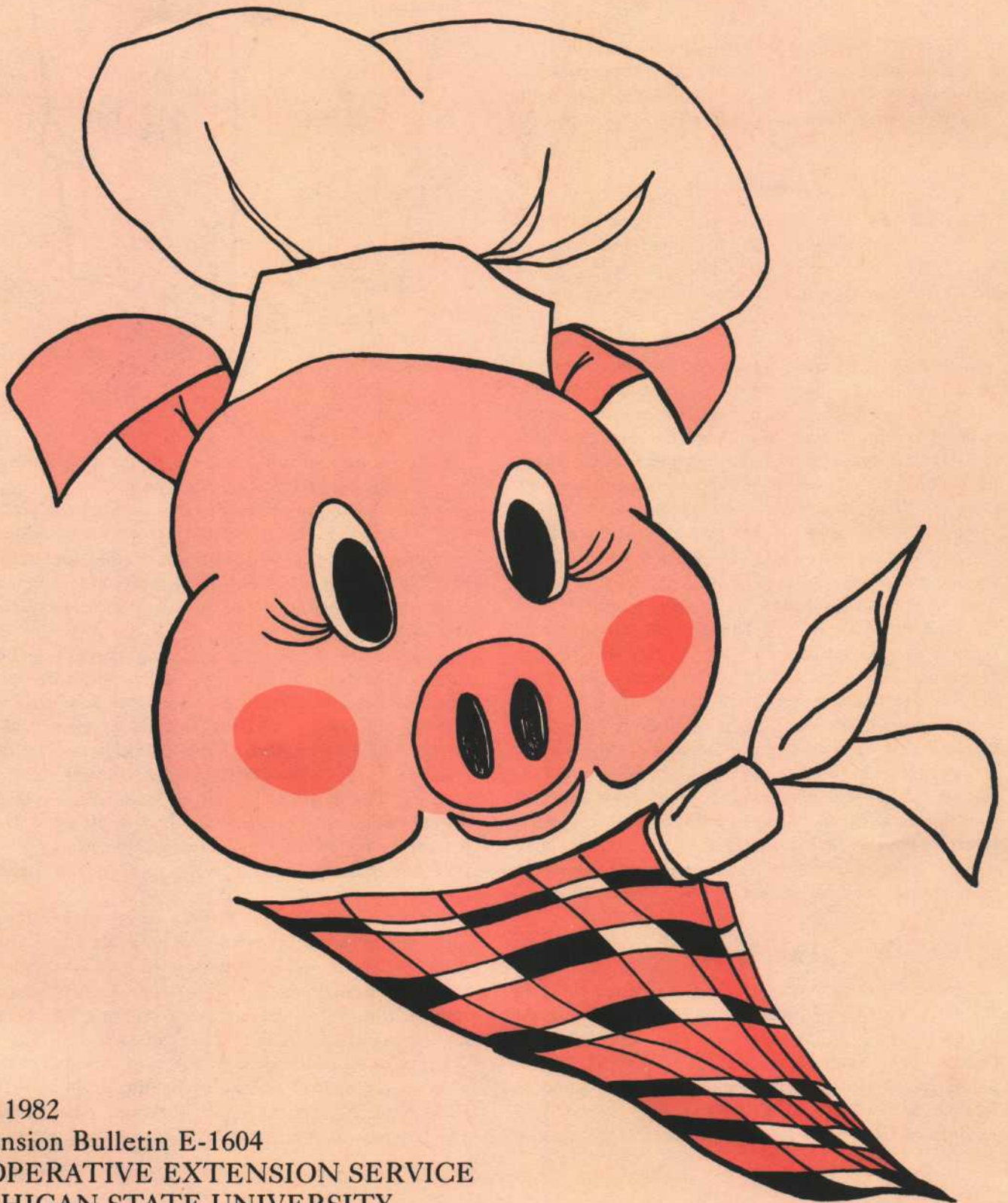
Issued May 1982

8 pages

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● May 1982

Extension Bulletin E-1604

COOPERATIVE EXTENSION SERVICE

MICHIGAN STATE UNIVERSITY

PLANNING A ROAST PIG BARBEQUE

By Alden Booren and Christopher Oberg
Department of Food Science and Human Nutrition

A successful pig roast or barbeque does not happen by accident. Usually some person or committee has anticipated potential problems and avoided them with proper planning. Here are some of the things to consider.

The Menu

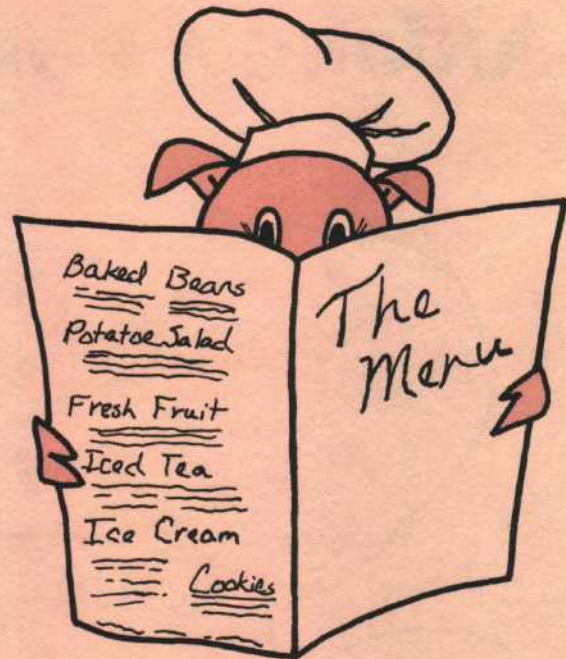
A good rule of thumb is to keep the menu simple. The important thing is to provide food which isn't too messy and can be served easily and rapidly. If paper or plastic utensils are used, remember there is a limit to what a paper plate can hold.

Baked beans and hot potato salad are popular hot items. Cold items often chosen include: potato salads, three-bean salads, green salads and cabbage slaws. Do not overlook relishes and similar convenient finger foods. Carefully choose appropriate beverages and dispensers. If a dessert is planned, be sure to keep it simple — fresh fruits, cookies or an ice cream cup are good choices. Remember, hot foods should be held and served at 140°F, or above. You will also “make points” if cold foods are served and stored below 40°F. Placing serving dishes for cold foods in shaved ice is becoming increasingly popular during the summer months. Quantity recipes for many of these foods are available through the Department of Food Science and Human Nutrition, 100 Meats Laboratory, Michigan State University, East Lansing, MI 48824.

Barbequed meat, especially pork, goes well as a main course or can be served in a bun. A bun will keep the meat warm, prevent it from drying out, is easy to handle, and often will eliminate the need for a knife or fork. Order buns pre-sliced in advance from a bakery. Rye or whole wheat buns hold their shape better than standard white hamburger buns even when exposed to meat juices or barbeque sauces.

The Meat

Several factors should be considered when ordering the meat. First, get an accurate estimate of the number of people to be fed. When carcass pigs are considered, estimate one pound carcass weight per serving. A 150-pound carcass will feed 150 people. If boneless pork is roasted, you will get four small servings, three good servings or two liberal servings per pound. To be sure



to have enough for hungry adults, figure two and one half servings per pound of boneless pork.

If you are choosing an animal before slaughter, pick a lean, young hog. Boars are not recommended. Meat from boars has a strong odor during cooking, and an off flavor. This “sex” odor and flavor is often identified as “soapy” or “urine-like,” and the odor increases as boars approach sexual maturity.

The butcher should prepare the hog for roasting. The carcass should *not* be split. The belly should be open from the breastbone to the pelvic bone and the feet cleaned especially well. Leaf lard, kidney fat and kidneys should be removed. If the animal is too fat, the lean yield will be low and flareups will occur during cooking. The head can be left on for aesthetic reasons or removed at time of slaughter. If it is left on, a 210-pound live pig should yield a 165-pound carcass (78%). If it is removed, it should yield a 147 pound carcass (70%).

To prepare the pig for roasting, many prefer to rub the inside of the carcass with seasoning salt. If the head is left on, place a block of wood in the mouth (replace this with an apple at time of serving). Cover the ears and tail with foil to prevent these portions from burning. Do not pierce the skin of the carcass at this time.

It has often been asked if it is necessary to age the meat. Aging of beef is done by holding at 34-36°F for 10-14 days. Aging beef makes the meat more tender and improves flavor. Aging pork is not recommended

because tenderness is not a problem in a youthful pork carcass and flavors can become objectionable due to the unsaturated fats found in the species.

Necessary Equipment

Equipment necessary for a roast pig barbeque varies depending upon the cooking method. However, sharp knives, steels, cutting boards and a meat thermometer are essential for all operations. Wood cutting boards are acceptable, although plastic boards are recommended because they are easier to clean and sanitize. When a large hog is roasted, a 4 x 6 foot piece of clean ½-inch plywood will make an excellent cutting board. A stainless steel skewer-type thermometer with a measuring range of 0-220°F is recommended for determining internal temperature.

Carcass or suckling pigs are usually roasted on a spit in an enclosed rotisserie or in a temperature-controlled oven or smokehouse. A whole hog can be roasted in a pit, but this is not recommended because of the irregular shape of the carcass and the necessity for turning the pig while cooking. Turning the pig on a rotisserie spit or roasting it in a smokehouse with circulating air provides uniform cooking. When pit cooking, extreme care must be taken to prevent the pig from being contaminated with dirt or sand. Cooking in a pit works best for boneless cuts of wrapped meat.

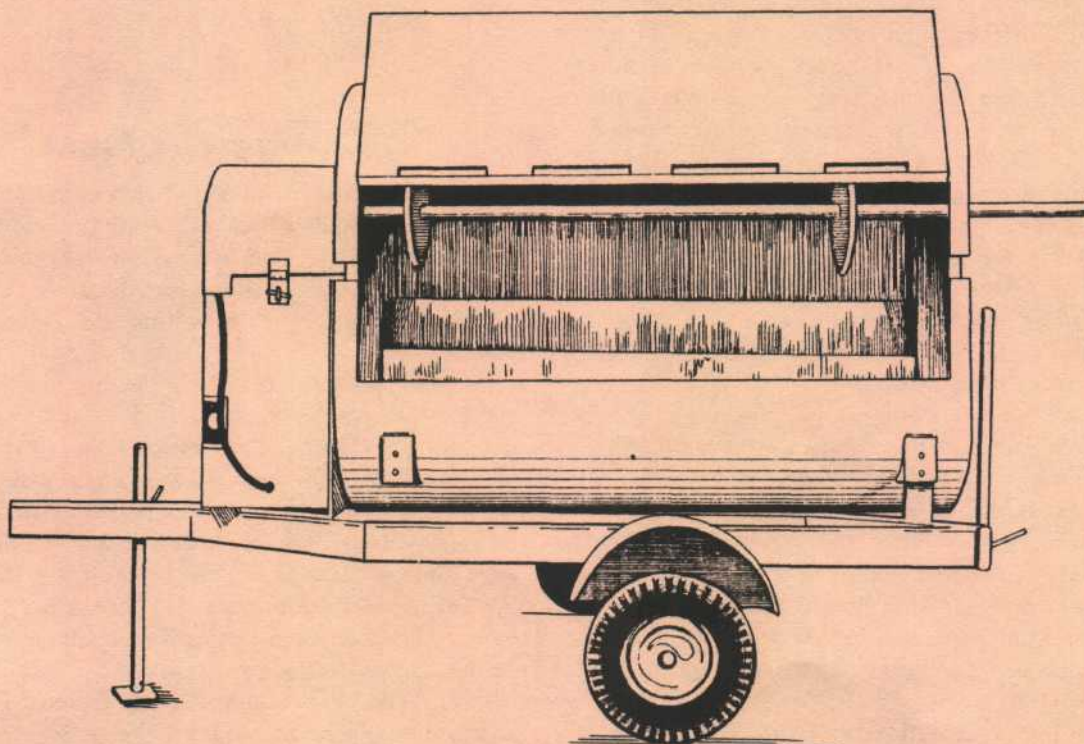
When roasting a pig in a controlled temperature smokehouse, place the pig on a large tray or in a large pan suitable for carrying the finished pig *before* cooking. Once properly cooked, the finished pig is fragile and will tear or fall apart if handled roughly. A sheet of thoroughly scrubbed corrugated roofing metal makes transporting to the serving site less difficult. Do *not* use aluminum metal for this tray. The pig can be cooked belly down on this metal tray and the carver can remove major portions from this position. You will also need a large stock pot to catch the drippings from the pig. This will avoid a messy cleanup of the smokehouse floor after cooking. Smoking the pig is not necessary. However, some people prefer to smoke the pig while cooking because it provides additional flavor and produces a pig with a golden-chestnut brown color.

If you use a rotisserie hog roaster as shown in Figure 1, you will need 80 to 100 pounds of good quality hardwood charcoal. The charcoal should be placed on the sides and to the rear of the roaster, and not under the hog. A can of charcoal lighter fluid will be necessary to start the fire. The roaster must be positioned near an electrical outlet for the rotisserie.

Many people prefer to add a stick of applewood or hickory (18" x 4" diameter) to the coals during the last 4-6 hours of cooking. This adds a distinctive flavor to the roast pig.

You will need a clean table covered with foil or corru-

Figure 1. Portable Pig Roaster.



gated roofing metal for turning the hog out on after removing from the spit. Gloves (white are often preferred) will also be necessary to handle the hot spit as well as other metal parts on the rotisserie roaster. You will also need a stock pot or pail to catch drippings which may be as much as one to two gallons from a 150-pound carcass. Many rotisserie roasters are equipped with a drain for the drippings.

Plans for a pit barbeque are shown in Figures 2 and 3. Hardwood fuels are recommended because they burn clean and give hotter coals. Do *not* use creosoted wood. Plan to have a stock of wood, well seasoned and dry about three times the volume of the pit to burn down to coals. Dry gravel or coarse dry sand is necessary to cover the coals. Metal plates ¼-inch thick can be used in place of gravel. Sheet metal with steel pipes or posts can be used to cover the pit. Cover the metal with 4-6 inches of dirt to hold in the heat.

Cooking Procedure

Regardless of the method of barbequing, pork should be cooked to a standard internal temperature of 160°F., as measured by a meat thermometer. To obtain the correct internal temperature, insert the thermometer in the front shoulder (don't hit the bone) or in the largest muscle of the ham (not resting on fat or bone). The skewer style thermometer measures temperature at the tip or point; therefore, the tip should be in the coldest portion of the carcass. After removing the pig from the cooker, the meat will continue to cook and the temperature will rise 8-10°F. Meat will fall from the bone at 170°F, or higher.

Because of variations in size, shape, weight, air current, water and method of cooking, a rule of minutes per pound cannot be given. In a temperature-controlled smokehouse, a 150-pound carcass pig can usually be roasted at 180°F overnight. If internal temperature is at 170°F, the pig should be held at 170°F until carving. If it is below 160°F, the house temperature can be raised to 200°F or 225°F to finish off the pig. Cooking times will be 8-10 hours for a 150-pound carcass, or 6-8 hours for a 100-pound carcass if the temperature is maintained at 200-250°F in the rotisserie.

When using a rotisserie hog roaster, the temperature inside the roaster should be maintained at 200-250°F. Avoid temperatures of 300°F or higher. Begin with 20 pounds of charcoal. As the coals burn down, add 7 to 10 pounds of new charcoal at a time. A greater share should be added to the part of the roaster containing the shoulder area of the pig. After 1 to 2 hours of roasting, the hog will appear to sweat. Puncture the pig's skin with an ice pick or meat fork to allow fat to come out and self baste the hog.

Be sure the pig is securely attached to, and balanced

on, the spit. A wire mesh can be used to secure the pig to the spit. Often the pig will shrink and come loose from the spit after 2 to 3 hours of roasting. Maintain a distance of 25 inches between the hog and the coals. Usually, there are trays for the coals attached to the side of the roaster. If the coals are directly under the hog, drippings may catch on fire. Fire in the roaster or on the hog should be avoided. A fire can be extinguished in a rotisserie by closing the doors and smothering it. Avoid extinguishing flames or cooling this system with water. After cooking is complete, the coals should be extinguished by closing the doors and smothering.

When roasting boneless roasts in a pit, it will take 6-7 hours to prepare a proper bed of coals. For roasts weighing 10-14 pounds, allow 8-10 hours for the meat to cook. Season the raw meat if desired, then wrap in wet strength parchment paper or aluminum foil, and over-wrap in burlap or muslin. Top the coals with dry sand and place the meat in the pit. Space the pieces so they do not touch. Put a meat thermometer in one of the larger pieces, at one end of the pit.

At this point, speed counts. Cover the pit as indicated. Make sure there is no steam escaping. If rain is a possibility, cover the pit with tarpaulins. Two to three hours before serving, uncover a small area of the pit where the piece containing the meat thermometer is located. When the roast has reached the desired temperature, remove some of the dirt from the top allowing the pit to cool enough so a further rise in temperature will not occur. After 12 hours, the fire has usually died out and the meat should be removed. If beef is roasted, 140°F is rare, 160°F is medium and 175°F is well done. Roasts which have been heated to 180°F or above are very difficult to carve and serve.

Carving the Meat

Rules for carving meat include keeping it as simple as possible. Generally, it is not recommended to carve meat on the serving line. Always separate thick muscles from thin, and slice lean against the grain. One carver can usually keep up with two people placing meat in buns.

To carve a roast pig, place the hog on the cutting board with the head to your left. First remove the head by making a deep circular incision about ½ inch behind the ears. Begin on the side away from you, continue over the neck and on the side closest to you. Separate the neck joint (atlas and axis) with the point of the blade and cut through any fleshy muscle at either side. Whenever possible, remove the hide next. If properly removed, the hide can be cut into small chunks for the nibblers. Many find it crisp and tasty.

Next, remove the shoulder or picnic. There is a natural dividing seam between the outside part of the

Figure 2. Plans for Digging and Firing a Pit.

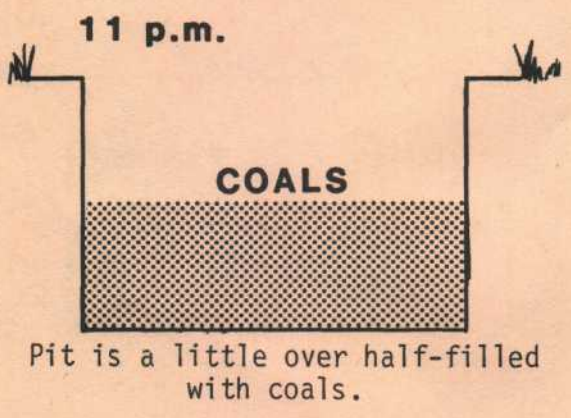
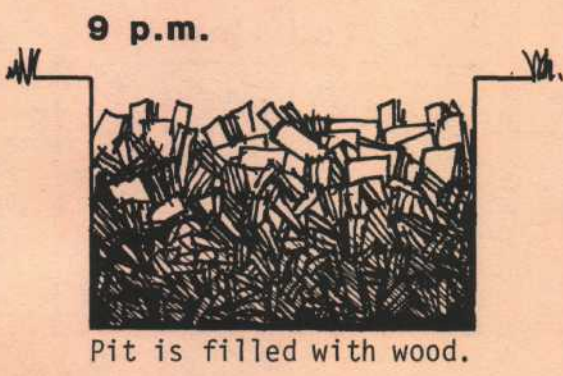
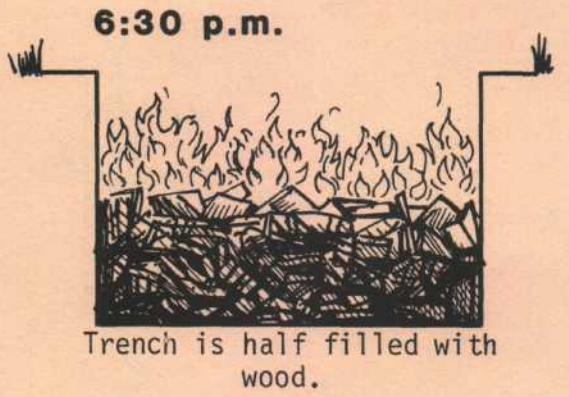
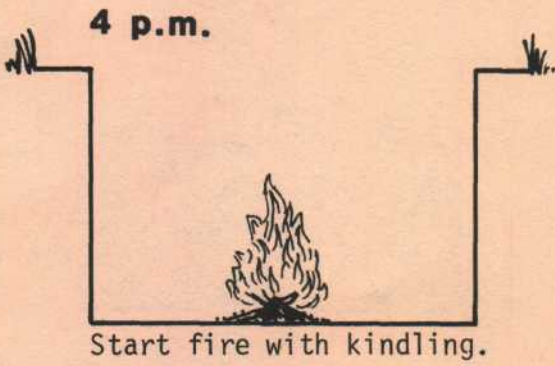
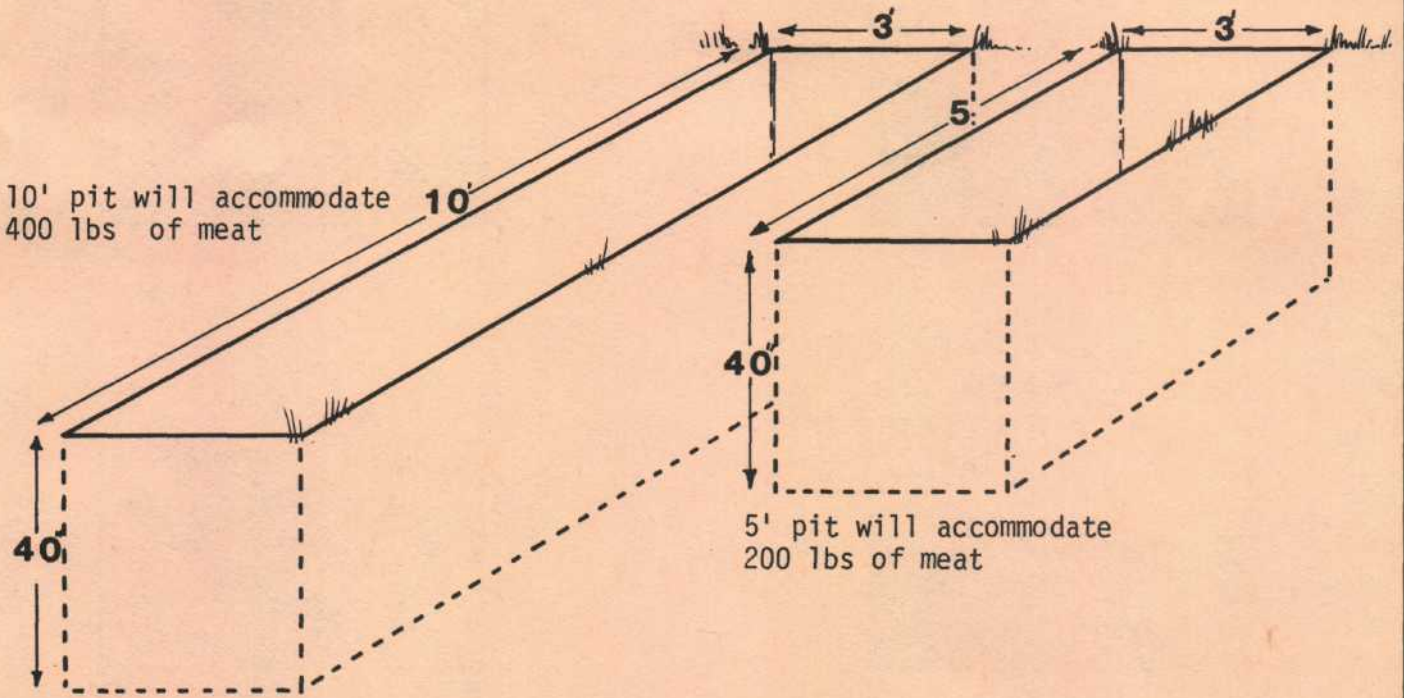
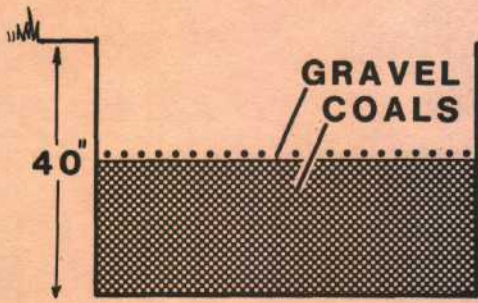


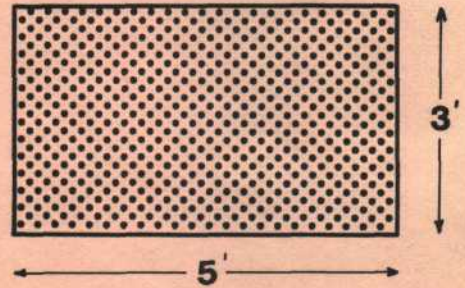
Figure 3. Preparing the Pit for Cooking.

Side view
Putting in gravel

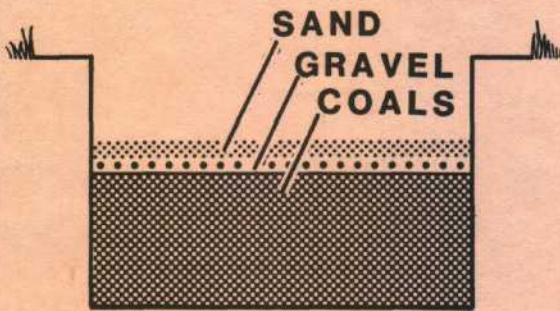


Very thin layer of finely ground gravel.

Top view



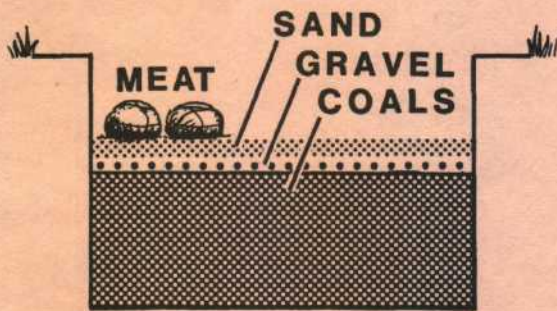
Putting in sand



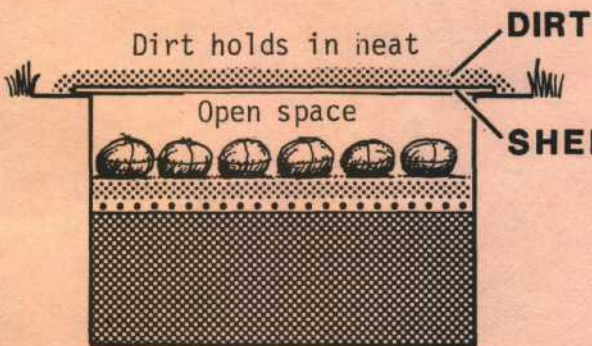
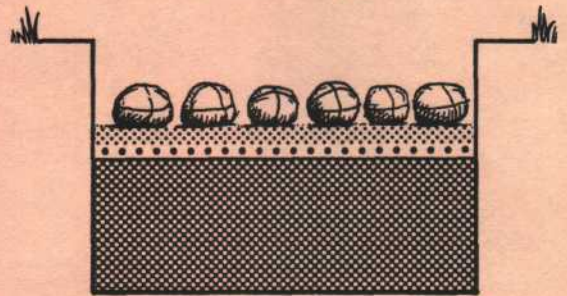
Top view



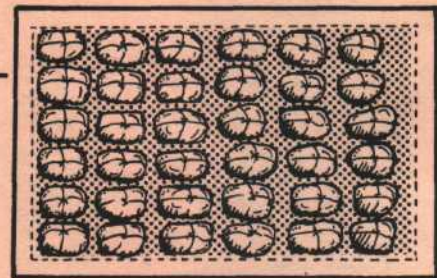
After sand is put on none of the coals can be seen.



Side view



Top view



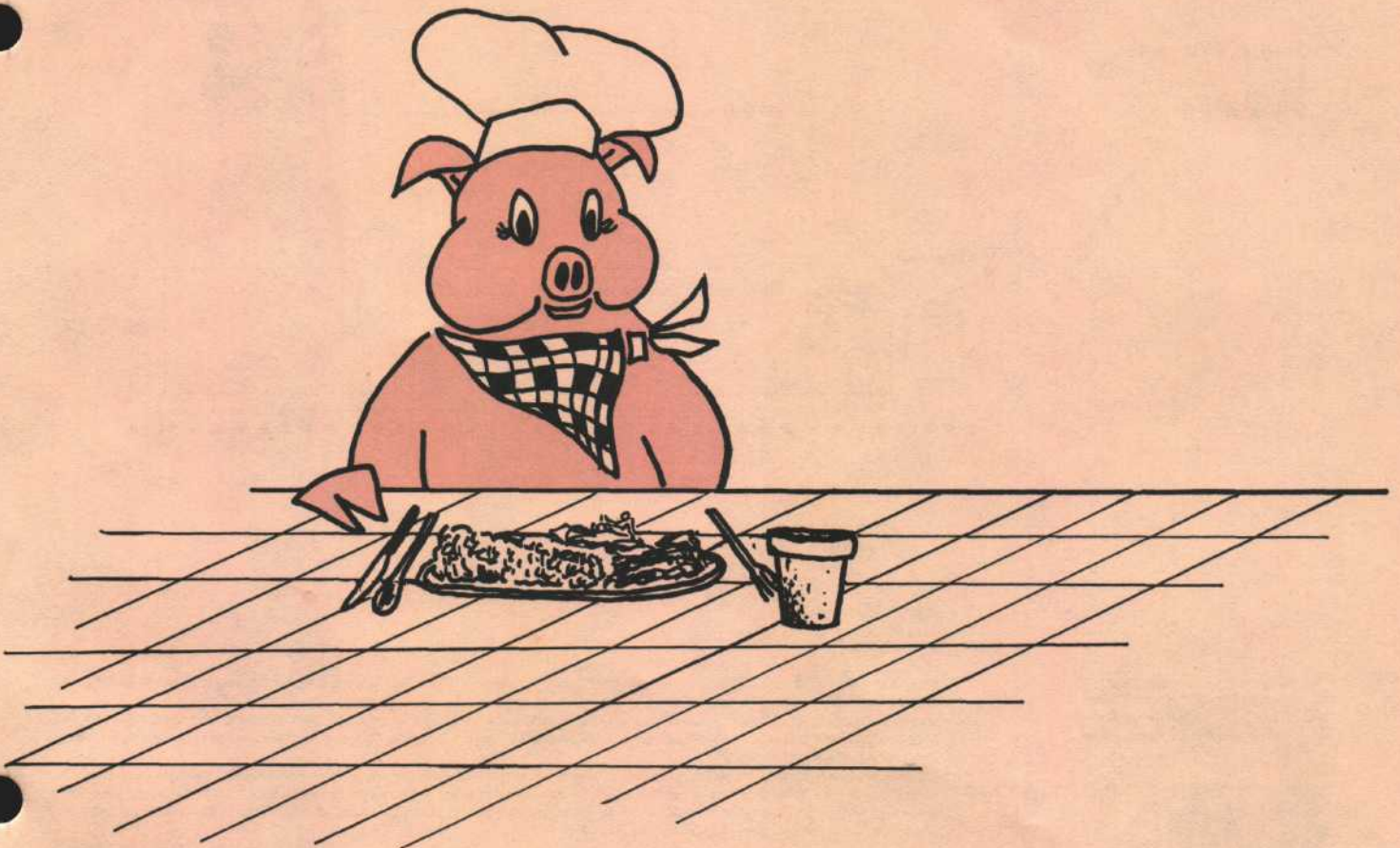
shoulder and the body. There are no bones to unjoint, so cut through and lift off this section. This can be done by making a circular cut beginning at the forepart of the shoulder; continue up over the top near the backbone and down again. When the cut is completed, push down on the leg to expose the seam and follow to complete detachment. This portion can be placed on the board (cut surface up) so the arm and blade bones can be easily located. The muscles can be separated from these bones.

Next, remove the hind leg nearest to you. Insert a fork in the meaty section of the ham and cut along the backbone near the tail. This will separate the two legs. Twist the leg to one side and extend the cut along the pelvic (aitch) bone from the backbone. Cut through the flank meat which is now all that holds the ham to the carcass. Now separate the muscles from bone and fat. Slice individual muscles across the grain. Remove the other picnic and ham using similar methods.

You are now ready to separate and slice muscles from the body of the animal. Run the point of the blade along the full length of the backbone from neck to tail. To remove the loin muscle, lift and roll this muscle away from the backbone as the knife follows the ribs. This muscle will separate naturally from the fat on the lower rib. It can be sliced on an auxiliary platter. The

other side of the loin can be removed in a similar manner. Allow $\frac{1}{2}$ to 1 inch so the knife will follow the other side of the spinal process. When carving a very young suckling pig, you may prefer to cut through the ribs when making your first cut along the backbone. This should not be difficult in a young animal since the bones are very soft. The ribs can then be used as a slicing guide when cutting this muscle. Do not forget to remove the tenderloin muscle which is located on the inside of the body cavity with the meatiest portion in the area near the hip bone. To finish carving, it is necessary to separate lean from fat and bone on the portion remaining since many minor muscles are not yet removed.

All people involved in cooking and serving should be clean and neat. White jackets or aprons and paper hats should be provided. Those preparing or serving should refrain from eating or smoking. Leftovers should be refrigerated immediately after serving is complete. If you are freezing meat in a home freezer, wrap in 2 pound packages or less and distribute the packages evenly throughout the freezer. Do not freeze more than 20 pounds of meat at one time in a home freezer. Maximum freezer storage for roast pork is 1-2 months. Remember, frozen cooked meats lose quality rapidly and should be used as soon as possible.



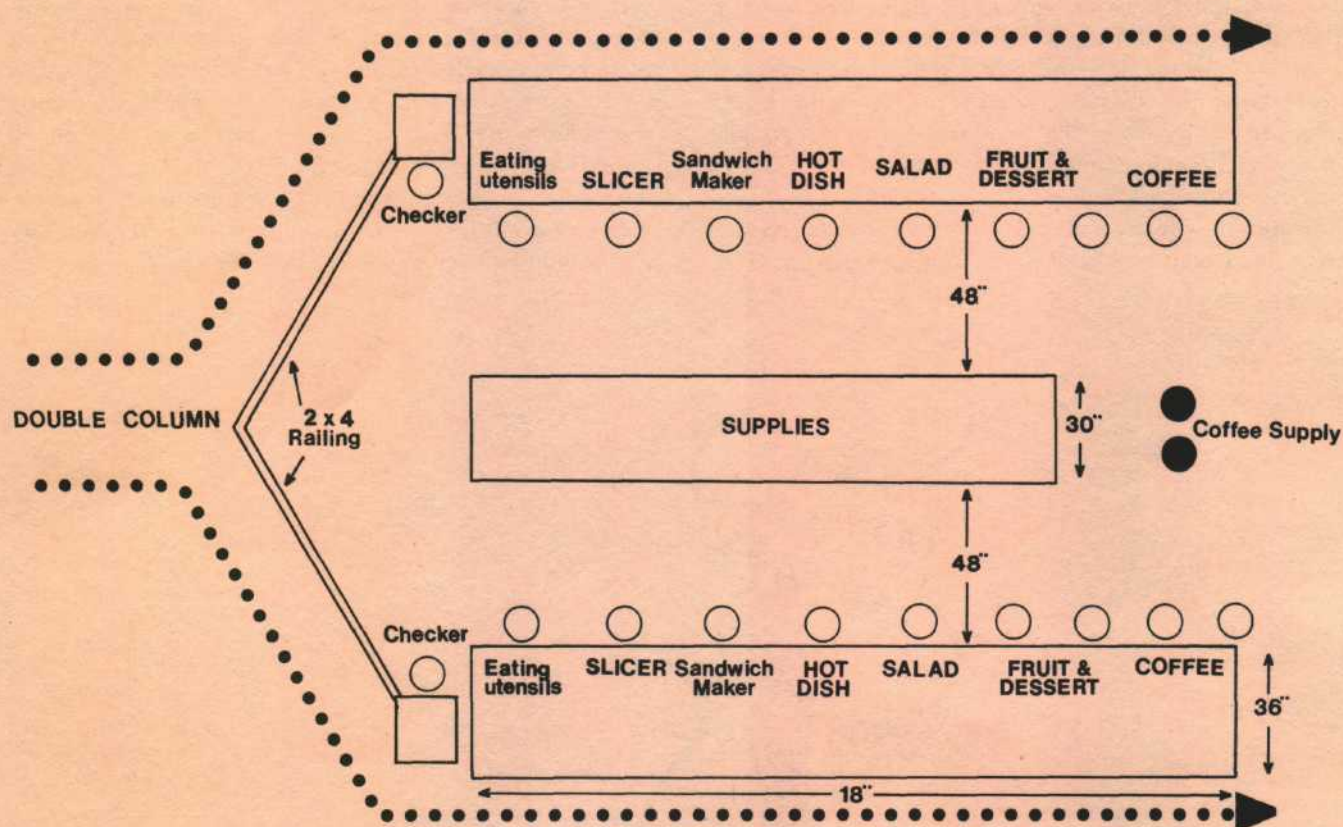
Serving the Barbeque

Advance planning and adequate personnel are a must when serving this type of meal. Serve the food promptly at the appointed time. Avoid prolonged waiting in line. Use "island" tables whenever possible for beverages, paper goods, relishes, barbeque sauces, salt and pepper. Keep "island" tables out of the main traffic flow.

A popular layout for serving is shown in Fig. 4. This layout was recommended by William J. Loeffel in "The

Large Quantity Barbeque" published by the National Live Stock and Meat Board. A good rule is to serve all of the guests in one hour or less. A line setup with 10 servers, as shown in Fig. 4, will serve 600 people per hour. This is an optimistic estimate using experienced servers and adult guests. If children and inexperienced servers are in your plan, allow for fewer people served per hour. When this type of layout is used for a buffet line, plan on a maximum number of 100 people served per hour per line.

Figure 4. Suggested Layout for Serving the Barbeque.



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