10-1919

Selecting, Dressing and Curing Pork on a Farm

M. D. Helser
Iowa State College

Follow this and additional works at: http://lib.dr.iastate.edu/iaes_circulars
Part of the Agriculture Commons, and the Animal Sciences Commons

Recommended Citation
http://lib.dr.iastate.edu/iaes_circulars/71
Selecting, Dressing and Curing Pork on a Farm

Abstract
There is nothing mysterious about curing pork on the farm and anyone who can follow the most simple directions can supply himself as well as his neighbor with a strictly high class product. All instructions found in this circular have been tried many times and have always proven successful.

Keywords
Animal Husbandry

Disciplines
Agriculture | Animal Sciences
Selecting, Dressing and Curing Pork on the Farm

AGRICULTURAL EXPERIMENT STATION
IOWA STATE COLLEGE OF AGRICULTURE
AND MECHANIC ARTS

ANIMAL HUSBANDRY

AMES, IOWA
Fig. 1. Country cured ham, shoulder and bacon
SELECTING, DRESSING AND CURING PORK ON THE FARM

By M. D. HELSER

There is nothing mysterious about curing pork on the farm and anyone who can follow the most simple directions can supply himself as well as his neighbor with a strictly high class product. All instructions found in this circular have been tried many times and have always proven successful.

The most popular meat for the average farmer is pork. Here are a few reasons why:

The hog yields a greater percentage of edible meat than any other animal.
No other animal equals the lard hog in its fat storing tendency.
Pork is the most satisfactory meat for curing.
Pork is the most satisfactory meat for shipping long distances and for long storage after reaching its destination.
There is no other meat from which so many products are manufactured.

SELECTION OF HOGS FOR BUTCHERING

HEALTH.

Health is an all important factor to be considered in selecting hogs for butchering. There is always danger of transmitting disease to the consumer of meat of an unhealthy animal and the slightest diseased condition will impair the keeping qualities. Be sure that the hog is healthy, regardless of his condition, quality or age.

Tuberculosis and hog cholera are the two more common diseases of swine.

Tuberculosis is not so easily recognized before slaughtering, but it is easily recognized afterward. If the glands of the neck, the liver and the spleen contain little pockets of pus and the lungs are inflamed or contain pus, the hog has a case of generalized tuberculosis and the meat should not be eaten. This raw carcass should not be thrown out for the hogs and chickens to dispose of, but should be cooked until the meat falls from the bones. Then it can be thrown out to the chickens or pigs.

Hog cholera is more easily recognized before killing. Occasionally, however, a hog that appears perfectly healthy before killing, will after the hair and scurf are scraped off, be found to be covered with very small blue spots. Its neck gland will be found purple, its lungs liver colored and many small blood spots about the size of a pin head will be found in various parts of the body and especially on the intestines. It is almost certain that such a hog had cholera. Its carcass should either be burned or buried as soon as possible.

Injured animals should be bled and dressed as soon as possible after the injury occurs, otherwise the blood will collect in the injured spot and inflammation arise. This will cause the meat to sour, either before or during the curing process.
CONDITION

Animals should be in medium condition. The muscles of a thin hog are quite often tough and lack the flavor and juiciness characteristic of the well-marbled piece of meat. On the other hand, overfat, oily hogs will not produce high class cured pork. One of the common faults of country cured pork is that it is too fat. Many farmers think that the fatter the hogs the better meat, but this is a mistake. Hogs in medium condition, weighing 200 to 250 pounds, produce the most satisfactory meat for curing on the farm.

AGE.

Hogs may be slaughtered at any age after six weeks. However, the meat from young pigs is watery and lacks the firmness, flavor and keeping qualities of meat from hogs with a little more age. On the other hand the meat from old hogs is generally tough, coarse and strong. Hogs from 8 to 10 months old usually give the best results.

BREEDING AND TYPE

The old-fashioned lard hog does not produce the right kind of hams, shoulders and bacon. They have too great a proportion of fat to lean for the average consumer. The later large type of lard hog is producing far better meat. For the very best hams, shoulders and bacon, select some of the pure bred lard type of hogs that border on the bacon type. (See cover page).

QUALITY.

Smooth, evenly fleshed hogs will produce a finer quality of meat, and will cut up with much less waste than the rough, coarse, wrinkled, flabby individuals. The quality hog will always show more marbling, will dress out a higher percent of edible meat and will give a more tender, finer-textured product.

MANAGEMENT OF HOG BEFORE SLAUGHTERING.

Hogs should not be fed for at least 24 hours before killing. They should, however, have plenty of clean water during this time. In the first place this will give the hog a chance to get rid of most of the contents of its stomach and intestines, which is a big help in removing and cleaning these organs. Second, it is easier to get a good bleed when the system is not gorged with food. Third, it is quite a saving of feed. This may seem like a small item for four or five hogs but with 50,000,000 hogs killed annually in the United States it
will mean enough corn saved to produce approximately 50,000,000 pounds of pork. Fourth, the meat always cures better when the small blood-vessels are practically free from food products and blood.

Hogs should never be excited or overheated before killing. This will raise the body temperature above normal or produce a feverish condition which has a tendency to cause the meat to sour.

Never bruise or whip a hog just before killing, this will not only tend to excite the animal but will cause the blood to collect in the bruised spot. If this happens to be on the ham, shoulder, or bacon it will have to be trimmed out before going into the cure, otherwise it will sour. If on the fat back it will have a tendency to darken and lower the quality of lard.

**KILLING AND DRESSING**

**Tools**—The tools necessary are: A common 6 or 8 in. butcher knife (8 in. is better), a steel, hog hook, hog scraper, (a bell-shaped scraper is best but a dull butcher knife or an old corn knife does very well), a hog gambrel and a kettle for heating water.

**Equipment**—For scalding, a small platform or table with a barrel slanted up to one end as shown in fig. 3 does very well (a large store box will serve as a platform.) This makes a convenient place to scrape also. After the hogs are all scraped this same table can be scalded and scrubbed thoroly and used for a cutting table.

A post set in the ground with two cross ties as shown in fig. 3 will serve to hang eight hogs and even though it is very simple to set up it is something permanent and will last a long time. "Anything worth doing at all is worth doing well." First, be sure that all tools are ready and that there is plenty of hot water.

**METHODS OF KILLING.**

1. Stunning the hog by hitting in the head, midway between the eyes and ears with an ax or sledge.
2. By shooting through the brain.
3. By bleeding.

Fig. 3. Complete equipment for farm butchering
Fig. 4. Sticking hog, showing position when cutting thru skin

Fig. 5. Sticking hog, showing position when blood starts
All hogs should be bled, whether they have been killed first or not.

**Sticking Alive**—When sticking alive, reach under the hog and grasp the legs on the opposite side and pull toward you, turning the hog on its back. One man should stand astride the hog just back of the shoulder and hold to each front foot holding the hog squarely on its back. Another man should place one hand on the lower jaw of the hog holding it down and with the other hand grasp knife, holding edge down toward the neck. Cut thru the skin just about 1½ or 2 inches in front of the breast bone. Make the cut just about the width of the knife. Insert point of knife toward point of breast bone until the bone can be felt. Push knife under point of breast bone just about ¼ inch and then push point straight down toward the neck bone of the hog. This will cut the carotid arteries just where they branch between the point of the breast bone and back bone. It will also cut the jugular veins.

Be careful not to let the knife go in deeply enough to go thru the opening into the chest cavity formed by the ribs on each side; if it does the chest cavity will be opened and unless the hog is hanging while bleeding most of the blood will collect in the chest cavity. Then, too, there is danger of sticking the heart, which if stuck will stop pumping the blood out of the arteries. Be sure that the hog is lying squarely on its back so that the knife goes into the middle of the breast and not in either shoulder as will sometimes happen if the hog is turned a little to one side while he is being stuck.

After sticking, the hog may be allowed to go free; if he stands up he will bleed better. When the sticking is done exactly as directed the hog will not walk far. Hogs stuck before being shot or stunned usually bleed better.

**Shooting**—Shooting is objectionable because the bullet quite often lodges in the shoulder and may cause the meat to spoil during the cure. However, shooting seems to be about the only way when the hogs are wild and where they are not confined to a small pen.

**Stunning**—Stunning with an ax is very inhumane in a great majority of cases. The hog is likely to move his head and cause the ax to fall over either eye, and after one miscalc it is very difficult to hit the right place with an ax or hammer and

---

Fig. 6. Scalding hind end of hog
the hog is worried around the pen, excited, will not bleed properly and consequently the meat spoils during or after the curing process.

The Best Method—The ideal way to kill hogs is to draw the live hog up by one hind leg with a block and tackle and then stick it. While this is some trouble it will more than pay for the trouble. Do not drag the hog to the scalding place until he has plenty of time to bleed. Dragging will bruise the hog in spots and cause the blood to collect just the same as in the live hog, this lowers the quality of the meat and lard.

SCALDING

Water Temperature—It is all important in scalding that the water be hot. It should have a temperature of about 150° F. for the most satisfactory scald. If possible, use a thermometer; if not you must depend upon your judgment. Better have the water for scalding a little too cold than too hot for the results will be better.

Ordinarily when the temperature of the air is between 0° and 15° above, add one bucket of cold water to about a half barrel of boiling water. You can also tell when you have about the right temperature by dipping your finger in the water three times in rapid succession. It should burn severely the third time. If it burns se-
verely the first time the water is too hot. A great many farmers add some wood ashes or some lye or potash to the water. This is unnecessary.

Steps in Scalding—Always scald the hind leg of the hog first. Insert hog hook in lower jaw just under the tongue as shown in illustration. Keep the hog moving around in the barrel so that one part does not lay against the barrel and thus miss scalding with the remainder of the body. It is not necessary to pull the hog out, except to try the hair, before the hog is scalded and ready to scrape. When the hair slips good on the hind flank and legs, remove hog, twist hair off of hind legs and cut out gambrels and insert gambrel stick and proceed to scald the head end as shown in fig. 8. Part of the hair may be scraped from the hind part while scalding the head end. The object of scalding the hind part first is to make sure that the water is not too hot before putting the head in. The head and neck are much harder to clean than the hind part in case the hair happened to set.

Always clean the head and feet first after scalding because they are the hardest to clean if they get cool. The hair always scrapes off more easily if it is scraped the way the hair lies and not against it.

In case the hair cannot be scraped from some part of the hog, cover that part with some of the loose hair or a piece of burlap and pour on some hot water.

Hanging Hog—Hang the hog and rinse off with hot water; finish scraping with a knife and rinse again with cold water, this time scraping up on the hog so that the water may be squeezed out of the pores instead of being forced in. After scraping, if a real fancy job of dressing is desired, use a common gasoline blow torch and singe the feet, eyes, ears, and wrinkles, if any, just as with a chicken.

After the hog is hung and thoroly cleaned, remove the head by cutting around the neck just back of the ears. After cutting in to the bone, the head may be easily taken off by simply twisting it a little.

Fig. 9. Scraping hog
REMOVING ENTRAILS

The next task is to remove the entrails. Split the breast by cutting up from the cut made in sticking and removing the head, just a little to the right or left of the breast bone, so that the knife will cut the ribs loose from the breast bone at the point of attachment. Be sure to stop the knife when thru the last rib or it will cut into the stomach and intestines.

Now start the knife exactly in the center between the hind legs and cut into the aitchbone and split the skin down to the cut made in splitting breast. Open aitchbone with the knife by feeling for the little ridge underneath where the bones are joined together. Start the point of the knife into that joint, keeping the knife edge up. The bone splits quite easily on a young hog and can easily be split on older hogs.

Grasp bung gut just below split in aitch bone and loosen tissue toward bung. Cut around bung from in front. It is best to tie the bung with a string or just tie a knot in the gut. Pull bung out in front of hog, cutting it loose with a knife where it will not pull loose. Be careful not to cut the leaf fat. Pull the stomach out and cut the diaphragm just at the edge between the light and dark colored tissues. All of the internal organs should drop out when the diaphragm is cut.

First, remove the gall bladder from the liver by running the thumb under the little duct leading to the gall bladder; tear it loose and simply pull up and the bladder will peel out easily. Now remove liver and heart and rinse with cold water if dirty or bloody. The liver can be either fresh fried, used for liver sausage, or boiled for scrapple or head cheese. The heart is sometimes pickled or may be used for sausage or scrapple.

Separate fat from intestines by starting with the stomach and simply pulling the fat off without use of the knife.

The intestinal fat should be used for making soap.
Fig. 11. Splitting the aitch bone

Fig. 12. Loosening the bung

Fig. 13. Gutting the hog
The stomach, small intestine and bladder should be thoroly scraped and cleaned for sausage casings.

The black intestine is sometimes cleaned and pickled for pork chitterlings.

As soon after removing entrails as possible, the hog should be split down the center of the backbone. By splitting down the backbone instead of at either side of it, the whole loin is saved and it can be used for pork chops or roasts instead of backbone, spare ribs and loin strip. Too many farmers "hack" the loin all to pieces in trying to chop the hams and the spare ribs loose from the backbone. This is an old method that it seems hard to give up. One trial will convince anyone that the other way is better.

The leaf fat should now be loosened and allowed to hang in the carcass and cool. Start pulling the fat loose from the bottom. The leaf fat can be loosen much more easily when hot than cold.

Allow the carcass to hang in this way until thoroly chilled out. Do not allow the carcass or any part of the meat to freeze. If the carcass freezes a little crust on the outside, not all of the animal heat will escape and this has a tendency to cause the meat to sour when in the cure. A great deal of meat is lost in this way every year.

While the carcass is cooling, the head may be trimmed up as follows: Lay head with face side down and cut jowls off. Trim them up squarely and put them in the cure with the rest of the meat and in one week it will make excellent jowl bacon or pickled pork.

Trim off all of the meat from the head and use for scrapple or head cheese. Remove tongue and use for scrapple or pickled tongue. Saw off top of skull bone and remove brain, which may be fresh fried.
The same table or bench used for scraping the hogs can be thoroughly scalded off and used for a cutting table. Two ordinary planks with a barrel under each end also make a good cutting table.

_Cutting and Trimming the Ham_—Lay a half carcass on the table, bone side up. Remove the ham by sawing on a line from a point between the third and fourth bone (counting toward the tail from the point where the backbone rises toward the tail), to a point about 1½ to 2 inches in front of the point of the aitchbone. To trim the ham, slip the knife under the tail bone and cut it out. Then with the shank in one hand and the knife in the other, hold the ham shank end up with the bone side or face of the ham toward you. Now trim off the fat on the back edge, or cushion side of the ham in one smooth cut if possible. Then trim the fat from the flank side. Always trim off all small pieces and make it smooth so that there are no rough edges.

_Removing the Shoulder_—Now remove the shoulder by cutting it straight off between the fourth and fifth ribs. Be careful in removing the neck bone and front end of spare ribs not to let the point of the knife run deeply into the shoulder, or too much of the shoulder will have to be trimmed away. After removing the bloody end of the spare ribs, trim the shoulder into about the same shape as the ham.

_Back and Belly_—Now separate the side into back and belly, cutting from a point just at the edge of the little tenderloin muscle beneath the backbone to a point about an inch or two below the front end of...
Fig. 18. Cuts of pork: A, Ham; B, Fat Back; C, Loin; B and C, Back; D, Leaf fat; E, Bacon; F, Ribs; E and F, Belly; G, Shoulder; H, Jowl
the back bone. Trim the fat back from the loin. Use the fat back for lard and the loin for pork chops or roasts. Trim the spare ribs from the belly, being careful to keep the point of knife against the bone all of the time so that it will not cut into the bacon. Square up the edges of the side and use for bacon.

SAUSAGE.

All trimmings should be made into sausage and lard.

Pork sausage should be about three-fourths lean and one-fourth fat. Grind thoroly and with every 50 lbs of meat mix

1 lb. of salt
2 oz. of pepper

If sage is desired use about 3 oz. of sage. Any other seasoning, such as garlic or ginger may be added to suit taste after grinding. Mix the seasoning into the meat thoroly and either stuff into casings, or pack in jars, cook thru and cover with hot lard. The loin may be sliced and fried down the same as the sausage, or canned.

RENDERING LARD.

In making lard, use back fat, leaf fat and all fat trimmings. Be sure that all lean meat is trimmed out to prevent scorching. Do not remove the skin. Place the fat in a cool kettle. The kettle used for heating water to scald hogs may be thoroly cleaned and used for rendering lard. Cook over a moderate fire and stir frequently to prevent scorching.

When the little white blisters form on the cracklings and the cracklings turn brown and float it will soon be time to remove the lard from the fire. As a final test dip some of the cracklings up with the stirring paddle and if they fry themselves dry as soon as dipped up, the lard is ready to come off. Press the cracklings and strain all of the lard thru a clean cloth into containers which have been thoroly cleaned. As the lard cools it should be stirred slowly. This whitens and makes the cold lard more uniform in texture and finer grained. When cooled the vessels should be stored in a cool, well ventilated, dry, clean place.

CURING MEAT

Vessels for Curing—Oak barrels or large jars are the most satisfactory vessels for curing meat. It is absolutely essential that all curing vessels be thoroly cleaned and scalded.

METHODS OF CURING MEAT.

Be absolutely sure that the meat has all of the animal heat out of it and that it has not been frozen. A great deal of meat is lost every year by allowing the meat to freeze before curing.

There are many methods of curing meat, most of which are simply a variation of two principal methods.

Common salt is the basis of all meat curing material. It has a pre-
serving effect, drying and hardening the tissues. Sugar is added to aid in keeping the muscles soft and to flavor the meat. Saltpeter is added to preserve the color and it also aids in preserving the meat. Other ingredients are sometimes added for flavoring. Common salt, however, is the only absolutely necessary ingredient. An excellent product may be made with common salt alone.

The Brine Cure—If sugar is added this cure is known as the "sugar cure" or sweet pickle.

For each 100 lbs. of meat use

- 12 lbs. salt
- 3 lbs. sugar
- 2 oz. saltpeter
- 6 gal. water

Thoroly mix the salt, pulverized saltpeter and sugar (either brown or white, brown preferred) and rub the mixture into each ham and shoulder. Pack all meat, ham, shoulders, bacon and jowls in the same vessel. Put the skin side down on all but the top layer: here put skin side up. Weight this down with hard burned tile or brick or some hardwood. Never use pine wood or limestone.

Boil the six gal. of water to make sure that it is absolutely pure. While the water is still warm, dissolve the ingredients left after rubbing meat, in it and after it has cooled, pour the brine over the meat. Be sure that all the meat is completely covered with the brine, set in a cool place to cure four days to the pound.

In seven days repack the meat and leave out the small pieces. Use the same brine in repacking unless it is sour or ropy. Sour brine should be thoroly boiled before using again. It is safer to make new brine, scald the barrel thoroly and wash the meat thoroly. In case
a new brine is made, do not make it quite as strong as the first and do not leave the meat in quite as long as would have been done with the first brine. About three days to the pound should be sufficient. The meat should be repacked again on the 24th day and the bacon removed. After all the meat comes out of the cure, wash thoroly and hang up to drip about 24 hours before smoking.

*The Dry Cure*—Here again salt is the basis, but any of the other ingredients may be used if a sweet flavor and a red color are desired. For every 100 lbs. of meat use

- 8 lbs. salt
- 3 oz. saltpeter
- 3 lbs. sugar
Mix the ingredients thoroughly and rub half of the mixture on the meat. Pack in barrel or lay on table as convenient. In seven days rub the other half on. Allow this to stand four days to the pound. If packed in a barrel, do not remove the liquor which collects in the bottom of barrel.

At the end of the curing period, rinse the meat thoroughly in pure water and hang up to smoke. Allow it to drip over night before starting the fire. All other methods of curing are simply a variation of one of the above methods.

SMOKING MEAT.

Any small tight building will be satisfactory for smoking meat. Hang the meat 6 or 8 feet away from the fire if possible. The most satisfactory smoke house is made of hollow tile with a cement floor and roof as shown in fig. 25. With a cement floor the fire can be built on the floor. Portable smoke houses are also giving satisfaction. There are several on the market at the present time.

Where there is only a small amount of meat to smoke, the following method will give satisfaction: Dig a hole about three feet deep. Lay a tile from a point about a foot from the bottom of this hole to a point about four to six feet away, then bring the tile to the top of the ground. Knock both ends out of a barrel and set it over the end of the tile. Lay a couple of strong sticks across the top of the barrel to hang the meat on and then cover as tight as possible. Build a fire in the hole and cover it as tight as possible, thus allowing the smoke
to pass thru the tile into the barrel. This will also be a cold smoke which is the most desirable. Build a little fire each morning for about a week.

If possible, use green hickory for smoking. Maple, apple or any hard wood will give satisfaction. Never use pine, as this will make a sooty smoke and will give a resinous flavor. Corn cobs are often times used and give a satisfactory flavor.

STORING THE MEAT.

If cured meat is to be kept any length of time it should be wrapped in paper or placed in a tight paper bag and then hung in a dry, dark, vermine proof building.

Borax is sometimes dusted over the meat to protect it from skippers.

MISCELLANEOUS RECIPES

*Head Cheese*—Trim all meat from the head and soak over night in water containing a little salt. Then cook with hearts, tails, tongues and feet, or any of the other trimmings that you do not seem to have other use for. Cook until the meat can easily be separated from the bones. Dip off liquor and chop meat fine. Return meat to kettle, season to taste with salt and pepper and cover with liquor and boil about 15 minutes longer. Pour the mixture into a shallow pan, cover with cheese cloth and weight down. When cool, slice and serve without further preparation.

*Scrapple*—Use the same kind of meat and proceed the same way as with head cheese until the liquor is poured over the finely chopped meat.
meat. Then season and stir corn meal into the boiling liquor and meat until the mixture is about three-fourths mush and one-fourth meat. Be sure to add the meal slowly and stir constantly or big lumps of meal will form. Boil thoroly and pour into shallow pans to cool. Slice and serve cold or fry in fat.

*Pickled Pigs Feet*—Clean the pigs feet thoroly and boil four to six hours, depending on size and age. Salt when about half done. Pack into a tight vessel (stone jar preferred) and cover with hot spiced vinegar. Serve cold or fry in a batter made of eggs, flour, milk and butter.

**TANKAGE AND SOAP.**

*Recipe for Soap*—All the soap making material, whether it be the carcass of the animal or any part of the carcass, or fats, or whatever it may be, should be cooked if possible until the bones dissolve. This, of course, is rather a long process with an open kettle but can be easily done with a steam pressure kettle. After the product is thoroly cooked up, skim the melted fat off the top and clarify by adding one pint of cold water to 2 or 3 pounds of melted fat. The fat will solidify on top of the water and the other material will be left at the bottom of the water. To every 7 lbs. of melted fat add 1 lb. of lye dissolved in 3 qts. or water and stir until it resembles honey. Care should be taken that the fat is not too hot when the lye is added. Pour the mixture into wooden or paste-board boxes or granite pans. When almost hard, cut it into squares. Tin vessels should never be used for this purpose. Allow this soap to ripen a month or so before using in order that the lye may be completely united with the fat.

*Recipe for Tankage*—To make tankage of refuse, use the material left in the kettle after the soap has been skimmed off. If the bones are not thoroly dissolved, all the material should be run thru a bone grinder of some kind. This material should be thoroly dried on the stove or in some other place where the drying will take place faster than in the sun. This product can be used as stock food while it is green (before it is dry), but it will not keep any length of time.
the green tankage is thoroly dried it will keep for some little time. This can be used as stock food in the same way as the tankage purchased from other sources.

If this tankage molds, due to damp weather or not being thoroly dried, it should not be used as a feed.

**SPECIFICATIONS AND BILL OF MATERIALS FOR HOLLOW TILE SMOKE HOUSE**

The fire-proof smoke house shown in fig. 26 is 7 ft. square and 9 ft. high. The footings, floor, curing vat and the lower walls and the roof slab are all of concrete. The walls as shown are of hollow clay blocks, making a 4 in. thick wall.

The foundation wall should extend at least 12 in. below grade. When the building site is dry, this depth is sufficient. When wet, the site should be well drained and it is advisable to place a few small steel rods (such as old silo hoops and bridge rods) in bottom of concrete to prevent cracking or upheaval due to freezing. Make footing 10 in. thick at the bottom and tapering to six inches at the top. Build the 6 in. concrete wall 2 ft. 3 in. above the grade line. The concrete floor is to be 4 in. thick and should be underlaid by a drainage base of pebbles or clinkers at least 6 in. thick.

Concrete for the foundation is to be made with one part portland cement, 2 parts clean coarse sharp sand, and 5 parts of pebbles or stone broken in pieces not larger than two inches. Walls above grade and floor to be made of 1 part portland cement, 2 parts sand and 4 parts pebbles. If mixing by hand, mix the cement and sand thoroly before adding the pebbles or stone and water. Build the walls up level and trowel all exposed portions and the floor to a smooth surface.

Fig. 25. Exterior of Iowa Experiment Station smoke house
Fig. 26. Details of construction of Iowa experiment station smoke house
The hollow clay blocks are laid up in the wall with ½ in. joints. Mix the mortar with one part cement, 1-3 of one part of lime and 3 parts clean sand. Build the walls up true and plumb. If special corner blocks cannot be had, common chimney brick may be used for the same purpose in the building of the solid corners. In the top course of blocks set six blocks on each side, cross-wise of the wall, with the ends cut as shown on the drawings.

The door frame is made of double thick 2x4 in. material which is to be built up and set in place before the walls are erected. Drive 10-penny nails part way into the outside of the frame so as to provide a secure bond between the frame and the masonry.

The lintel over the doorway is built of hollow tile, the same as the walls except that the air spaces are to be filled with concrete and two ⅜ in. steel reinforcing rods placed in the lower air cell.

The roof slab and the curing vat are of concrete reinforced with a wire mesh equivalent to No. 8 and No. 10 gauge wire, 4x12 in. mesh, placed ¾ in. above the under side of the roof slab, and near the outside of the curing vat walls. The concrete is to be made with one part cement, two parts sand and three of gravel.

The roof to be built in place on a form consisting of inch boards laid on 2x4's running thru the open blocks in the top course and supporting the cornice in the same way.

The roof slab to be 4 in. thick at the outsides and 7 in. in the center. The surface is to be troweled smooth and even.

In building the curing vat make the walls 4 in. thick, using concrete of the same proportions as for the roof slab. Waterproof the inside walls and bottom and also apply a coat of cement plaster; finish the vat and for a drain put in a one-inch pipe to the outside of the smoke house as shown in fig. 26.

Build the door of 6 in. flooring lumber and securely brace with 8 in. cleats and hang on "T" hinges as shown in the drawings.


**BILL OF MATERIALS**

**HOLLOW TILE SMOKE HOUSE.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation, 56 cu. ft. (1-3-5)</td>
<td>10.0</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Upper Walls, 16 cu. ft. (1-2-4)</td>
<td>3.6</td>
<td>.27</td>
<td>.54</td>
</tr>
<tr>
<td>Floor, 8 cu. ft. (1-2-4)</td>
<td>1.8</td>
<td>.14</td>
<td>.27</td>
</tr>
<tr>
<td>Curing Vat, 12 cu. ft. (1-2-3)</td>
<td>3.0</td>
<td>.23</td>
<td>.34</td>
</tr>
<tr>
<td>Finish, 4 cu. ft. (1-1-½)</td>
<td>2.8</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Roof, 30 cu. ft. (1-2-3)</td>
<td>8.0</td>
<td>.58</td>
<td>.86</td>
</tr>
<tr>
<td>204 4 in.x8 in.x12 in. clay tile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150 Common Brick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortar</td>
<td>4.0</td>
<td>.5</td>
<td></td>
</tr>
<tr>
<td>½ bbl. Lime</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reinforcement**

- 120 sq. ft. wire mesh No. 8 and 10 wire, 4 in.x12 in. mesh 2-½ in. rods, 5 ft. 6 in. for lintels.

**Door Frame**

- 25 ft. 2x4-7 ft.
- 25 lin. ft. ¾ in. x3-stop.
- 10 ft. lin. 1 in.x8 in.

**Door**

- 25 ft. 6 in.-D and M Boards
- 1 pr. door hinges
- 1 door lock