

## Dry Curing Virginia-Style Ham

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**It is against the law to sell uninspected home-cured hams either commercially or privately.**

### Historical Background

Virginia ham was one of the first agricultural products exported from North America. The Reverend Mr. Andrew Burnaby enthusiastically reported that Virginia pork was superior in flavor to any in the world (Burnaby 1775). Another early clergyman, the Reverend Mr. John Clayton, wrote the Royal Society in England that Virginia ham was as good as any in Westphalia (Force 1844).

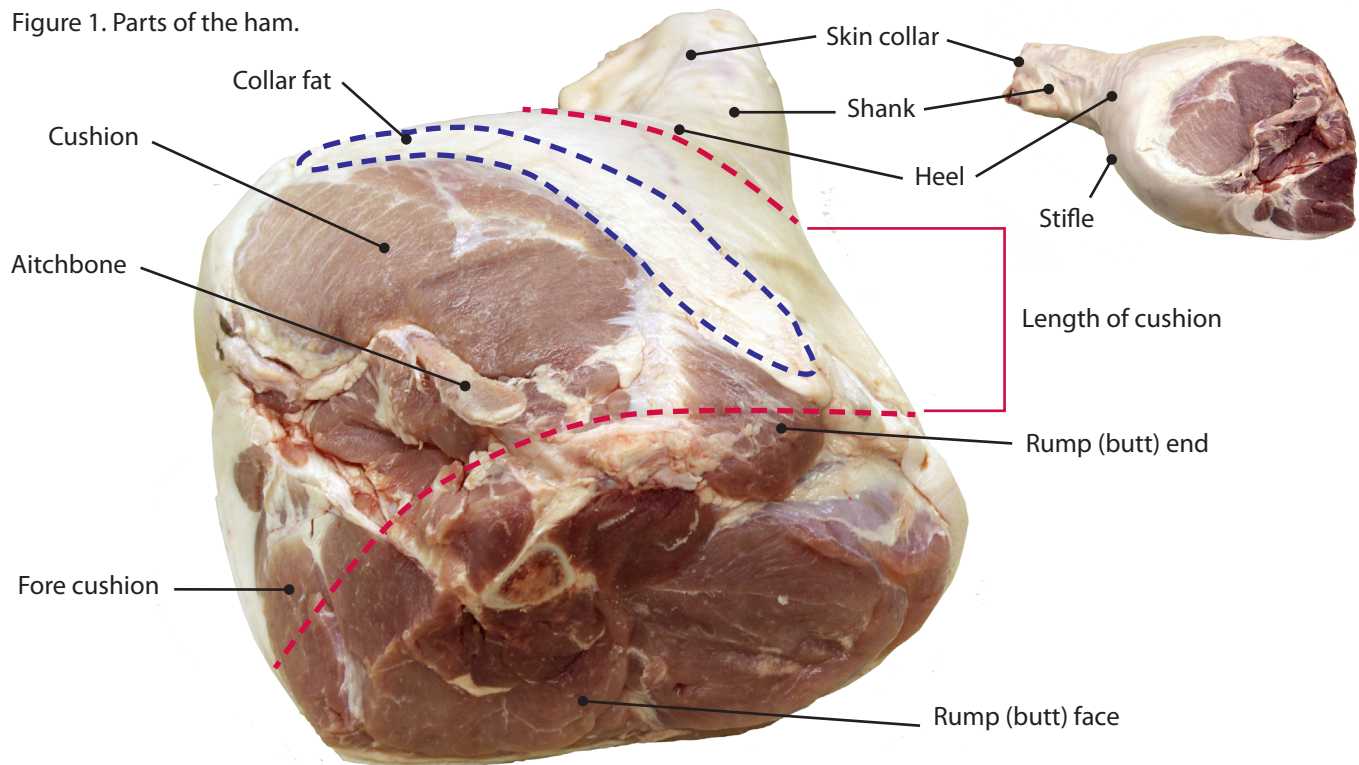
Today, after more than three centuries of progress, Virginia ham is still considered a superb product because of its distinctive savory taste. For do-it-yourselfers

who want to cure and age a ham that will recapture the delightful flavor so highly cherished by these early clergymen, certain rules must be followed. This publication provides basic steps that can be applied to home curing or commercial operations.

### Start With a Good Ham

A high-quality, cured ham requires that you start with the proper type of high-quality fresh ham. Such fresh hams come from young, healthy, fast-growing hogs with a desirable lean-to-fat ratio. Fresh hams can be

Figure 1. Parts of the ham.



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purchased from a retail store or a local meatpacker who is under constant inspection by the U.S. Department of Agriculture or the Virginia State Meat Inspection Service. This practice ensures that the meat product comes from a healthy hog.

Hams for curing should have a long, thick cushion, a deep and wide butt face, minimal seam and external fat, as seen on the collar (figure 1) and alongside the butt face (figure 3a), and should weigh fewer than 24 pounds. Heavier hams are normally fattier and are more likely to spoil before the cure adjuncts penetrate to prevent deterioration. Therefore, one's capability to control temperature and relative humidity determines the type of ham to cure.

### Types of Fresh Hams

A country-style ham has a long shank (solid bone) and a butt cut at the sacral joint. This style of cutting leaves less lean meat exposed in the shank and butt areas, which reduces the possibility of spoilage.



Figure 2a. A "country-style" ham.



Figure 2b. A "regular cut" ham.

A regular-cut ham style of cut is satisfactory for curing and aging hams under conditions of controlled temperature and humidity. The shank is cut short, exposing an open bone with marrow and lean tissue around the bone. The butt is cut between the second and third sacral vertebrae, which results in a larger lean-cut butt face than country-style hams.

### How to Identify a Quality, Fresh Ham

Figure 3a illustrates a high-quality ham has a firm, bright-colored lean with at least a small amount of marbling (specks of fat in the lean) in the butt face.

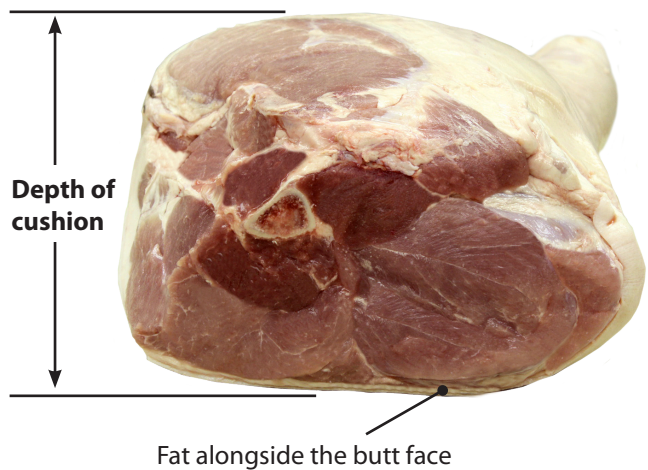


Figure 3a. A high-quality ham.

Figure 3b shows the type of ham to avoid. Its muscles are soft, usually pale in color, and lack marbling. They also "weep" excessively and will shrink more during curing. The open seams between the muscles allow bacterial and insect invasion.



Figure 3b. A low-quality ham.

## Keep the Hams Properly Chilled

Proper procedures prior to the purchase of a fresh ham — such as chilling the carcass to below 40° F before it is cut and maintaining this temperature until the time of purchase — assure a sound product. Continued temperature control of 36 to 40° F during curing is essential for a good finished product.

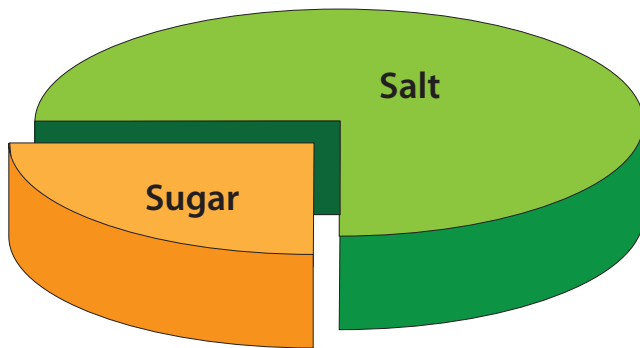
## Cure Application

The cure mix to use depends on personal preference. Salt alone is acceptable. However, most people prefer the dry sugar cure. For each 100 pounds of fresh meat, use:

8 pounds salt

2 pounds sugar

2 ounces saltpeter or sodium nitrite (available at drugstores)



Mix these ingredients thoroughly and divide into two equal parts. Apply the first half on day No. 1 and the second portion on day No. 7 of the curing period.

Rub the curing mixture into all lean surfaces (see figure 1) of the ham. Cover the skin and fat but little will



be absorbed through these surfaces. Take care to pack the exposed end of the shank with the curing mixture to prevent bone sour or spoilage. Care should also be taken to make sure plenty of the mixture is applied to the area around the aitchbone (pelvis).

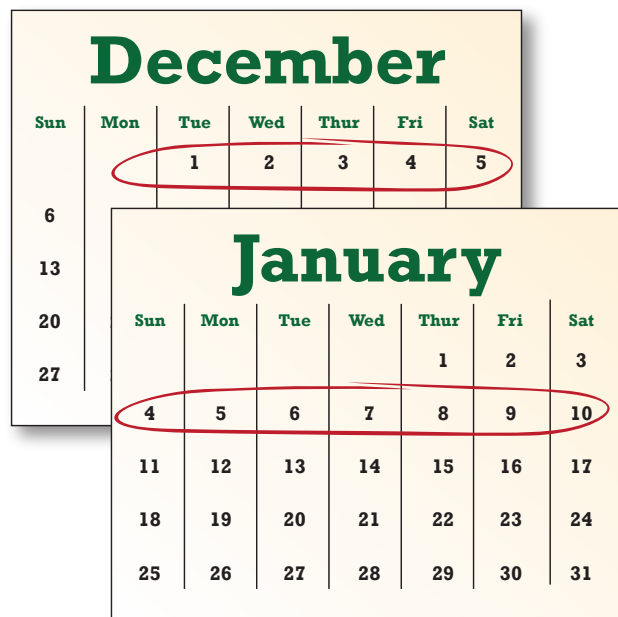
## Shelves for Hams During the Curing Process

After the cure is applied, hams can be placed on wooden shelves or in wooden bins. Meat will readily absorb flavors from the surroundings, so pine and similar fragrant wood should be avoided. Plastic can be used, but it should be constructed so the water lost by the ham can be drained away from the meat.

## Cure the Proper Length of Time

Virginia-style hams should be cured for seven days per inch of cushion depth (see figure 3a), or one and a half days per pound of ham. Keep accurate records when placing hams in cure. Also, record the date to remove hams from cure on the calendar, as shown.

Early December is the best time to start curing Virginia-style hams under ambient conditions. During the curing period, keep hams at a temperature of 36 to 40° F.



## After Curing, Soak and Wash

When the curing period has passed, place the hams in a tub of clean, cold water for one hour. This will dissolve most of the surface curing mix and make the meat receptive to smoke. After soaking, scrub the ham with a stiff-bristle brush and allow it to dry.

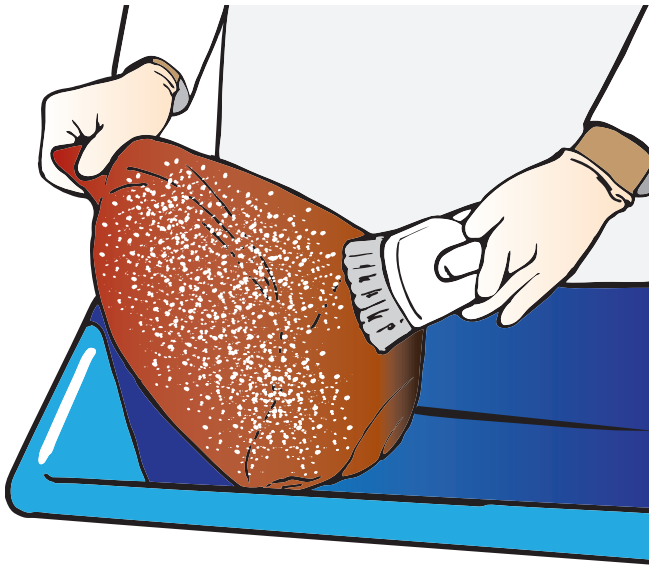


Figure 4. Use a stiff-bristle brush to scrub the ham after soaking.

## Cure Equalization

After the cure is removed by washing, the cured product should be stored in a 50 to 60° F environment for approximately 14 days to permit the cure adjuncts to be distributed evenly throughout the ham. The product will shrink approximately 8 to 10 percent during cure application and equalization.

## Smoked Procedure

In southeastern Virginia, most hams are smoked to accelerate drying and to give added flavor. The Smithfield ham is smoked for a long time at a low temperature (lower than 90° F). Wood from hardwood species of trees (trees that shed their leaves in the fall) should be used to produce the smoke. Hickory is the most popular, but apple, plum, peach, oak, maple, beech, ash, or cherry may be used. Do not use pine, cedar, spruce, and other needle-leaf trees for smoking meat, because they give off a resin that has a bitter taste and odor.

The fire should be a “cool,” smoldering type that produces dense smoke. Keep the temperature of the smoke-

house below 90° F. Hang hams in a smokehouse so that they don't touch each other. Hams should be smoked until they become chestnut brown in color, which may take one to three days.

## Nonsmoked Procedure

In Southwest Virginia, the process is to rub 100 pounds of ham (after cure equalization) with the following thoroughly mixed ingredients:

2 pounds black pepper

1 quart molasses

1 pound brown sugar

1 ounce saltpeter

1 ounce cayenne pepper

Bag the hams as shown in figures 5a-c.

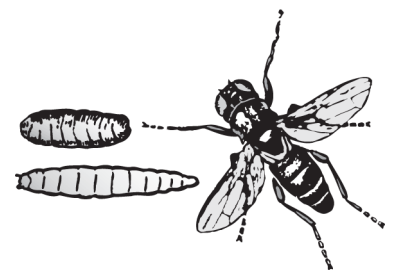
## Age for 45 to 180 Days

The aging period is the time when the characteristic flavor is developed. It may be compared to the aging of cheeses.

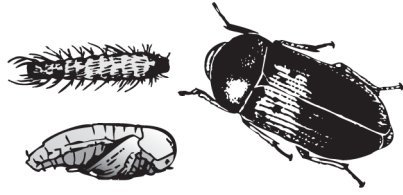
Age hams for 45 to 180 days at 75 to 95° F with a relative humidity of 55 to 65 percent. Use an exhaust fan controlled by a humidistat to limit mold growth and prevent excessive drying. Air circulation is needed — particularly during the first seven to 10 days of aging — to dry the ham surface. Approximately 8 to 12 percent of the initial weight will be lost.

Cured meat is a good source of food for pests that infest dry-cured meats. The insects attracted to cured meat are the cheese skipper, larder beetle, and red-legged ham beetle. Mites, which are not insects, also may infest cured meats.

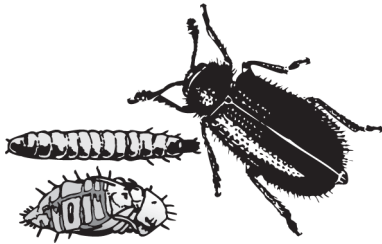
**Cheese skipper:** This insect gets its name from the jumping habit of the larvae, which bore through cheese and cured meats. Meat infested with this insect quickly rots and becomes slimy. Adult flies are two-winged and are one-third the size of houseflies. They lay their eggs on meat and cheese and multiply rapidly.



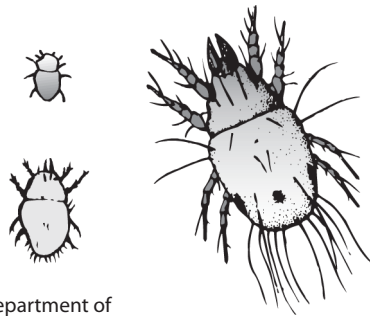
**Larder beetle:** This insect is dark brown and has a yellowish band across its back. The adult is about 1/3-inch long. Its larvae feed on or immediately beneath the cured meat surface but do not rot the meat. The larvae are fuzzy, brownish, and about 1/3-inch long at maturity.



**Red-legged ham beetle:** The larvae are purplish and about 1/3-inch long. They bore through meat and cause it to dry rot. Adults are about 1/4-inch long and a brilliant greenish-blue color with red legs and red at the bases of their antennae. They feed on the meat's surface.



**Mites:** Mites are whitish and about 1/32-inch long at maturity. Parts of meat infested with mites appear powdery.



Insect illustrations were modified from Home and Garden Bulletin No. 109, U.S. Department of Agriculture, Washington, D.C.

Recommended prevention includes starting the curing and aging during cold weather when these insects are inactive. Proper cleaning of the aging and storage areas is essential, because the cheese skipper feeds and breeds on grease and tiny scraps of meat lodged in cracks. Cracks should be sealed with putty or plastic wood after cleaning. Screens should be installed to prevent insects from entering, especially flies, ants, and other insects that carry mites. Double-entry doors are recommended to reduce infestation of insects.

After cleaning and sealing cracks, a surface spray should be applied to the floor so that the thin layer of insecticide will kill crawling insects. Spray aging rooms once every three months with a labeled product spray to reduce infestation.

**Follow mixing and application directions on the pesticide label.** If applied as a spray, remove all meat prod-

ucts from the storeroom before spraying all surfaces on which houseflies and other pests are likely to crawl. Allow the spray to dry before any meat is returned to the storeroom.

If any product becomes infested after precautions have been taken, it should be removed from the storeroom and the infested area should be trimmed. The trim should be deep enough to remove larvae that have penetrated along the bone and through the fat. The uninfested portion is safe to eat, but should be prepared and consumed promptly. The exposed lean of the trimmed areas should be protected by greasing it with salad oil or melted fat to delay molding or drying.

Protect the hams by placing a barrier between the meat and the insects. Heavy brown grocery bags with no rips or tears in them are ideal to use for this purpose. Hams may also be wrapped in plain butcher paper (be sure not to use waxed butcher or freezer paper).

As shown in figures 5a-f, wrap the ham in the paper. Then, place the wrapped ham in a bag, fold and tie as shown. The hams wrapped by this method can be hung in a dry, cool, protected room to age. This room should be clean, tight, and well-ventilated.



Figure 5a.



Figure 5b.



Figure 5c.



Figure 5d.



Figure 5e.



Figure 5f.

## Preparing the Ham

Virginia ham remains one of the favorite foods of Virginians and their guests. It can be prepared in a variety of ways and served with endless combinations of foods that complement ham.

The traditional four-step method is:

- Wash ham with a stiff-bristled brush, removing as much of the salt as possible.
- Place the ham in a large container, cover with cold water, and allow it to stand 10 to 12 hours or overnight.
- Lift the ham from the water and place it in a deep kettle with the skin-side up and cover with fresh, cold water.
- Cover the kettle and heat to a boil but reduce heat as soon as the water boils. Simmer 20 to 25 minutes per pound until done.

Another method of cooking is to soak and scrub the ham and place it in a covered roaster, fat-side up. Then, pour 2 inches of water into the roaster and place it in a 325° F oven. Cook approximately 20 to 25 minutes per pound. Baste frequently. Cook to an internal temperature of 155° F, as indicated by a meat thermometer placed in the thickest position of the ham cushion. If you do not have a meat thermometer, test for doneness by moving the flat aitchbone (pelvis). It should move easily when the ham is done.

Lift the ham from the kettle and remove skin. Sprinkle with brown sugar and/or breadcrumbs and brown lightly in a 375° F oven or use one of the suggested glazes.

**Orange glaze:** Mix 1 cup brown sugar and the juice and grated rind of one orange; spread over fat surface. Bake until lightly browned in a 375° F oven. Garnish with orange slices.

**Mustard glaze:** Mix 1/4 cup brown sugar, 2 teaspoons prepared mustard, 2 tablespoons vinegar, and 1 tablespoon water. Spread over fat surface and bake as directed above.

**Spice glaze:** Use 1 cup brown sugar and 1 cup juice from spiced peaches or crab apples. Bake as directed above. Garnish with the whole pickled fruit.

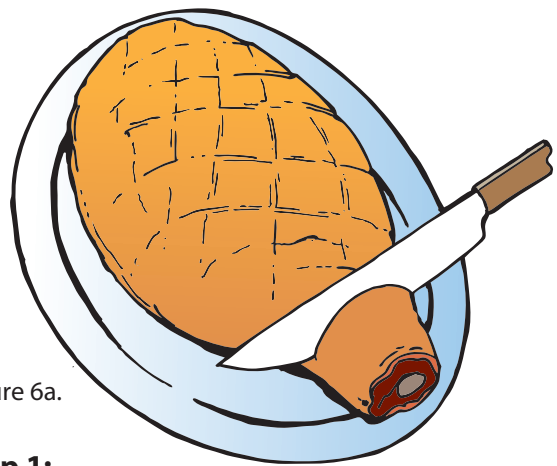


Figure 6a.

### Step 1:

With the ham dressed-side up on a platter, make a cut perpendicular to the bone, about 6 inches in from the end of the hock.

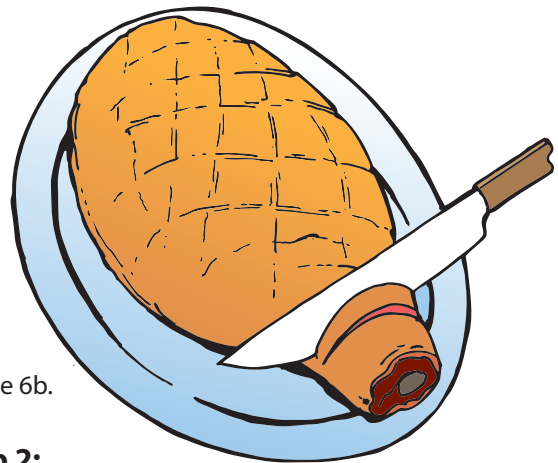


Figure 6b.

### Step 2:

Cut a wedge-shape piece from the ham so as to leave the cut surface at a 45-degree angle.

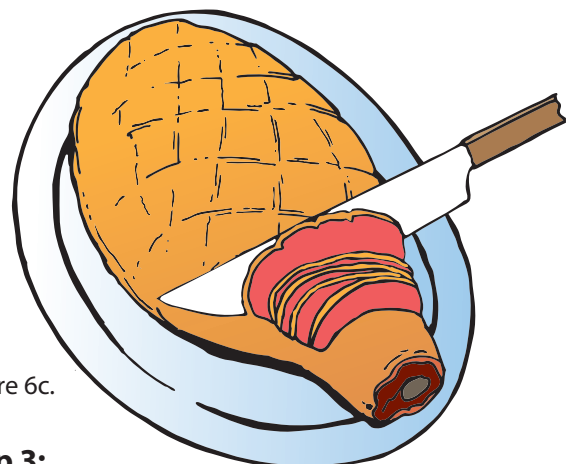


Figure 6c.

### Step 3:

Start slicing very thin slices at a 45-degree angle, bringing the knife to the bone. Eventually, the bone structure will make it necessary for you to cut smaller slices at different angles to the bone.

## Cooking Ham Slices

**Baking:** Place thick slice in a covered casserole and bake in 325° F oven. Brown sugar and cloves, fruit juice, or mustard-seasoned milk may be placed on the ham during baking. Uncover the last 15 to 20 minutes for browning.

**Broiling:** Score fat edges and lay on a broiler rack. Place 4 inches from broiler and broil for specified time, turning only once.

**Frying:** Trim the skin off the ham slices. Cut the outer edge of fat in several places to prevent it from curling during cooking. Place a small amount of fat in a moderately hot skillet. When it has melted, add ham slices. Cook ham slowly, turning often. Allow about 10 minutes total cooking time for thin slices. Remove ham from pan and add a small amount of water to raise the drippings for red eye gravy. To decrease the salty taste, fry ham with a small amount of water in the skillet.

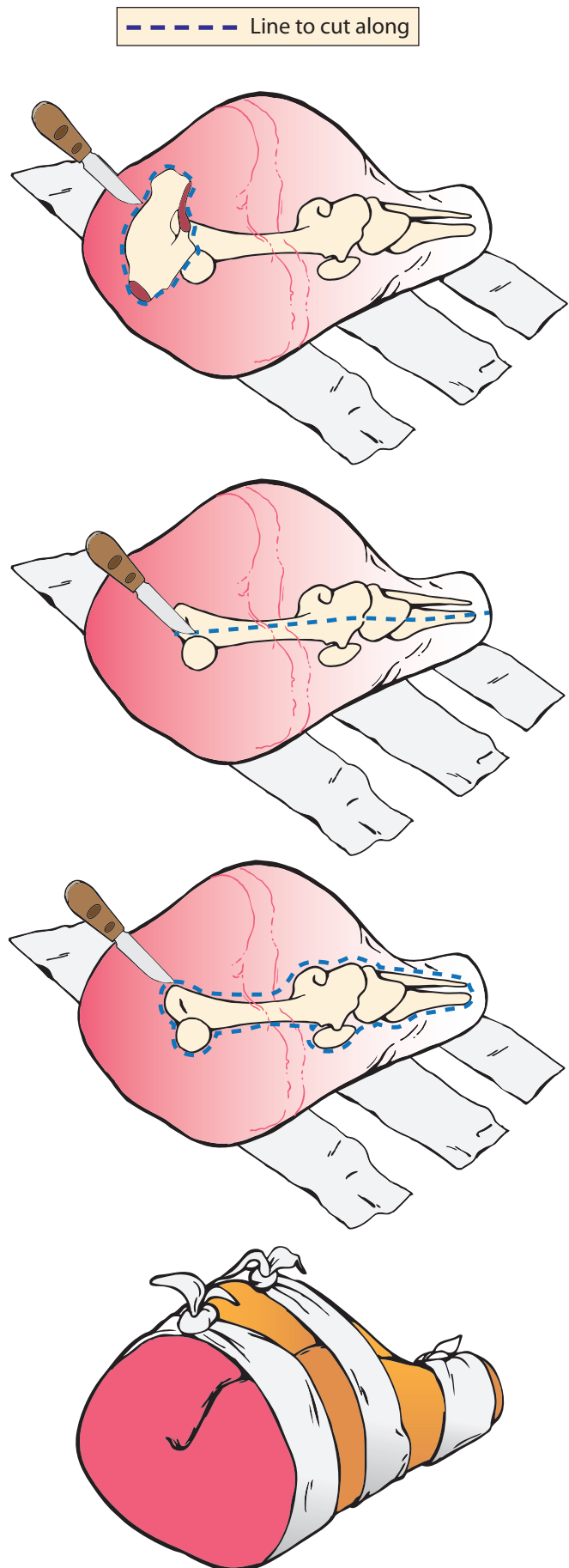
The most delightful flavor of Virginia ham can be enjoyed from thin slices. Thus, a very sharp knife, preferably long and narrow, is needed. Then follow the steps in figures 6a-c.

## How To Bone Cooked Ham

The ham is easier to slice when the bones are removed while the ham is warm.

Place skinned ham fat-side down on three or four strips of firm, white cloth that is 3 inches wide and long enough to reach around the ham and tie. Do not tie until bone is removed.

- Remove flat aitchbone (pelvis) by scalping around it.
- Use a sharp knife, and, beginning at hock end, cut to bone the length of the ham. Follow bones with point of knife as you cut.
- Loosen meat from bones. Remove bones.
- Tie cloth strips together, pulling ham together as you tie.
- Chill in the refrigerator overnight. Slice very thin, or have the ham sliced by machine.



## Recipes for Cooked Ham

Slice Virginia ham for tasty sandwiches. Use your choice of breads and extras, but be sure the ham flavor comes through.

Serve ham biscuits for a special treat. Use thinly sliced ham in a crusty biscuit — large biscuits for family meals, dainty ones for a tea table.

Grind cooked ham to make a ham salad filling. Flavor with finely chopped celery, onion, and/or pickle; moisten with mayonnaise or salad dressing.

Add scraps of cooked ham to scrambled eggs for added flavor. Use the bone and meat adhering to it to flavor a pot of beans or split pea soup.

### Ham Loaf or Croquettes

2 eggs

2-3 cups ground, cooked ham

1½ cup breadcrumbs (reserve ½ cup)

1 tablespoon grated or finely chopped onion

1 cup milk

Beat eggs slightly. Add other ingredients, reserving ½ cup of breadcrumbs. Pack into a baking pan and sprinkle with remaining bread crumbs. Bake in a 350° F oven for 45 minutes.

Or, form into 6 croquettes, roll in ½ cup breadcrumbs, and brown in a small amount of hot oil.

### Creamed Ham Deluxe

1 tablespoon ham fat, butter, or margarine

1 tablespoon chopped onion

2 cups ground, cooked ham  
(meat from hock may be used)

4 tablespoons flour

2½ cups milk

Place fat in heavy frying pan, add onion, and cook until onion is tender but not brown. Add ham, stir, and heat. Add flour, stir, and cook about 1 minute. Add milk, ½ cup at a time, stirring constantly. Cook until mixture

thickens. Serve over waffles, hot biscuits, corn sticks, or toast.

Disclaimer: Commercial products are named in this publication for informational purposes only. Virginia Cooperative Extension does not endorse these products and does not intend discrimination against other products that may also be suitable.

## Acknowledgements

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