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BRINE-SALTED HERRING [1]

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A number of methods of salting herring are used in the United States in addition to the Scotch-cure, the most important commercial process. This is a mild cure with a product of limited keeping qualties, and is not suitable for some purposes because of the flavor given to it by the "blood pickle" employed in curing. Most of the miscellaneous types of brine-salted herring are given a much heavier cure, and will therefore keep longer. As a rule, the largest herring obtainable are used for salting.

Round cure.--This is also known as the bulk cure; it is chiefly used to cure herring intended for smoking or spicing; although it is sometimes employed in preparing bait herring, or for curing a few barrels of herring for local sale.

On the Maine coast the herring may be caught by weirs or seines. The season for large fish taken by weir usually runs from late August to about November 15. Seine herring are caught offshore during the winter months. On the Alaska coast in the Cook Inlet area, herring given the round cure are taken by gill net during the winter months.

The fish are rarely, if ever, cured at sea though this was formerly customary. [2] When the herring are loaded into the hold, a little salt may be scattered on them if it is probable that the fishing boat will not reach port within a few hours; but in winter this is not considered necessary.

1/ Supersedes Memorandum S-2 issued by the former Bureau of Fisheries.

2/ Stevenson, G. H., Preservation of Fishery Products for Food. Bull. U. S. Fish Comm. 1898 (1899). (This bulletin is out of print but may be consulted in libraries, especially those that are Government Depositories.

When landed, the herring are washed to remove scales, blood, slime, and trash such as seaweed. Washing may be done by hose, or in a drum (squirrel-cage) washer. After being drained for a few minutes, the herring are packed in wooden vats or tanks. These vary in sizes; but a vat 3 feet deep, 3 feet wide, and 10 feet long, is typical. Salt is mixed with the herring as they are placed in the vat.

Experience and judgement are needed to determine the proper amount of salt required for curing. The quantity varies according to the size of the fish, their fatness, and condition (according to the length of time out of water and the probable approach of decomposition), temperature, and humidity. If too much salt is used, the fish will soon become hard and dry and their flavor will be acrid and unpleasant. If the quantity of salt is insufficient, the fish within a short time will become tainted and unfit for food. More salt must be used in warm weather than in cold; fat herring require more than lean; and small herring need less salt than large. As a general rule, from 60 to 80 lbs. of salt are used to each barrel (200 lbs.) of herring. The fish are also covered with saturated salt brine (100° salinometer) as this ensures quicker curing.

The herring remain in the vat from 8 to 10 days or even 2 weeks until they are "struck"; that is, until the salt has penetrated thoroughly, and they may be considered cured. During this time, the fish are stirred occasionally with a wooden paddle to prevent them from sticking together and to ensure that they are cured evenly. More salt may be added at such times, if the brine shows any appreciable decrease in strength.

When the herring are cured and ready for shipping, they are removed by dip net and piled on a packing table to allow them to drain. They are then packed in barrels to a net weight of 200 lbs. They are usually packed on their backs--bellies up, and at a slight slant.

The method of filling is much the same as in packing Scotch-cure herring, with each layer laid at right angles to the preceding. A little salt is scattered upon each layer about 25 lbs. to the barrel. The top layer is packed with backs up, and receives a little more salt. The filled barrels are headed, a hole is bored in the bung of each, and as much 100° salinometer brine as possible is poured in through a funnel. The loss of weight in curing round herring is small - from 6 to 10 percent. An average of 211 lbs. of fresh herring is required for a 200-lb. barrel of cured fish.

Split cure.--This method is followed in New England and in Nova Scotia, and other coastal areas in Eastern Canada, but is of minor importance. As a rule, only the larger fish are given this cure. They are first washed in brine to set the scales and make handling easier. The herring are then split down the belly to the vent. The head is usually left on and if so, the gills are removed. The fish are next cleaned and as a rule, milt or roe are removed with the viscera.

After cleaning, the herring are soaked in salt water or light brine for two or three hours to remove blood and slime. They are then drained for a few minutes and packed in vats, in most instances with backs down, and with the belly cavities filled with salt. More salt is scattered over each layer--from 30 to 40 lbs. to each 100 lbs. of fish. Split herring require less time to cure than round herring - about one week. When thoroughly struck, the fish are repacked in barrels using the method described for the round cure.

Other methods.--Quantities of a few barrels of herring are sometimes prepared by varying the split cure. A cut is made across each fish just back of the pectoral fins, removing the head. The cut is continued down the ventral side to the vent, removing most of the thin belly flesh. The kidney (the dark "blood streak" along the backbone) is scraped away, and the fish thrown into a tank of brine to soak. After an hour or two, the herring are removed and packed directly into barrels, backs down. Some salt is scattered over them as the fish are packed in the layer, and more salt is scattered between each layer. The amount of salt used is about 30 to 40 lbs. mixed with about 2 lbs. of fine white pepper to each 100 lbs. of fish. After 3 or 4 days, the barrels are filled with additional layers of fish of the same day's cure as those already in the barrel.

Another cure occasionally used is made from large fat herring. The fish are washed in brine, then split down the back to open in one piece mackerel style, taking care that the knife does not go all the way through the body. The gills, viscera, and belly membranes are removed. The cleaned fish are soaked in salt brine for 1 to 2 hours, then drained and packed in barrels, flesh side up, using an average of 35 lbs. of salt to each 100 lbs. of fish. After about 4 days (when the fish have settled) additional layers of the same day's cure are added, the barrel is headed, and filled with 100° brine through a hole in the bung.

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