



Dairy Foods Consulting **Westminster Artisan Cheesemaking**

Peter Dixon, MS
Artisan Cheesemaker

HAVARTI

For 100 lb. (12 gallons) milk.

Whole milk at 86-88 °F,

Add starter using:

ABIASA Aroma B bulk starter add 0.5 for 100 lb. raw milk and 1.0 lb. for 100 lb. milk pasteurized milk
Direct-Vat-Set CHOOZIT MM100, MM101, BT01, BT02, or KAZU add 2.5 DCU for 100 lb. raw milk or
5 DCU for 100 lb. pasteurized milk.

Ripen milk for 30 minutes.

Add 9 ml single-strength rennet (goat and cow milk) or

7 ml single-strength rennet (sheep milk)

Check for flocculation, which is the first sign of milk gelling into curd (should be 12-15 minutes), and multiply this by 3 to get the time from adding rennet to cutting, e.g. 12 min. x 3 = 36 min.

Cut the curds into 3/8" cubes (green peas). Heal curds for 2-3 min. before beginning to stir. Whey pH 6.50-6.60

Gently stir curds in whey for 15 minutes while keeping 86-88 °F until the curds are bouncy when dropping them from one hand to the other.

Let curds settle to the bottom and push away from the front to clear the valve. Drain off whey equal to one third to one half of original milk volume by dipping or using a curd gate and draining out of the valve.

Begin stirring and stir until the curds are not matted together. Continue stirring and add 130 °F water in an equal volume to replace the whey while continuously stirring curds. Add the water in two stages:

first raise the temp to 93 °F and stir for 5 min. at this temp.

second add the remaining water to raise the temp further so that

the final temp. is 98-100 °F depending on the cheese moisture content desired (higher temp for drier cheese).

Add 3 ounces (90 grams) salt per 100 lb. original milk weight.

Stir and cook for 30 minutes at 98-100 °F until they are springy when squeezed lightly in the palm of your hand.

Let curds settle to the bottom of vat for 5 min. and then push and draw the curds towards the back of the vat to form the desired depth of the curd pack. Drain off whey/water until the curd pack is covered by 2 inches and stir the curds vigorously in the whey. Drain off the water/whey and continue stirring and breaking up curds while putting directly into cheese hoops.

The curds should be fairly dry at the time of hooping to create the typical open texture of Havarti, which is full of mechanical openings.

The whey pH at hooping should not be lower than pH 6.45, which gives the finished cheese proper elasticity and prevents over-acidification.

Place on followers and begin pressing with 1.5 lb. weight per 1 lb. cheese.

Remove cheeses from press after 30 minutes, turn over, and put back in hoops.

Return to press. Repeat 2 more times every 30 min.

Repeat every hour for two hours. Whey pH 5.40-5.50 at the end of pressing and a smooth rind is formed.

Remove from press and place in saturated brine for 2.5-3.0 hours per lb. of cheese depending on desired salt content.

Alternatively, rub cheese wheels with coarse flake dry salt once per day for each 3-4 lb. of cheese.

Peter Dixon, Dairy Foods Consulting

802.275.2297

peterhicksdixon@gmail.com



Dairy Foods Consulting

Westminster Artisan Cheesemaking

Peter Dixon, MS
Artisan Cheesemaker

Drying:

After brining or salting, wheels are air dried until the surfaces are dry but not cracked; rinds that are cracked will allow molds to penetrate the cheese. The wheels should be turned once a day while they are drying.

A room with 80-85% RH and 50-60 °F is required. The cheeses can be waxed as soon as the surfaces are dry enough.

Aging:

Wheels are aged at 50-55 °F and 85-90% RH for at least 60 days.

If a natural rind is desired, the cheeses must be cleaned periodically to remove unwanted molds while washing with a solution to develop a smeared rind. This can be done with a coarse cloth or semi-firm brush dipped in 2-3 % brine solution. The solution is applied every other day and the cheeses are turned over.

After approx. 30 days it is possible wash and turn the cheeses every 3-4 days. At this time the rind should be turning the characteristic orange color, which indicates the growth of *Brevibacterium linens*. After 60 days it is possible to use a dry brush for cleaning. The cheeses are turned every time they are cleaned. If the cheese has a natural rind, it can be aged for up to 90 days before the flavor is strong.

Notes:

The higher the temp. during drying and aging, the greater chance the eye development. A slice of Havarti typically has many mechanical openings and a soft, creamy texture.

Composition:

43-45% Moisture

48-50% Fat-on-dry-basis

1.0% Salt