



Dairy Foods Consulting **Westminster Artisan Cheesemaking**

Peter Dixon, MS
Artisan Cheesemaker

GOUDA

For 100 lb. (12 gallons) milk

Raw Milk at 86-88 °F,

Add starter

Direct-Vat-Set use 3-5 DCU CHOOZIT MM100, MM100, BT01, BT02 or KAZU for 100 lb. milk
or

0.5-1.0 lb. ABIASA Aroma B bulk starter for 100 lb. milk

Ripen milk for 30 minutes

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

5 ml single-strength rennet (sheep milk)

Check for flocculation, which is the first sign of the milk gelling into a 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 (pea-sized)

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 (heat the vat externally if necessary)

Let curds settle to the bottom and push away from the front to clear the valve. Drain off whey equal to one third of original milk volume by dipping or using a curd gate and draining out of the valve. Begin stirring the curds and add 130 °F water while stirring curds in an equal volume to replace the whey. Add water in two stages:

first raise the temp to 95 °F and stir for 5 min. at this temp.

then add the remaining water to raise the temp further so that the final temp. should be 98-102 °F depending on the cheese moisture content desired (higher temp. for drier cheese and vice versa).

Stir and cook for 30-45 minutes at 98-102 °F.

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 " and place a perforated press plate on top. Add 1 lb. weight per 1 lb. curd, equally distributed to press the curd pack. This can be done with bowls filled with whey from the vat. Press curds under the whey for 15 minutes.

Drain off the water/whey and remove weights and press plate.

Cut blocks from the pack to fit directly into cheese hoops.

Alternatively drain the whey down to the level of the curds and mix the curds and whey together to make a slurry before hooping. 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 the followers on the hoops and begin pressing with 2 lb. weight per 1 lb. cheese.

After one hour remove cheeses from press, turn over, and put back in hoops. If necessary increase the weight to 4 lb. per lb. of cheese to make smooth rinds. Return to press.

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When acidity is .35-.40 %TA or pH 5.40-5.50

Remove cheeses from press and place in a cool (50 F) room overnight and then in a saturated brine (50 F) the next morning or place immediately in a saturated brine for 3-4 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 lb. of cheese.

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

Cheeses in wax will age for up to 6 months. If a drier cheese is made it can be aged longer.

If a natural rind is desired, the cheeses must be cleaned periodically to remove unwanted molds. This can be done with a cloth or semi-firm brush dipped in 5 % warm brine solution. After approx. 30 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 indefinitely as additional moisture will be lost, which slows down microbial activity during aging. Some cheesemakers apply cheese coating or cream wax to the rind after drying so that there is an artificial protective layer, which makes less cleaning work but the cheeses still need to be turned over periodically. Aged Dutch Gouda is available which is up to 4 years old.

Notes:

The higher the temp. during drying and aging, the greater chance the eye development. A slice of Gouda typically has a few pea-sized eyes.

Composition:

41-42% Moisture

48-50% Fat-on-dry-basis

1-1.5% Salt