CHEESE RALLY IN RALEIGH
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American Cheese Society

Alpine Style Cheese Make

#CheeseSociety12

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Alpine Cheeses

Emmenthal	Fontina
Tilsiter	Beaufort
Appenzeller	Comté
Abondance	Gruyere

AMERICAN CHEESE SOCIETY VOTE FOR CHEESE

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Heat Treatment

Alpine style cheeses provides distinct floral flavors as the milk is from cows grazed on the mountain sides. The unique combinations of grasses and wild flowers transfers flavor into the milk. In most cases, the milk used for making Alpine style cheese is either raw or heat treated, and not fully pasteurized to maintain the volatile flavor compounds.

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Typical Gruyere Composition

- ~34.5% Moisture
- ~30.5% Fat
- ~30% Protein
- 1.1 to 1.5 % Salt
- 5.70 to 6.10 pH in finished cheese

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Alpine style cheeses use three main types of cultures:

- **Thermophilic**
  - *Streptococcus thermophilus*– (acid production)
  - *Lactobacillus bulgaricus* – (acid production)
  - Lactobacillus heveticus - (acid production/flavor/texture)
  - Lactobacillus lactis- (acid production/flavor)

- **Eye Formers**
  - *Proprionibacteria shermanii* – (flavor/gas)

- **Mesophilic (Make Variations)**
  - Lactoccocus lactis subsp lactis – (acid production)
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Determining Time to Cut

There are two basic stages of coagulation that occur for rennet curd. These phases are:

1. **Enzymatic Phase** – This is the initial stage when the protease enzyme (rennet) cleaves the kappa-casein on the surface of the casein micelle. This action exposes the remaining micelle to the calcium ions present in the milk.
2. **Aggregation Phase** – this stage occurs after approximately 80% of the casein micelle has been cleaved and the micelles start to stick together due to the action of the calcium. This coagulation phase is when water, fat, mineral, lactose and whey proteins are trapped in the resulting curd.

Determining Time to Cut

Total rennet time is calculated by using a multiplying factor. For Alpine style, the formula would be to multiply the time to reach the aggregation phase by 2.0-2.5. This will provide the optimum total time of coagulation from time of rennet addition. Adjustments can be made to reduce or increase moisture content. Longer time equals higher moisture retention.

Monitoring flocculation to determine cut time helps address daily variances in milk quality (ie: Protein, TS, Acidity). Testing is done by using a flat tool that when dipped in the milk will show flocculation beginning.

New Brine Formula

Small Scale Brine –
As presented by Peter Dixon in Farmstead Cheesemaking Collection (2006)

For Every 10-11 pounds of brine solution add:

36 ounces salt
8.34 pounds water (1 gallon water)
1 Tbs Calcium Chloride (30% solution) or 10 grams dry powder
1.5 tsp white vinegar (5% acetic acid) to achieve a pH of 5.2