

Want to learn about cheese?

UNIVERSITY PARK — Swiss is probably the easiest cheese to recognize — with your eyes, at least. That's because, in addition to its sweet, nutlike flavor, Swiss cheeses has "eyes" of its own. The holes that make it famous. This unusual characteristic develops during the last stages of Swiss cheese manufacture. However, the eyes are caused by bacteria that are an important part of the first steps of the process.

All cheese-making begins with a large vat of warmed milk to which these beneficial, acid-producing bacteria, as well as rennet, an enzyme, are added. These two substances curdle the milk, causing the milk solids, the curd, so coagulate and separate from the liquid, or whey. Curd is the basic stuff of cheese, whether it's cottage, Colby or Camembert. The different ways in which curd is coagulated and treated after it forms, in addition to the type of milk, create the unique tastes, textures and aromas of different cheeses.

In traditional Swiss cheese production, the curd is first cut into kernel-size pieces with a "Swiss harp," a wire device that looks like a large egg-slicer. The curd and whey mixture is stirred and cooked. Then the curd is drained of most of the whey, placed in cylindrical hoops and pressed to remove remaining whey. After about 24 hours, the large wheels of hardened curd are submerged in brine to draw moisture from the surface, producing a firm but flexible rind. This rind holds the cheese's shape, while allowing it to expand as the eyes develop.

The wheels are then placed in a warm, humid room for six to eight weeks, where they ferment, like wine. During fermentation, the bacteria that were added at the beginning continue to act on the curd, changing it to cheese by knitting the

pieces together and creating the special texture and flavor of Swiss. A by-product of this bacterial activity is carbon dioxide gas. It cannot escape due to the surrounding cheese, so bubbles develop within the mass, slowly merging to form the eyes. In the old days, cheese makers tested for proper fermentation by tapping the rind. They could tell by the sound whether the eyes were well distributed and of the correct size.

Today, most cheese plants use a process developed in the early 1940s to produce large, rindless blocks of Swiss. By eliminating the wasted rind, the process reduces cost to both processor and consumer. The manufacturing steps are basically the same as in traditional methods. However, the curd is pressed in a rectangular vat instead of hoops and is then cut into 80-pound blocks. After salting (for flavor development only) the blocks are wrapped in plastic, which does the same job as a rind, but prevents one from forming because it seals moisture in and air out.

After fermentation, Swiss cheese made by either method is placed in a cool, humid "cellar" to age or cure. Here, eye formation stops but flavor development continues. The aged cheese is ready for eating in four months, although some Swiss is allowed to ripen as long as a year for a more pronounced flavor. Someone cutting into a traditionally made, well-aged wheel of Swiss may even find that the eyes are weeping — "tears" that are actually brine.

Why is Edam cheese round? And Gouda not?

Edam and Gouda also have eyes, very small ones, but these cheeses are remembered for their shapes as well as their mild, pleasing flavors. Edam is the only spherical cheese in the world. It is made in balls weighing about four pounds each; Baby Edams weigh two. Tradition has it that Edams first were made round so their thirteenth century Dutch exporters could roll the cheeses down the streets to the wharves

Another story tells how Edam got its nickname, the "cannonball cheese." In 1841, American commanders of the Uruguayan fleet were able to defeat the Argentine Navy, led by the British, by shooting with Edams when they ran out of cannonballs. No matter where Edam gets its nickname, its real name comes from a village in Holland, and its shape from the molds in which it is pressed and the milk from which it is made.

To form an Edam cheese, cooked curds are mounded in the bowl-shaped bottom portion of a mold with drainage holes. Then a matching top half is fitted over the curds and they are pressed to squeeze out the whey. Since Edam is made from a blend of skim and whole milk, which coagulates faster than whole milk alone, the curds hold the spherical shape when the mold is removed.

Gouda (pronounced Khow-da by the Dutch) is made from whole milk. Old-time cheese makers found that when Gouda curds were removed from round molds, they were not firm enough to stay round and so collapsed into the familiar convex wheel shape. Today Gouda is sold in wheels weighing up to 12 pounds and as Baby Goudas weighing as little as 10 ounces.

Why is Blue cheese blue?

The blue lines running through Blue cheese are actually colonies of penicillin mold that were placed there deliberately. The origin of Blue-type cheese was probably accidental. One day long ago, the story goes, a shepherd (ess) in the desolate,

mountainous Causses area of France left provisions of bread and ewe's milk cheese in one of the many caverns that dot the area. (Perhaps he or she was being chased by villains or had met a sheep-watcher of the opposite sex.) When s/he returned to the cave several weeks later, s/he found the mold from the spoiled bread had spread to the cheese. Curiosity, or maybe hunger, forced her/him to taste, and what a delightful surprise! It tasted so good that people deliberately set cheese to mold in these cool caves,

with their special air circulation. Later cheese makers began to add dried, moldy bread crumbs to the curds before taking them to the caves.

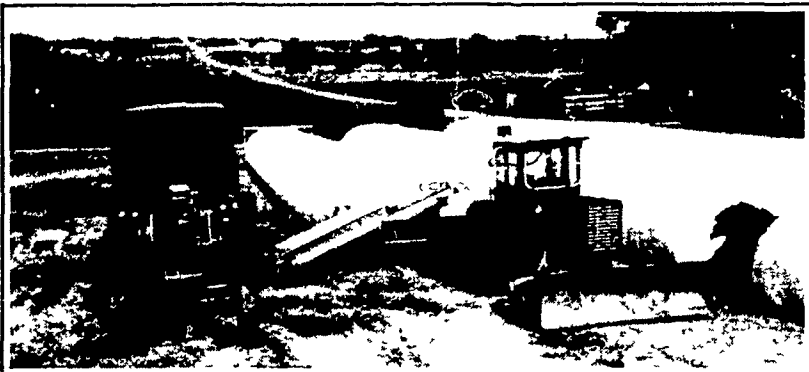
Blue cheese is made about the same way today. Cultures of *Penicillium roqueforti* and *Penicillium glaucum* are grown in laboratories. The resulting spores are added to the cheese curd along with salt. The curd is pressed in tall cylindrical hoops and then holes are drilled to let air enter the cheese body and allow the mold to grow. Blue

cheese is cured in a cool, very humid room, much like the original caves, for two to five months until the mold is flourishing. Then it is packaged and distributed as soon as possible, because the mold continues to grow, curing the cheese further and causing the flavor to become sharper.

So next time you savor this distinctive cheese, perhaps at a cheese tasting, you'll be able to enliven the conversation by telling how Blue came by its unusual color. Or why Swiss cheese has holes.

BUTTER & EGGS

AG-BAG



**CONGRATULATIONS TO
FRANK WALTERS**

OF
AMERICAN AG BAG CORPORATION
BROWNSTOWN, PENNSYLVANIA

TOP DEALERSHIP SALES IN 1980

BARN PAINTING

Call Us Now
For Free
Estimates

PHARES S. HURST
RD 1 Box 420
Narvon Pa 17555
215 445 6186

BRUNING Paint Company

SELF LOCKING FEED THRU FENCE



**THREE
SIZES:**

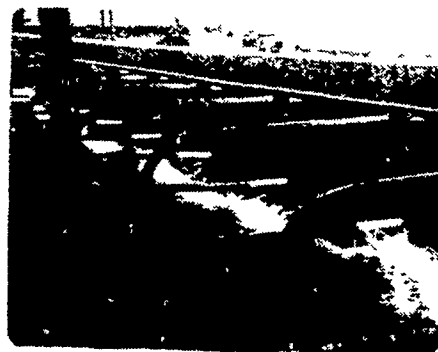
SMALL -
For Calves
Up To 15
Months Old

ADJUSTABLE -
For Heifers & Cows
8 Months And
Older (Pictured)

LARGE -
For Cows
15 Months
And Older

- ★ All cows can be released at one time or individually
- ★ When handle is in lock position, cow automatically locks as it enters
- ★ No more chasing cows
- ★ Heavy duty construction

- ★ Stabilizer on bottom of yoke for extra strength
- ★ Custom built to your specifications
- ★ You can release all cows or hold cows that need treatment



**CUSTOM BUILT
BARN EQUIPMENT**

- ★ **LOOP STALLS** (Southern Style Channel Front Welded Front)
- ★ **STANDARD FREE STALLS**
- ★ **GATES** (38" - 48" - 54" High)
- ★ **AUTOMATIC GATE LATCHES**
- ★ **FENCING**
- ★ **FEED THRU FENCING**

PAUL B. ZIMMERMAN, INC.

Hardware • Farm Supplies
Custom Manufacturing • Crane Service

Box 128 R D #4 Lititz PA 17543
Wood Corner Rd 1 Mile West of Ephrata
Phone 717 738 1121