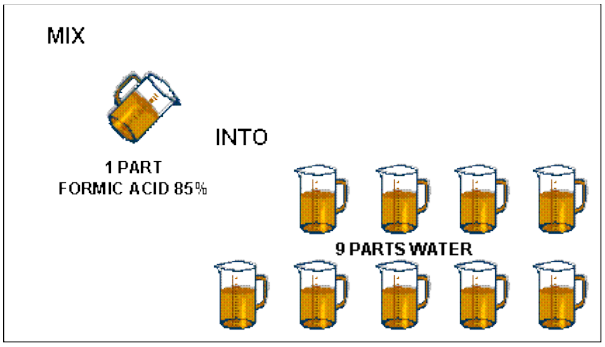
Cornell University
Cooperative Extension

Feeding Acidified Milk

Why acidify?

- To inactivate bacteria in milk
  - At a pH of < 4.2, E. Coli, listeria, mycobacterium, salmonella, Strep and Staph are inactivated.
  - Reduces calf's exposure to bacteria, thus reducing disease risk.
- To preserve milk
  - Allows milk to be stored at room temperature and fed later (within 3 days max)

How to acidify



- Formic acid must be diluted before use.
  - Mix 1 part Formic Acid 85% into 9 parts water
  - Final concentration = 9.8%
- Add dilute formic acid to milk
  - Milk should be < 75^0F.
  - 30 mL (1 oz) of formic acid 9.8% to 1 L milk
- Stir while adding acid
- Check pH
  - Proper pH range should be 4.0 to 4.5
- Allow adequate contact time between milk and acid (8 to 12 h)
- Stir 3 to 4 times/day
- Discard remaining preserved milk after 2 to 3 days.

Feeding Suggestions

- **Day One – COLOSTRUM**
  - Within 1 hour of birth feed a minimum of 4 qts high quality colostrum (>50 mg/ml IgG) or colostrum replacer
  - Move calf to individual or group pen
  - Make sure calf is suckling
  - Provide free choice water
- **Day 2 until weaning**
  - Provide 8 to 12 quarts of acidified milk/calf
  - Make sure all calves are sucking
  - Provide free choice grain and water
  - Start weaning at 42 days

The use of formic acid to acidify milk fed to calves is not currently permitted or an approved use according to the Federal Food and Drug Administration.

Additional questions regarding acidification of milk or colostrum can be directed towards CCE NNY Regional Dairy Specialist, Dr. Kimberley Morrill, kmm434@cornell.edu