

The Small Ruminant Scoop

Newsletter

Welcome to the first edition of The Small Ruminant Scoop. This virtual newsletter is intended to provide current information and research, as well as topics of interest for the small ruminant producer. With views on nutrition, breeding, animal health and production, it will encompass the various commodities of the small ruminant industry.

[Subscribe to this newsletter](#)

In this issue:

- [The “Off-label” Use of Formaldehyde](#)
- [A new alginate-based rapid method for determining coliforms in milk](#)
- [Hard ewe’s milk cheese manufactured from milk of three different groups of somatic cell counts](#)

The “Off-label” Use of Formaldehyde!

John Martin, Veterinary Science, OMAF

Taken from Ceptor – Animal Health News, Volume 11, No. 3, November 2003

Recently, there have been reports of the “off-label” use of formalin (formaldehyde solution), of unknown strength, to shrink subcutaneous abscesses in goats. Apparently, this is a treatment recommended by an American producer (not a veterinarian) on his web site, and also used by some producers in southern Ontario. In Canada, this is an illegal use of formaldehyde!

Formaldehyde solution 37% is a controlled substance under the federal *Pest Control Products Act*. It is illegal to use a controlled product in any way other than that described on the label. The only label claims for this solution are: for the fumigation of livestock facilities, used in conjunction with potassium permanganate OR, as a 1:20 solution, for the spraying or scrubbing of buildings and equipment, such as refrigerators. There are

very clear instructions on the label as to how it should be used, plus a very precise warning that contact with the solution, or vapour from it, is very irritant to skin, eyes, nose and throat and can be absorbed through any body surface. Medical attention should be sought after such contact.

By injecting into an abscess, formaldehyde is being introduced into the body; if the abscess is a caseous lymphadenitis lesion in a lymph node, the chance of absorption is even greater. As formaldehyde is a known carcinogen, milk or meat from such a treated animal should never be used for human consumption. From the animal welfare perspective, this treatment is, most probably, very painful.

Do not recommend this illegal practice.

A New Alginate-Based Rapid Method for Determining Coliforms in Milk

Adapted from Research Note: A New Alginate-Based Rapid Method for Determining Coliforms in Milk, Su-Sen Chang, Peter M. Gray, Gun-Jo Woo and Dong-Hyun Kang, *Journal of Food Protection*: Vol. 66, No. 11, pp. 2146-2150.

Vanessa Taylor, Milk Quality Assurance Program Lead, Livestock Technology, OMAF

Researchers at Washington State University and the Korea Food and Drug Administration teamed up to develop a new rapid detection method for determining coliform levels in milk. While this alginate-based test is still in the research stage, it shows promise of becoming a rapid method detection test for coliforms in milk and milk products.

The official accepted test for determining coliform concentration involves plating the sample onto an agar medium called violet red bile agar (VRBA). This procedure is done in the lab under controlled conditions, such as incubation time and temperature of the VRBA, and can take 24 – 48 hours to complete.

This new rapid method uses the instant gelling effects of alginate and calcium to enumerate coliforms in a sample of milk. The test takes place in tubes, which makes it a more suitable and practical field test than using agar plates. Color change and gas production as a result of the reaction of alginate with calcium indicate the level of coliforms in the milk sample, while reducing the time needed for the test by 12 to 14 hours compared to the VRBA test.

When compared to the results obtained by the conventional plating method, the alginate-based test gave comparable results, indicating it has the potential to be a simple, rapid and accurate, and more importantly, economical test to determine the concentration of coliforms in milk.

Hard ewe's milk cheese manufactured from milk of three different groups of somatic cell counts

Adapted from Hard ewe's milk cheese manufactured from milk of three different groups of somatic cell counts, J.J. Jaeggi, S. Govindasamy-Lucey, Y.M. Berger, M.E. Johnson, B.C. McKusick, D.L. Thomas, and W.L. Wendorff. *Journal of Dairy Science*, 86:3082-3089.

Vanessa Taylor, Milk Quality Assurance Program Lead, Livestock Technology, OMAF

Researchers at the University of Wisconsin studied the effects on hard cheese (Manchego type) made from three groups of East Friesian-crossbred ewe's milk that had somatic cell counts (SCC) of <100,000, 100,000 to 1,000,000, and >1,000,000 cells per ml. All three group's milk was frozen to -19 degrees Celsius for a 4-month period and then thawed over 3 days at 7 degrees Celsius before it was pasteurized and made into the cheese.

Protein decreased in the milk as the SCC increased, and the fat levels dropped significantly for the highest SCC group (>1,000,000). During cheesemaking, the highest SCC group milk took the longest to coagulate and the fat and moisture content of the cheese made from this group was also the lowest.

The cheeses made from all three groups were stored and tasted for flavour at 3-month intervals over 9 months. The highest SCC group's cheese had a rancid flavour and tested higher for butyric and caprylic acids (fatty acids that reduce the quality of the product) at every testing interval. This study showed that cheese made from ovine milk is subjected to the same quality affects from udder hygiene and health as bovine milk.

Articles contained in this newsletter may reproduced, in whole, provided credit is given to the Ministry.

Editor:

Vanessa Taylor
Milk Quality Assurance Program Lead
Livestock Technology
Ontario Ministry of Agriculture and Food
Wellington Place, R.R. #1
Fergus, Ontario, Canada N1M 2W3
Tel: 519-846-3403
Fax: 519-846-8178
e-mail: vanessa.taylor@omaf.gov.on.ca

Web site: <http://www.gov.on.ca/OMAF/english/livestock>