

Workshop Title: Opportunities and Options for Organic Dairy in the Maritimes

Speaker(s) & their titles: Roger Henry, Agriculture & Agri-Food Canada (PEI) and Alyson Chisholm, Windy Hill Farm (NB)

Executive Summary

Alyson Chisholm has been farming in McKees Mills since 2009 when she and her partner bought the land and converted it into a working farm. The farm was certified organic in 2012 and has been producing vegetables for their Community Shared Agriculture program (CSA) since 2011. Prior to arriving in New Brunswick, Alyson and Will spent over 15 years raising crops and livestock in both British Columbia and California. The couple produce certified organic fruits and vegetables and raise dairy and meat goats. In this presentation Alyson talks about her experience raising goats for both meat and milk production. Alyson is followed by Roger Henry, a small producer from PEI, who discusses some of the barriers small milk producers face in the Maritimes. The presentation was followed by a short Q and A session.

Detailed Notes

DAIRY GOAT MANAGEMENT with Alyson Chisholm

On a global scale, goat milk production represents about 2% of total milk production. Over the past decade, production has fluctuated between about 11.4 and 12.4 billion tonnes while, in recent years, production has remained fairly stable.

Why keep goats?

- Lower production - 3-6 litres per day
- Milk is easier to digest than cow's. The milk provided by these dairy goats is quite similar to cow milk in both taste and nutrient profile. However, goat milk has 13% less lactose than cow milk and contains smaller milk-fat particles, making it easier to digest. In many cases, people with cow milk allergies have no trouble consuming goat milk.
- Goat milk is also widely used in the production of other dairy products such as cheese, yogurt, ice cream, etc. However, goat milk is not merely consumed as an alternative to cow milk.
- Smaller animal so they are easier to handle
- Browsers and grazers
- The market for goat milk, unlike the market for cow milk, is not subject to any supply management regulations.
- Contribute to land management - love browsing
- Eat left overs

Breeds of Goats

Dairy:

- Alpine - straight ears: Considered one of the Swiss breeds but its origin is believed to be mainly Swiss and French influence. The Alpine is medium to large in size and is considered a good milker with long lactations. A good doe can easily produce 3 or more litres of milk per day over a 10-month lactation. It is a very popular breed and is adaptable to any climate. The Alpine breed has many varieties and therefore can be of almost any color or combination of colors.
- Nubian - floppy ears: This goat was developed in England mainly as a dual purpose animal, i.e. for milk and meat. English Swiss type does were crossed with bucks from Eastern countries such as India, Egypt and Ethiopia. Any color or combination of colors is acceptable and the breed is characterized by its Roman nose and long, wide pendulous ears. The Nubian is the most popular breed in North America today and multiple births of 3 and 4 kids are common. The Nubian is also more heat tolerant and less cold tolerant than Swiss breeds which may have something to do with its pendulous ears. They tend to be more out of season breeders than Swiss and therefore provide winter milk more easily. They are also favoured by buyers who purchase for meat because of their meatier carcass. Milk production is a little less than Swiss breeds but a good Nubian doe can average 2.5 litres per day over a 10-month lactation.

Meat:

Goat meat, or chevon, is delicious stewed, baked, grilled, barbecued, or made into sausage or jerky. It is low in fat and cholesterol and a flavour somewhat like venison, but does not have a gamey taste. Eaten young, it is similar to prime veal, as the animal matures the meat becomes more like a beef/venison cross.

Goat meat is 50-60% lower in fat than similarly prepared beef, but has a similar protein content. USDA has also reported that saturated fat in cooked goat meat is 40% less than that of chicken, even with the skin removed.

Goat breeds that Alyson has raised:

- Boer
- Kiko

Goats can be kept on one acre of land or even less. Access to browse plants (shrubs and trees) provides necessary roughage in the diet in addition to shade. Loose housing, like a loafing shed, is acceptable as long as the animals have a dry, draft-free place to rest during the cold, inclement weather. Stout fencing is very important, since goats are curious and enjoy exploring their surroundings. Of all types of livestock, goats are probably the most intelligent. They form strong, emotional bonds with the goat herder, and therefore make wonderful pets for both adults and children.

Housing

- Goats don't like rain
- Need good housing both because they don't like rain and they are good at escaping and damaging things... make it indestructible
- Separate pens for breeding and kidding
- Feeder- food up high and bedded on hay pack. As the pack grows the feed box gets closer. Feed pack for heat in winter and to produce compost.
- Chickens are free to scratch in bins
- Feeder bars are at an angle to discourage the animals from wasting food

Fencing

- Very important to have a good fence
 - two fences, one as a barrier and one as a deterrent

Feeding

- Ruminants - 4 stomachs - chew cud - converts plant fibre which is indigestible to humans
- Healthy rumen makes a healthy goat

Number one:

- Feed the rumen
 - hay and browse
 - concentrates - too much can upset but it boosts
 - ruminants make their own proteins so they don't need supplements
 - buy good hay or grow your own

Health Maintenance:

Goats are usually very healthy, except for a few digestive problems. Systems of illness are listlessness, lack of appetite, diarrhea or scours, bloat, coughing or sneezing, runny nose, runny or inflamed eyes, fever or just plain "blahish" or acting more quiet or different than usual. Lack of weight gain or weight loss may indicate illness or perhaps a heavy load of parasites.

- high forage diet
- access to clean water
- access to salt and minerals - will find minerals if you don't feed them - eg trees!
- regular hoof trimming
- good milking to avoid hygiene

- keep pastures free of hazards
- vaccines – speaker has no experience with them
 - probiotics: some people capture the cud of a good animal and put it into the mouths of a sick goat. BIOAG minerals have some probiotics.

Internal Parasite Management

- Internal parasites management – Goats have fewer than sheep
- Grazing animals will always carry a certain amount of parasites
- Rotational grazing is key; rotate with poultry
- feed hay in the morning and graze after dew
- Early kidding means kids are larger so they have better resistance to parasites.
- Herbal wormers: mix of red clover, thyme, oregano, pumpkin seed, garlic, hyssop, and wormwood.
 - use carefully
- Chemical wormers when necessary... if there is a problem. After fecal testing. Worms can lead animals to become anaemic.
- Breed for resistance - select the goats that do the best in your system. Speaker has been selecting goats that live best with hands-off methods.

Goat milk is nearly always pure white in color. The small size of the fat globules and the soft curd are its primary characteristics. Because of these qualities, goat milk is often recommended for infants, pregnant women, people suffering from liver disease, allergies or ulcers, and anyone else with digestive problems.

Goat milk is healthful, nutritious, and flavourful. To the surprise of many, goat milk tastes no different from whole cow milk. A main difference is that goat milk digests within twenty minutes versus an hour or more for cow milk. It also contains desirable amounts of nicotinic and pantothenic acid, riboflavin, thiamine, and niacin, It has an alkaline reaction as opposed to the acid reaction of cow milk which helps to soothe your stomach.

The lactation period of the milking doe is 305 days. During this period, the average doe in the herd will produce 1500-1700 pounds of milk, or about ½ gallon or more per day on average.

Some cheeses made from goat milk include cottage cheese, Neufchatel cream cheese, Coulommier, French Roquefort, Norwegian gjetost, Greek feta, chevre, and numerous other soft and hard cheeses. Excellent yogurt can also be prepared from goat milk, and dairies equipped with a cream separator can produce a very tasty butter.

Milking

- Alyson hand milks
- Principles of milking
 - goats are seasonal breeders
 - some goats will milk for 2-3 years
 - can milk once or twice per day
 - keep kids on doe and you can milk when you want to
 - good hygiene

Good Milk Quality

- Keep containers clean
- Wash and dry udder before milking
- Strip out a few squirts
- Manage the udders even if the kid is on
- Filter the milk
- Cool asap
- Keep track of milk
- After 5 days you will smell it

Cheese Making

The art of cheesemaking can be exciting and fun. Understanding all the ingredients and how they work will help simplify this process. You can make cheese at home and many other things as well. Real savings can be realized when you no longer need to purchase those items from the store.

All cheese is basically milk, cultures, salt, and rennet. What makes one cheese different from the others is the temperature the milk is heated to, the type of culture added and the way it is processed. Temperature, humidity, rennet, cultures and whether it is eaten fresh or aged will determine the type of cheese you will have.

Milk is the most important ingredient in cheese making. It is important when making cheese to be as clean as you can. Milk is a perfect medium for growing bacteria. Good or bad! Make sure your pots are clean and dry. You will need a stainless steel or unchipped enamel pan, a thermometer for taking temperatures, a long knife for cutting curds and a strainer.

List of cheese in order of easiest to most difficult:

- ricotta
- mozzarella
- chevre
- feta

- crottin
- gouda
- blue castello, fourme d'ambert
- cheddar, bri, camembert, gorgon

Costs

- \$150-\$450
- 50-60 bales of first cut hay/goat/year - 1.50 - 2.50
- 25 bales second cut per goat per year 3-350
- 200 kg of outs/g/y .43\$ /kg
- Milk supplies
- Equipment
- Cheese making 'butchering fees'
- Your time - 180-200 hours/including cheese and butchering

References:

- Natural Goat Care by Pat Coleby
- Living with Worms by COG
- fiascofarm.com
- Goat Keep magazine

DAIRY MARKETING AND OPPORTUNITIES with Roger Henry

The dairy goat industry in Eastern Canada remains quite small while information is scarce. According to the 2001 Census of Agriculture, there were 306 goat farms (all types) and 3,741 goats reported in Atlantic Canada. Of the Atlantic Provinces, Nova Scotia had the largest number of goats.

- Opportunities for cattle
 - require quota in Canada
 - 1kg quota costs \$25,000
 - allows farm to sell 1 kg of butterfat per day
 - If you currently own quota and are interested in processing milk, the initial considerations are:
 - market -where
 - processing -who is going to
 - distribution - where will you sell it

Markets:

- Number one thing to consider
 - do you have a market
 - do you have a product that you can market profitably

Processing

- Federal vs Provincial
 - provincial limits your market to the one province
- Do you hire out processing or build your own plant?
 - You need a licensing body to confirm your plan
 - Require your own license. 2 types of license: on-farm and commercial
 - On-farm - process your own but you can't buy on
 - in PEI you can do what you want with your own milk
 - in NS and NB you have to sell it to the milk board
 - doesn't physically leave the farm
 - Commercial
 - process milk from other farms
 - as the industry is more vertically integrated it gets harder to get a commercial license

Distribution

- how will you distribute it
- are other companies willing to distribute
- can your product be transported with other foods
- how will you keep the temperatures correct
- increase in cost can be harmful to your market
 - it's important to have costs figures

Production will be the easy part

- Milking will be the least of your worries - both are not for the faint of heart

Marketing will always be a constant challenge.

This presentation was followed by a brief Q & A

- Goat feed
 - Alyson - more hands off in terms of feeding for milk production
 - feeds loose minerals and salts - doesn't use a block because it hurts their tongues
- Alyson has 7 does
 - thinks you would need around 2 for a family
 - is now crossing with meat does for meat
 - 5 are milkers
 - 2 are meat makers

- Processing facility -
 - have that inspected and built to the standard
 - Steve Owen - from NS designs plans for processing facility.
 - Ask other producers how they got inspected.
 - For a dairy parlour have the inspector come out and help during the process.

A good study on goat dairy production:

http://www.agmrc.org/media/cms/goatprofile_e_63BB6B8CD67FA.pdf