Prairie Goats

July 2021
2021, Issue 2

SGBA Newsletter

Saskatchewan Goat Breeders Association

SaskGoatBreedersAssoc@outlook.com

https://www.facebook.com/Saskgoatbreedersassoc

Prairie Goats
Summer Issue
2nd Quarterly 2021 SGBA Newsletter

What's Inside:

Notice to industry - Advancing eradication: genetic scrapie resistance in goats

Government of Canada Gouvernement du Canada

April 22, 2021

Testing for genetic resistance in sheep has been a useful tool in scrapie management and eradication. The Canadian goat industry may now also breed for genetic resistance to scrapie. The Canadian goat industry has been supportive of better understanding of genetic resistance in goats to help producers eradicate scrapie.

The Canadian Food Inspection Agency (CFIA) is working towards piloting the use of genetic resistance alleles S146 and K222 (via a pilot study) in the future of our National Scrapie Eradication Program (NSEP). This is an approach consistent with the United States (US) and the European Union (EU).

Research

CFIA-evaluated genotype data collected from several scrapie-infected goat herds in Canada, along with ongoing research findings from North American and European studies, provide convincing evidence for genetic resistance to classical scrapie in goats. Based on the data, goats having a single copy of either the S146 (the amino acid serine at prion protein position 146) or K222 (the amino acid lysine at prion position 222) alleles have shown a strong degree of resistance to natural infection with scrapie.

Over 17 years, the EU studied over 10,000 cases of scrapie in goats. In a 2017 publication, the European Food Safety Authority (EFSA) assembled a panel of experts to evaluate the scientific evidence for scrapie resistance in goats. The panel found the S146 and K222 alleles in goats provided a strong level of resistance to classical scrapie.

Other alleles were also studied by the EFSA, but the data showed resistance to scrapie wasn't as strong. 1 such allele was Q211 (the amino acid glutamine at prion protein position 211). At this time, there isn't enough evidence to support using Q211 for regulatory purposes in our Canadian disease control program; although emerging data continues to be considered.

These 2 alleles (S146 and K222) naturally occur in Canadian goat breeds.

- Allele S146 was most often found in meat breeds such as Boer and Savannah, as well as the Nubian dairy breed.
- The K222 allele has been found less often in the Canadian goats tested up to now, and was mainly found in Toggenburg (dairy) herds.

These alleles will most likely be found in other breeds in Canada as more goats are genotyped.

Internationally, these alleles have been found in the following breeds:

- S146 allele has been found in meat and dairy breeds including Boer, Nubian, Alpine, Saanen and LaMancha.
- The K222 allele appeared most often in dairy breeds such as Toggenburg, LaMancha, Saanen and Alpine.

Continued on pg. 2

FUN FACT:

Goats' pupils are narrow horizontal rectangles, allowing them to have super wide-angle vision from 320-340 degrees without having to move!

Goats can also keep their vision parallel to the ground when their head is down!

How this applies to the goat industry

The CFIA, in line with the US, recommends focusing on the S146 and K222 alleles when breeding for resistance in goats. The CFIA is looking to pilot these alleles in our disease response program. This is also in line with a recent 2020 EU regulatory update, which recognized that S146 and K222 offer genetic resistance against classical scrapie. The EU directed incorporating this information into the scrapie disease response, with specifics at the discretion of each Member State.

In Canada, genotyping services for DNA testing of goats at alleles S146 and K222 are available through GoatGEN Inc. and the Animal Health Laboratory.

Producers may use genotyping services for their selective breeding programs and individual herd management decisions. At this time, genotyping results from external laboratories are not considered official, and animals would require testing by the CFIA during a scrapie disease response.

Co-operation and action is required from all parties involved with the health of both sheep and goats. Like scrapie management in sheep, goat producers are encouraged to follow these practices to continue moving Canada towards our goal of scrapie eradication:

- use pre-approved identifiers to identify goats (or place identifiers on them before they leave the farm), until mandatory national identification is in place for this sector.
- increase the submission of mature goats for scrapie sampling
- reduce inbreeding
- select goats bred for genetic resistance for scrapie
- buy goats from herds enrolled on the Scrapie Flock Certification Program (SFCP).

Assessing for scrapie resistance and following the above practices will greatly support Canada's continued progress towards scrapie eradication.

If you have questions or concerns, please contact

cfia.ahprograms-programmessa.acia@canada.ca

The SGBA wants to wish everyone a happy summer! We hope your goats are happy and healthy and enjoying some grazing and hope everyone is managing the drought ok. Hang in there! Wishing for rain for all the farmers!!

If you would like to send in photos or stories to be featured in the SGBA newsletter feel free to contact us!

Goat "Gyro" with Tzatziki Sauce Recipe

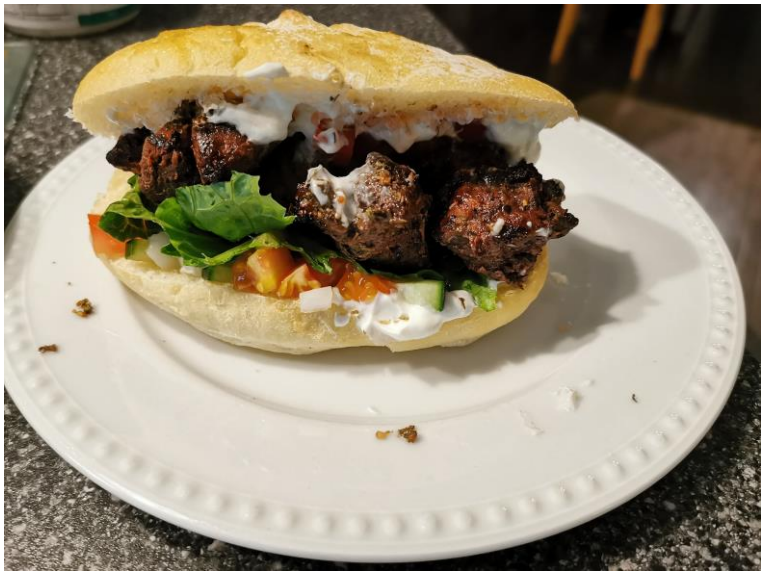


Photo by Elizabeth Shirley

A delicious Mediterranean style dish using marinated goat meat skewered and grilled and served with tzatziki sauce and fresh veggies! The meat isn't quite made like an authentic gyro (ground meat shaped, cooked and sliced), I cheated and just used cubed goat meat, though the flavours should be similar. If you are vegetarian, eliminate the meat and try using goat feta and extra veggies instead!

Combine the ingredients for the marinade with the meat, let marinate for at least an hour. In the meantime, prepare your Tzatziki sauce and dice your tomatoes, cucumbers and onions, wash your lettuce. Place the marinated meat on skewers and barbecue on medium heat (around 300F), should take around 12-15 minutes depending on the size of your cubes. Remove meat from skewers, place on your bread of choice, top with veggies and Tzatziki sauce.

Ingredients for the Gyro:

Flatbread, pita breads, or rolls of your choice

Tzatziki sauce (see recipe below)

Lettuce or spinach

Tomatoes

Cucumber

Onion (a sweet onion or red onion probably is best)

~ 2 lbs. Cubed goat meat (and skewers)

Marinade/seasoning for the meat:
1 tablespoon minced garlic, 1 teaspoon dried oregano, 1 teaspoon ground cumin, 1 teaspoon dried marjoram or mint, 1 teaspoon dried thyme, 1 teaspoon ground black pepper, ¼ teaspoon salt, splash of olive oil, 1 tbs lemon juice

You can add a little bit of the Tzatziki sauce to the marinade as well if you'd like! You can also use fresh herbs instead of dried.

Tzatziki Sauce

Ingredients:

1 medium garden cucumber

pinch of salt to draw out liquid

1 cup plain greek yogurt (you can use homemade goat milk yogurt too, but it will be a bit runnier)

2 cloves garlic minced (or put through a garlic press)

1 teaspoon lemon zest

2 tsp lemon juice

1 teaspoon olive oil

2 tablespoons chopped fresh dill

salt and black pepper to taste

How to make the sauce:

1. Peel cucumber, cut in half, and remove seeds (optional if using an English cucumber). Shred or finely dice the cucumber.

2. Put diced cucumber in a small bowl with a pinch of salt and let sit for 5 minutes to draw out the liquid.

3. Finely mince the garlic, chop the fresh dill and, zest and juice your lemon. Set aside.

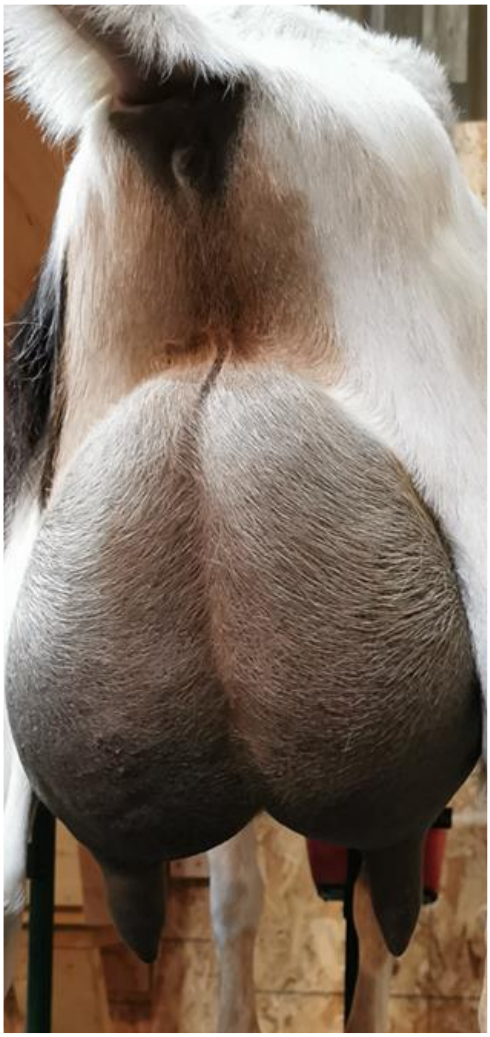
4. Drain and Squeeze out the excess liquid from the cucumber.

5. Add yogurt, lemon zest, lemon juice, garlic and dill to the cucumber and stir.

6. Season with salt and pepper to taste.

7. Refrigerate sauce for about an hour before serving

Milking tips!



Udder of a LaMancha Doe
Photo by Elizabeth Shirley

- Brush your doe to help remove loose hair and debris from her coat and udder area before milking.
- Wipe down your doe's udder before and after milking. Using an udder wash, or mild soap (Castille or glycerin soap for example) and/or diluted iodine in warm water is a good idea. Cleans them up and can help with milk let-down too. Dry extra moisture off with a clean paper towel or soft cloth.
- Always discard the first few squirts of milk! Bacteria from the outside environment can be present at the teat orifice. It is a good idea to milk those first squirts into a small container to check for any abnormalities in the milk too!
- After milking, using a teat dip can be a great way to reduce the chance of your doe getting mastitis!
- It is a good idea to have an udder cream on hand. It is great for dry udders, can help heal cuts and bug bites and can help a congested udder too. Some does enjoy a massage with udder cream after being milked and cleaned up. An antiseptic udder cream is great!
- Put larger volumes of milk in the freezer for a while to help it cool down quickly. You can also divide the milk into smaller jars/containers to help it cool in the fridge. It's a good idea to also get a fridge thermometer to make sure the fridge is staying cold!
- Strain the milk with a fine strainer (or something like a thin piece of clean cloth) before using/pasteurizing. Loose hairs and debris may still have gotten into the milk!
- Get a funnel to help you fill your milk bottles/jars!

Saskatchewan Goat Parasite Surveillance

The Saskatchewan Goat Internal Parasite Surveillance Study continues for the grazing season of 2021. Saskatchewan goat producers, no matter the size of your herd, are eligible to submit fecal samples to Prairie Diagnostic Services (PDS) until October 2021. Saskatchewan Ministry of Agriculture is covering the costs of the laboratory analyses.

The forms and information about the study are now available on the SGBA website (5 documents) under news and events: https://saskgoatbreeders.com/news.html

For more details on the study or for further questions, contact the project coordinator, Dr. Fritz Schumann: EMAIL: goat.parasites@usask.ca; PHONE: 306-221-5861

Sending in fecal samples is a great way to learn about the parasite load of your herd and can help you develop a better parasite management program, deworming only when necessary, and learning about the effectiveness of your deworming treatments. It can be a valuable part of your herd health program, take advantage of it while the analyses are free!

Goat Snack Plant Profile – Elizabeth Shirley

A young *Artemesia absinthium* plant near Saskatoon, SK. Photo by Elizabeth Shirley

Scientific Name: *Artemesia absinthium*

Common Name(s): Wormwood absinthe, absinth, wormwood sage, madderwort

A more mature stalk of wormwood. Photo by Elizabeth Shirley

Description: Wormwood absinthe is a herbaceous perennial weed in the sage family, which is why it has a distinctive odour similar to sage. It is grayish-green in colour (due to the fine silvery hairs covering the plant) with many alternate deeply-dissected leaves. More mature plants can become somewhat woody at the base. This plant can be shrub-like or occasionally grows as single erect stems. The plants can range from about 2-4 feet tall. Mature plants develop pale yellow tubular flowers grouped in drooping heads (you can see the heads starting to develop in the picture below). *Artemesia absinthium* is classified as a noxious weed in Saskatchewan (and many other places!).

It is not particularly palatable to most livestock, but goats will eat it both in pasture and dried in hay. Some goats enjoy it more than others though and it is not a preferred forage for them in pasture. It is also known to taint the milk of dairy cows if they eat it, so your goat's milk may taste a bit funny if they are consuming a lot of this plant!

When consumed in large quantities it can cause reproductive issues in livestock so best to not allow pregnant does to eat this plant, you may want to check your hay and remove the plant if there are considerable quantities. As with most things we give our goats, please be careful and feed in moderation, and monitor your pasture grazing.

Continued on next page….

In this section I will discuss a plant that you may find your goats snacking on in your pastures. Goats are known for their brush clearing and weed control abilities, and as browsers, have a diverse diet, often choosing leafy weeds over grasses. Ever wonder what your goats like to eat? Or want to know what that funny looking weed in your pasture is? I hope to share an interesting plant profile with you all each newsletter.

More on *Artemesia absinthium*…

Fun Facts: Wormwood has been traditionally used as a medicinal plant for hundreds of years for various ailments. It was also used to make an intoxicating elixir (the drink absinthe, though not exactly like absinthe available today) that could cause hallucinations, seizures and even death, and was a favourite drink of the Dutch painter Vincent Van Gogh. Some of the negative effects may have been related to the methanol content of the drink (which these days it would not contain!). Though a chemical compound, thujone, is responsible for effects on the nervous system. Wormwood was actually banned in the United States from 1912 to 2007! It is now legal, but the EU and FDA restricts the amount of thujone allowable in products as high or unregulated doses can be dangerous. Wormwood is an ingredient in the modern drinks Vermouth and Absinthe.

Back to the goats…. Wormwood has been shown to have antiparasitic properties, though its effectiveness needs to be further studied. There have been some studies on the effectiveness of wormwood on *Haemonchus contortus* (Barberpole worm), a parasite of great concern to the sheep and goat industry. In a study by Tariq et al. (2009), they tested the effectiveness of aqueous and ethanolic extracts of *Artemesia absinthium* on gastrointestinal nematodes of sheep. They tested it both in vitro, looking at the direct effect of the extracts on mature nematodes' motility and mortality, and in vivo, by giving the extract to the sheep and looking at fecal egg count reductions. They also used albendazole in a treatment in both the in vitro and in vivo experiment as their reference drug to compare results to. In vitro, both the aqueous and ethanolic absinth extracts resulted in paralysis and death of *H. contortus* worms, but the ethanolic extracts were more effective with quicker and greater paralysis and death of the worms at the same dosage. The albendazole was more effective in the in vitro test resulting in 100% mortality or paralysis 4 hrs post incubation and none revived, whereas some revived with the extract treatment. Though worm mortality with the extract treatments was still significant compared to the control where no worms showed paralysis or death. Extracts administered orally to the sheep were found to be effective and resulted in significant fecal egg count reductions in sheep infected with mixed GI nematodes including *Haemonchus contortus, Trichuris ovis, Chabertia ovina, Bunostomum trigonocephalum* and *Oesophagostomum columbianum* from day 5 to day 15 post treatment with the extracts. The ethanolic extract was shown to be as effective as albendazole resulting in a fecal egg count reduction of 90.46% on day 15 post treatment when the extract was dosed at 2.0 g/kg body weight. At a lower dosage (1.0 g/kg bw) there was a fecal egg count reduction of 82.85% on day 15 post treatment. The aqueous extract resulted in a maximum of 80.49% fecal egg count reduction dosed at 2.0 g kg/bw.

A project was also coordinated by Dr. Helen Swatz (Lincoln University) through SARE (Sustainable Agriculture Research and Education) that ran from 2007-2010, investigating the effectiveness of wormwood fed to sheep and goats to treat parasites (*H. contortus* in particular). They tested it on boer goats and found it to be effective and not harmful to the immune system (measured immunoglobin IgG were all within the normal range while being fed wormwood). The goats fed wormwood had lower fecal egg counts than the control and had higher daily gains and total weight gain than the control and goats given a synthetic anthelmintic (avermectin). They concluded that feeding goats and sheep wormwood had potential for use as a substitute to synthetic dewormers. More on that project can be found in the links below.

These results seem promising and could help in the fight against dewormer resistant parasites, but more research needs to be done.

Disclaimer: The above information is simply for informational purposes, not a recommendation by the SGBA, always consult with your veterinarian when treating a parasite problem in your herd.

Resources:

https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/livestock/pastures-grazing-hay-silage/problem-weeds---a-cattlemens-guide/absinth

https://wiki.bugwood.org/Artemisia_absinthium

https://www.saskwildflower.ca/nat_Artemisia-absinthium.html

https://www.healthline.com/nutrition/what-is-wormwood#_noHeaderPrefixedContent

https://projects.sare.org/sare_project/lnc07-283/

https://projects.sare.org/project-reports/lnc07-283/

Tariq, K. A., Chishti, M. Z., Ahmad, F., & Shawl, A. S. (2009). Anthelmintic activity of extracts of Artemisia absinthium against ovine nematodes. *Veterinary Parasitology*, *160*(1–2), 83–88. https://doi.org/10.1016/j.vetpar.2008.10.084

Government Of Saskatchewan Enhances Support For Producers Dealing With Dry Conditions

Released on July 14, 2021

Saskatchewan Agriculture Minister David Marit announced today that Saskatchewan Crop Insurance Corporation (SCIC) will implement measures to address dry conditions impacting producers. Effective immediately, changes will be made to allow low yielding crops to be put to alternate use to support the livestock sector. The Government of Saskatchewan is also making changes to temporarily increase the maximum funding a livestock producer can receive from the Farm and Ranch Water Infrastructure Program (FRWIP) for dugouts, wells and pipelines.

"Our livestock sector is facing tremendous challenges sourcing feed, as well as some challenges in securing access to sustainable, quality livestock water sources," Marit said. "Agriculture is a vital part of our provincial economy and we are taking steps to support producers through this extended period of dry, hot conditions."

"I want to encourage grain producers to work with neighbouring livestock producers to make feed available. SCIC is working with customers to ensure damaged crops, intended for harvest, can be put to an alternate use such as silage, baling or grazing."

When crops are severely damaged and the appraised yield falls below an established threshold level, the yield is reduced to zero. In response to the feed shortage this year, SCIC is doubling the Low Yield Appraisal threshold values for customers who salvage their cereal or pulse crops as feed, without negatively impacting future individual coverage. For example, the previous established threshold for barley was seven bushels per acre. For Crop Insurance customers wanting to utilize a grain crop for feed, the threshold will now be 14 bushels per acre. In this case, a zero bushel yield would be used for the claim and the original 14 bushels would be used to update future coverage.

Customers are asked to contact their local SCIC office before they graze, bale or silage any damaged crops to discuss their options. Crop Insurance coverage will not be negatively impacted if customers chose to divert grain crops to feed. Livestock producers can gain access to feed sources from Crop Insurance customers who choose to put their crops to a use other than harvest. Producers are encouraged to contact their neighbouring operations to set up arrangements.

Presently, under FRWIP, costs related to dugouts, pipelines and wells are funded at 50 per cent of eligible costs, to a maximum rebate of $50,000 over the life of the program.

For the period April 1, 2021 to March 31, 2022, the maximum rebate for livestock producers only will increase to $150,000. The first $50,000 will be based on a 50-50 cost-share and the remaining $100,000 will be on a 70-30 government-producer cost-share.

FRWIP and Crop Insurance are both offered through the federal-provincial Canadian Agricultural Partnership agreement.

The Government of Saskatchewan has also formally requested the federal government designate the entire province as eligible through the Livestock Tax Deferral program, for all Saskatchewan producers who may need to liquidate part of their breeding herd due to feed or water shortages.

The AgriStability Program provides an option for producers looking to access a portion of their benefit early. Through the interim benefit, producers enrolled in AgriStability can get 50 per cent of their estimated final benefit.

The Farm Stress Line is available for support. The Farm Stress Line is a confidential service, available 24-hours-a-day, seven-days-a-week, toll-free at 1-800-667-4442. Calls are answered by Mobile Crisis Services Regina, a non-profit, community-based agency and there is no call display.

Government continues to monitor the situation and engage with stakeholders and federal-provincial-territorial counterparts.

SCIC is here to help during this difficult time. Producers can contact their local SCIC office, call toll-free at 1-888-935-0000 or visit www.scic.ca to review available options and ensure decisions are not delayed.

For more information, contact:
Whitney Treasure, Marketing and Communications Specialist
Saskatchewan Crop Insurance Corporation
Melville
Phone: 639-398-2275
Email: whitney.treasure@scic.ca

Jamie Shanks
Agriculture
Regina
Phone: 306-787-5155
Email: jamie.shanks2@gov.sk.ca