

THE BLEAT

A UGA Extension Newsletter for Georgia Sheep and Goat Producers



Extension Programming Update and the "New Normal"

By Caitlin Jackson

*County Extension Coordinator/ANR Agent
Monroe County*

The world has been turned upside down during the coronavirus pandemic and we have all had to make adjustments. I think I speak for all Extension Agents when I say that shifting from face-to-face programming to virtual has been a tough one. Not only are we learning how to use this new platform but there are many technological and accessibility barriers that make virtual programming difficult if not impossible for some. However, if you are able to access the internet I encourage you to take advantage of the many virtual opportunities that are being offered by UGA Extension and other land grant universities across the nation. For now, farm visits by County Agents are allowed but the majority of UGA Extension programming is going to continue being offered on a virtual platform. All diagnostic services are available so take this time to get your soil, forage, or water samples sent in. Please bear with us as we figure out this "new normal" together. We are still here for you so give us a call!



UNIVERSITY OF GEORGIA
EXTENSION

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USING AN INTEGRATED APPROACH TO SMALL RUMINANT PARASITE CONTROL

BY SHANNA REYNOLDS| ANR AGENT
OGLETHORPE COUNTY
REVIEWED BY NIKI WHITLEY, PHD

It may come as no surprise to you that internal parasites are often the #1 health problem sheep and goats face in warm humid climates, with the most notorious of pests being the stomach worm, *Haemonchus contortus*, (aka the Barberpole worm). We can no longer rely on deworming drugs alone to control these bloodsuckers.

An integrated parasite management approach may be exactly what you need to win the battle against Barberpole and other internal parasites on your farm.

Integrated parasite management is modeled after the concept of Integrated Pest Management (IPM) which was born in the 1970's in response to concerns over pesticide (chemical) overuse in the US.

IPM is considered to be a balanced strategy of control that uses a wide range of methods to manage pests, not just using chemicals as part of a set routine, and many principles of the IPM method are effective ways to manage internal parasites in sheep and goats. Consider these 4 fundamental steps of IPM and how they relate to parasite management and the controls we have in our toolbox for parasite management.



1. Identify the pest (parasite) you are dealing with. Knowing your enemy is the first step in developing an Integrated Pest Management playbook. You need to understand the parasite biology/lifecycle and what causes their population to fluctuate throughout the year.

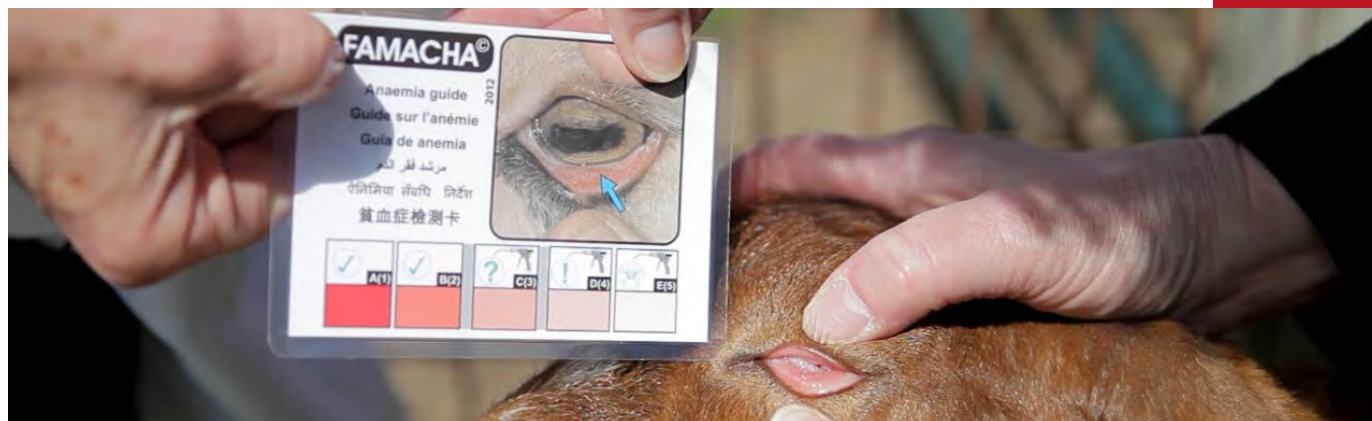
2. Develop pest (parasite) management goals. Small ruminants will always carry some level of parasite burden. The goal should not be to create a parasite free animal, but to prevent clinical signs and production losses in your herd/flock. Through the use of the Five Point Check © (which includes FAMACHA© eyelid color scoring as a measure of anemia, bottle jaw, body condition scoring, fecal soiling scoring and nose drainage for sheep or coat condition for goats), your farm can establish threshold levels at which actions (deworming) should be taken. No deworming on a predetermined schedule!

3. Monitor Pest (Parasite) Populations. In a perfect world, under ideal management conditions we would like to see no animals show noticeable effects of parasitism. In reality, some will inevitably succumb to worm load. Monitoring is extremely important for a successful IPM system so that control methods can be performed at suitable times and management strategies can be evaluated and improved as needed. Learn to recognize the signs of an internal parasite load and offer timely and effective treatment. As with any farm practice, monitoring methods must be simple and inexpensive.

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Some internal parasites, such as the Barberpole worm, will feed off their host's blood, causing anemia and sometimes edema/swelling under the jaw (bottle jaw). The FAMACHA© system that assesses the level of anemia in sheep and goats by examining the eyelids of the animal can help monitor this parasite.



Parasites can cause diarrhea (not usually Barberpole worm), weight loss and rough hair coats. These symptoms can help monitor level of parasite infection in your animals. Fecal egg counting can also help monitor animal and pasture infection levels as well.

4. Select appropriate control methods. Dewormer resistance is a driving force behind integrated parasite management (as with IPM) methods, and chemical controls should be used only when necessary. There are a number of additional control tactics in your toolbox that can be adopted in addition to an effective deworming protocol.

Useful **mechanical controls** include stringent quarantine and sanitation practices. Separate new animals from your flock and deworm with an effective deworming protocol to reduce the chance of introducing resistant parasites to your farm. Some parasites, such as coccidia, are spread through animals eating from fecal contaminated ground, feed troughs or water sources. Feed up off the ground, keep feeders and waterers clean, and clean manure from feeding areas and bedding frequently.

Biological control is the use of natural enemies to fight pests. Nematode-trapping fungus (Bioworma®) is a new tool recently available in the U.S. that interrupts the life cycle of parasites by trapping (and killing) larva in the feces.

Genetic control can involve selecting breeds that have shown parasite resistance. Some breeds known for resistance in sheep are Gulf Coast Native, St. Croix, Barbados Blackbell, Katahdin, and Texel. Resistant goat breeds include Kiko, Spanish, and Myotonic. Regardless of breed, some animals are more resistant than others. Selecting for these animals over time will decrease the need for chemical dewormers. Buying males that have parasite resistance (have not had to be dewormed but have been exposed to worms) can go a long way towards genetic control.

Cultural controls are where you may see the biggest impact in parasite suppression. These are practices that reduce establishment, reproduction, distribution, and survival of the pest (parasite).

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As ruminants, most sheep and goats are raised on pastures. Animals ingest parasite larvae from pasture so the rate/level at which they are ingested can be controlled by intensive pasture management, including using reasonable stocking rates.

Worm larvae migrate from animal feces up the blades of pasture of grasses where animals can then eat them. Rotating sheep and goats off a pasture when the grazing height is still at 4-6 inches decreases larvae ingestion. Having access to areas with browse allows animals to eat higher off the ground as well. Grazing sheep and goats along with or in rotation with horses or cattle can reduce parasite loads. Forages with high levels of condensed tannins such as sericea lespedeza have also been shown to help lower parasite infections.

Alternatively, sheep and goats can be raised on dry lot/pens with no grazing so they do not eat contaminated forage. Animals have shown more tolerance of internal parasites when their immune systems are supported by good nutrition and proper mineral balance. Studies have also shown benefits of small doses of copper wire particles to control internal parasites (used as a dewormer).

Lastly, let's talk about deworming drugs (anthelmintics) and how to use them effectively. I'm sure you've picked up on this theme by now, but I'll state it once more. Strategic **chemical controls** should be used only on those animals that have been assessed via FAMACHA© or other parasite indications.

All living organisms adapt to their environments leading to slow changes over time, and the Barberpole worm is very good at this adaptation. Overuse and misuse of dewormers speeds up those changes, resulting in dewormer resistant populations. A first step in developing an effective deworming protocol is to determine which drugs are still effective on your farm. One option for assessing the effectiveness of a dewormer is by a fecal egg count reduction test - taking fecal samples before treating animals and again 10-14 days after treatment, then comparing the fecal egg count totals. The DrenchRite© Assay is another (but is not currently available).

The American Consortium for Small Ruminant Parasite Control recommends several additional things that you can do to best manage drug resistance on your farm. Be sure you are dosing animals correctly by weighing animals on a scale or estimating weights with a tape prior to deworming. Goats need higher doses, so use appropriate deworming charts. Unless animals are very sick, restricting feed (overnight up to 24 hr) may intensify the effectiveness of some dewormers. Rotating between deworms will not help prevent resistance but using a combination of dewormer classes together at the full dose is extremely helpful. Repeat dosing is also effective with certain drug classes. I would encourage all producers to visit www.wormx.info for more information on proper deworming protocols as well as to view upcoming trainings and FAMACHA© certifications.



There are no new dewormers being developed, so as a producer, it will benefit you to do everything possible to slow down the development of drug resistance in your herd. Combining a number of the methods discussed in this article will lead to a much more effective parasite management program than relying on any one method alone. Contact a knowledgeable veterinarian or your local Extension agent to discuss management strategies for your area and work with your veterinarian to ensure proper use of deworming drugs.

GOAT AND HAIR SHEEP BODY WEIGHT ESTIMATES

Dr. Niki Whitley

Extension Small Ruminant Specialist

FVSU
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Body weight calculations are needed in order to calculate the proper doses of medications (including dewormers), to market animals fairly if selling by the pound, or to be able to calculate growth performance for an animal.

For goats (meat and dairy) and hair sheep, you can use a sewing tape (or a string then use a tape measure to measure that length) and take a couple of measurements on the animal to get an estimate that is supposed to be within 2 lbs of an actual weight taken on a scale. Scales are most accurate and are preferred of course, but for this estimation, just measure heart girth and length (in inches) as noted below with the animal standing normally. Multiply heart girth by itself and then multiply that answer by the length; divide that answer by 300 and that should be an estimate of their weight in pounds, give or take 2-3 pounds. See below for more information.

Info and pictures below from:
www.infovets.com/books/smrm/c/c098.htm
(more details available at this link)

Steps to get an estimated goat or hair sheep weight:

1. Measure the heart girth in inches – the tape encircles the animal just behind the withers on top and just behind the elbows on the bottom
2. Measure length from point of shoulder to the pin bone in inches- the tape must be soft enough to bend around to the point of the shoulder and to the pin bone (black arrows in the picture for length)
3. Calculate estimated weight using this formula:



300



Livestock Guardian Dogs

**Caitlin Jackson | ANR Agent
Monroe County**

“Sheep and goats are born looking to die” is often said about sheep and goats and their seeming determination to find ways to perish. Frequently said in jest but more often than not, it does seem like we are constantly saving our favorite small ruminants from themselves. However, sometimes they need saving from outside threats. What kind of outside threat? Predators. According to the USDA, about 75% of predator loss is from coyotes and dogs, of which coyotes alone roughly account for about 55%. A good way to protect your flock from predation loss is to incorporate a livestock guardian dog.

Livestock guardian dogs (LGD) ward predators away by territorial exclusion,

or marking their territory, disruption and confrontation. Properly raised LGDs will have been with livestock since birth and view them as part of their pack rather than a threat or competition. Selecting the right breed of LGD is important, as just like any type of animal LGDs have their own personalities and quirks unique to different breeds. There are many breeds of LGDs but the most common LGDs in Georgia are the Great Pyrenees and Anatolian Sheppard. The Great Pyrenees or the “big fluffy white dog” are known for their long white coat and mature to 85-140 pounds. Known for being docile, it is the least aggressive breed toward people and livestock, which makes them an ideal breed for smaller flocks in more populated areas. For flocks that are in a less populated area and are in need of a more aggressive LGD, the Anatolian Sheppard would be a good choice. Maturing to 80-150 pounds the Anatolian Sheppard is well known for its independence and territorial instincts. The question of male or female and how many LGDs should be with a flock are often asked. In general, males are more likely to check perimeters whereas females tend to stay with the flock. Frequently, males and females are together as a pair so that they work together as a team. However this can also be achieved with pairs of the same gender. One LGD can adequately protect 100 sheep or goats. Careful research of the breed and purchasing a puppy from a reputable breeder is important to make sure that you are bringing the right LGD onto your farm and into your flock.

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Bonding with livestock really starts before you bring your new puppy home. Research has shown that social bonding between dogs and small ruminants depends on imprinting puppies when they are roughly eight to sixteen weeks old. The imprinting that occurs at this time will set the dog's adult behavior with livestock. Using small bonding pens can help with this process. Place one or two LGD puppies in a small pen with a few ewes or does that have previously been with LGDs. It is important to note that it is vital that the ewes or does you use in the bonding pen are comfortable with LGDs as hostile behavior towards the puppies can result in the puppy becoming fearful or aggressive towards sheep and goats. Once the puppy's confidence builds, they can be released into a larger area with more members of the flock. It is equally as important to socialize your LGD to you, your other working dogs and your farm. It is vital that they understand that you and your working dogs are not threats to the flock and will leave you alone while working with the flock. When feeding your LGD be sure to feed them separately from the flock so that they are not in competition for food. Not doing so could lead to food aggressive behaviors from the LGD to your flock. Properly bonding your LGDs to your flock will result in a happy working dog and a protected flock.

ALTERNATIVE LIVESTOCK GUARDIAN OPTIONS

If a livestock guardian dog is not feasible for your flock there are alternative options for livestock guardian animals.

Llamas and donkeys make excellent livestock guardians due to their territorial nature and instinctual dislike of dogs. Castrated males are the more popular choice but females are just as effective livestock guardians.

While majority of llamas and donkeys are going to have natural protective instincts purchasing, a llama or donkey that comes from proven guardian lineage and have experience is preferable. Before you bring a new livestock guardian onto your farm it is important to do your research and find a reputable breeder.



"LLAMAS AND DONKEYS MAKE EXCELLENT LIVESTOCK GUARDIANS"

HAY IN THE SUMMER?

**BROOKLYNE WASSEL
ANR AGENT|PIKE COUNTY**



If you are not a hay producer, it almost seems like a silly time to start thinking about hay during the heat of summer, but there may be some benefits to making winter hay preparations during hay production season. There are numerous factors to consider when looking to purchase stored forage this far in advance: initial savings, forage quality, storage options, and peace of mind.

Many hay producers offer in field discounts for selling hay. If they sell directly out of the field, it means less labor for them so it can mean a better price for the client. This can be both a benefit and a challenge. This option offers a less expensive initial cost while also increasing labor of acquiring the hay. Depending on the discount, the savings benefit may well outweigh the cost of sweating in a hayfield.

Forage quality is always a concern. While some may look at small ruminants as garbage disposals, the truth is they still benefit from quality forage. Forage quality affects digestibility, palatability, and intake among many other things. As forage quality decreases, digestibility, palatability, and intake are all negatively impacted. This cascade of consequences can be set in motion by things such as weathering of bales, maturing forage, and time of cutting. If hay is acquired during the months of peak supply, more forage quality options may be afforded to you to ensure the quality matches the nutritional demand of your herd or flock. (If you have additional forage quality questions, a forage test is always a great starting point.)

Part of preserving forage quality is properly storing forage before use. Weathering can significantly reduce quality in a relatively short period of time. Most weathering occurs when cut forage either experiences a rain event or pulls in moisture from the ground. If your hay supplier does not protect bales from weathering, it is worth considering a hay barn or similar structure to protect the quality before feeding. If a hay barn seems financially out of reach, it is ok to get creative through pallets, tarps, and existing structures.

Unfortunately, many livestock producers have been through the long, hard winters following poor hay seasons. The panic and stress are real. Attempting to acquire hay while everyone else is scavenging as well can be exceptionally stressful and can leave some producers without adequate forage supplies for their animals. Stocking up in the summer can help to alleviate that stress. Once that hand-selected, quality hay is in your storage structure, you can sit back and relax knowing you have secured a forage source for the winter months.

In short, it is not for everyone. It might not even be a feasible option for everyone, but it is something to consider. If there is a way to bring peace of mind and possibly some savings to your farm this year, would you consider it?

USDA ADDS DIGITAL OPTIONS FOR FARMERS AND RANCHERS TO APPLY FOR CORONAVIRUS FOOD ASSISTANCE PROGRAM:

USDA's Farm Service Agency announced late last week it will now accept applications for the Coronavirus Food Assistance Program (CFAP) through an online portal, expanding the options available to producers to apply for this program, which helps offset price declines and additional marketing costs because of the coronavirus pandemic.

USDA Service Centers can also work with producers to complete and securely transmit digitally signed applications through two commercially available tools: Box and OneSpan. Producers who are interested in digitally signing their applications should notify their local service centers when calling to discuss the CFAP application process. You can learn more about these solutions at farmers.gov/mydocs.



KIDS KORNER



Everyday I care for mine and my brother's lambs. We have five this year. I own three and my little brother, Cohen, owns the other two. We show them for 4-H and FFA. I wake up in the morning to feed and care for our lambs. We feed them twice a day, morning and night.

When I get to the barn, I put all of them in their individual pens, as they have been in a group pen at night. After I pen them up and make sure they are healthy, I then mix and pour their individual feed and hay. We have to feed them all separately to meet their individual needs. The amount I give the sheep depends on the sheep's needs. I make sure that they each have enough water, but I also make sure that their water is clean. After I have done everything else I turn on all the fans.

We usually let them eat at the same time we eat supper. When we are done eating, we go back to the barn and make sure they have eaten. We work them and train them every night for our shows. My dad and I will put each of them on the lamb table and fit their legs. This helps their leg wool stay clean and fit for when we have a show. After we have fit each one of their legs, we then let them out into the group pen for the night.

By: Lola Talton, Monroe County 4-H'er



UPDATES FOR THE 2020-2021 GEORGIA JUNIOR NATIONAL LIVESTOCK SHOWS



Goats

- Market Goat check in will be 2-6pm Thursday, October 8, 2020.
- Unloading for the State Breeding Doe Show will only be allowed on the North Side of Horse Barn #2.
- Goats will not be allowed to cross the scales and check into the Market Goat Show and Breeding Doe Show without verification that health certificates were checked by a Department of Agriculture inspector.
- Microchips are not an acceptable form of identification for registered breeding does for check in to the Georgia Junior National Breeding Doe Show. Tattoos will be checked.
- Breeding Doe Divisions: (1) Registered Breeding Does (5) Commercial Divisions
- Breeding does (registered and commercial) must be a minimum of 40 pounds and a maximum of 180 pounds.

General Rules

- Agricenter will provide a staff member to distribute student tickets at Roquemore Building on Wednesday from 1:00-5:30 pm only. The Agricenter plans to have a kiosk set-up to sell adult tickets at same time. If exhibitor tickets are redeemed by anyone other than a student, they will not be allowed access into the rodeo. We will work with the Agricenter to provide Agents/Ag Teachers with a complimentary ticket to supervise youth at the rodeo. Complimentary adult tickets should NOT be sold or given to another adult other than those supervising youth
- No dogs or other pets are allowed on the fairgrounds except service dogs during Junior Show. Any dog/pet found in the livestock barns or show arena will be subject to removal by Agricenter Security or Animal Control, and the exhibitor may be subject to disqualification and/or loss of premiums.

Sheep

- Exhibitors will no longer be limited to 2 ewes entered in one commercial ewe class.
- All animals must be the sole property of the exhibitor by December 5, 2020. Purebred ewes must have the original registration certificate with the animal registered in the exhibitor's name at check-in. Purebred ewes without the original registration certificate will not be allowed to show.
- Blankets must be removed during check in and classification.
- Ten (10) lambs will be required at check in to constitute a breed/division for the Market Lamb and Breeding Ewe Shows. If there are less than ten (10) animals that check in, they will be shown in Other Breeds. The number of divisions for each breed will be determined by the number of entries.
- Unloading for the State Breeding Ewe Show will only be allowed on the North Side of Horse Barn #2.
- Lambs will not be allowed to cross the scales and check into the Breeding Ewe Show and Market Lamb Show without verification that health certificates were checked by a Department of Agriculture inspector.



HARVEST PROCESS: HALAL

**BY HAILEY ROBINSON | ANR AGENT
UPSON & LAMAR COUNTIES**

There are many different type of harvesting facilities and techniques. These can include custom exempt facilities, state inspected facilities (GDA), federally inspected facilities (USDA), and ritualistic harvesting (USDA inspected). Each category listed has different requirements that must be followed by a licensed facility.

In this article we will be discussing one of the ritualistic harvesting processes, halal.

The Arabic word halal is defined as meaning permissible or lawful, in regards to all facets of life. All halal labeled foods meet Islamic dietary guidelines and are allowed for consumption. These foods must meet federally inspected plans and be handled according to Islamic law. All halal labels are USDA inspected and certified through an authorized third party.

The halal process has certain requirements that must be met. To qualify as halal meat the animal must be well cared for, preferably without blemishes (i.e. scares or injuries). It is prohibited to feed animal by-products to these animals, and they must have access to drinking water up until harvesting. Animals that can qualify as halal meat, if properly harvested, include: lamb, goat, beef, venison, bison, chicken, turkey, fish, and shellfish.

Islamic Harvesting Guidelines per Department of Halal Certification

- The animal to be slaughtered must be from the categories that are permitted for Muslims to eat.
- The animal must be alive at the time of slaughter.
- The animal must be slaughtered by the use of a sharp knife. The knife must not kill due to its weight. If it kills due to the impact the meat may not be permissible.
- The windpipe (throat), food-tract (esophagus) and the two jugular veins must be cut.
- The slaughtering must be done in one stroke without lifting the knife. The knife should not be placed and lifted when slaughtering the animal.

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**"ALL HALAL
LABELED FOODS
MEET ISLAMIC
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AND BE HANDLED
ACCORDING TO
ISLAMIC LAW"**

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- The name of Allah must be invoked (mentioned) at the time of slaughtering by saying: Bismillah Allahu Akbar.
- If at the time of slaughtering the name of anyone else other than Allah is invoked (i.e. animal sacrificed for him/her), then the meat becomes Haram “unlawful.”
- The head of the animal must not be cut off during slaughtering but later after the animal is completely dead, even the knife should not go deep into the spinal cord.
- Skinning or cutting any part of the animal is not allowed before the animal is completely dead.
- Slaughtering must be made in the neck from the front (chest) to the back.
- The slaughtering must be done manually not by a machine, as one of the conditions is the intention, which is not found in a machine.
- The slaughtering should not be done on a production line where pigs are slaughtered. Any instrument used for slaughtering pigs should not be used in the Halal slaughtering.



Kosher vs Halal

There are two main ritualistic harvesting processes practiced in the United States, halal and kosher. Both have many similarities with few differences.

Some of those differences include:

- Halal- Animal need only be alive pre-slaughter
- Kosher- Animal has to be alive and conscious pre-slaughter
- Halal- Stunning is accepted
- Kosher- Stunning is not accepted
- Halal- Animals can be slaughtered by Christians and Jews
- Kosher- Animals have to be slaughtered by a Shohet
- Halal- Residual blood in meat is acceptable
- Kosher- Residual blood has to be purged (kosherization)

At the end of the day kosher meat is halal, but halal meat is not kosher. There are other comparisons between the two, but these are the most pronounced.

SAFELY GRILLING MEATS

Nicole Walters | FACS Agent
Monroe County

As we continue to navigate through this unusual time, most of us are eager to get outdoors and enjoy the summertime weather. After months of separation, we are also beginning to gather with our family and friends again. Grilling out is a great way to interact with family and friends while continuing to practice social distancing. When grilling, it is important to remember a few tips to keep everyone's food safe during the process.



HERE ARE A FEW FOOD SAFETY TIPS FOR YOUR NEXT GRILLING GATHERING.

- **Keep food separate.** All ready to eat foods should be kept away from raw meats. At the point of purchase, keep these items separate. Bag all raw meat to ensure juices do not come in contact with ready to eat produce in your shopping cart. If you are storing them in the refrigerator, it is best to store the raw meats below ready to eat foods.
- **If you will be grilling frozen meats, always thaw appropriately.** Thawing your meat in the refrigerator is the safest option. Remove the meat from the freezer a day or two before you plan to grill it and allow it to thaw in a pan with sides in the lower part of your refrigerator. The pan and placement will help ensure the juices from the meat do not leak onto other foods in the refrigerator, creating contaminated and unsafe food. If you are marinating the meat, do so in the refrigerator also. Meat should never be left on the counter to thaw.
- **When using a marinade, discard any leftover marinade.** Never use marinade that has had raw meat in it on cooked meat.
- If you are using a plate or platter to transport the raw meat to the grill, **do not use the same plate or platter to transport the cooked meat unless it has been washed** with dish soap and hot water. Contamination can occur if the cooked meat comes in contact with juices from the uncooked meat.

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- When grilling meat, it is important to **cook it to the correct internal temperature**. Determining the internal temperature requires a food thermometer. Follow these steps to ensure a safe internal meat temperature is achieved when using a food thermometer.
 - Always use a clean thermometer. The color of the meat is not an accurate determinate of the doneness of the meat.
 - Calibrate your thermometer regularly. If your thermometer is not calibrated you will get an erroneous reading. If you are unsure of how to calibrate your thermometer, check the manufacture's website. If your thermometer is bimetallic with an adjustable nut under the face you can calibrate it by using an ice bath. Instructions can be found here https://www.fcs.uga.edu/docs/FDNS-E-128_UsingFoodTherm_2020.pdf
- **Know the minimum safe internal temperature of the meat you are grilling.** Listed below are the meats and their respective target temperatures.
 - Ground meat and meat mixtures (beef, veal, lamb and pork) 160°F
 - Ground meat and meat mixtures (chicken and turkey) 165°F
 - Fresh chops, roasts and steaks (pork, beef, veal, lamb) Minimum 145°F (let rest 3 minutes before carving or serving)
 - Other foods with temperature can be found at https://www.fcs.uga.edu/docs/FDNS-E-128_UsingFoodTherm_2020.pdf
- **Washing your meats prior to cooking is not recommended by the Centers for Disease Control and Prevention.** This can cause germ to spread to your kitchen sink and counter area. If your meat is cook to the recommended minimum internal temperature any germs will be eliminated.
- **When grilling fruits and vegetables, it is recommended that you wash them with a brush under running water.** As you slice into the fruit or vegetable, the knife transfers any germs from the outer layer to the inner layer of the produce. Washing the produce first will minimize the spread of germs.
- **As you prepare your meats and produce for the grill, use different cutting boards and knives to cut them.** Cross contamination can occur if the cutting board contains germs from the food previously cut on the board. Never use a cutting board or knife for cooked meat that was used for raw meat without thoroughly washing it in hot soap and water.
- **If you will be holding meat to keep it warm after grilling it, the meat must be kept at a temperature above 140°F.** If the meat is to be cooled, it needs to be cooled to below 40°F quickly. Harmful bacteria can rapidly multiply in the meat if it is kept with in the 40°F to 140°F range.
- **Any leftover cooked meat should be refrigerated in a shallow container with a covering as soon as possible to avoid bacteria growth.**

Cleaning all surfaces and utensils is very important to keep you, your family and friends safe from foodborne illnesses as you prepare your meals. Keep your grill clean and in good working order making sure the source of heat is monitored to deliver the heat needed to safely cook your food. No one wants to be responsible for the spread of a foodborne illness. Keep your food safe, keep your distance from others and enjoy your summer with these grilling tips!



Lamb Burgers with Feta Tzatziki Spread

The Ingredients

- Extra-virgin olive oil
- 2 red onions, 1 cut into 1/4-inch dice and 1 sliced, for garnish
- Kosher salt
- Pinch crushed red pepper
- 2 cloves garlic, finely smashed
- 1 1/2 pounds ground lamb
- 2 sprigs fresh oregano, finely chopped
- 1/2 bunch fresh dill, finely chopped
- 1/2 bunch fresh mint, finely chopped
- Zest of 1/2 lemon
- 4 whole wheat pitas or 4 seeded hamburger buns
- Feta Tzatziki Spread, recipe follows
- 1 beefsteak tomato, sliced, for garnish
- 2 cups baby spinach, for garnish

Feta Tzatziki Spread

- 2 cups plain Greek yogurt
- 1/2 cup crumbled feta
- 1 tablespoon white wine vinegar
- 2 cloves garlic, smashed and finely chopped
- 2 sprigs fresh mint, leaves cut into chiffonade
- 1 small bunch fresh dill, finely chopped
- 1/2 English cucumber, coarsely grated
- Kosher salt

Directions

1. Coat a large saute pan with olive oil, toss in the diced onions and season with salt and crushed red pepper. Bring the pan to medium-high heat and cook the onions for 3 to 4 minutes. Add the garlic and cook for 2 to 4 more minutes. Turn the heat off and let cool.
2. In a large bowl, combine the lamb, the cooled onion mixture, the oregano, dill, mint, lemon zest and 1/2 to 3/4 cup water. Sprinkle with salt and combine well. Make a little "tester patty." Cook it and taste for seasoning.
3. Preheat the grill.
4. Form the lamb mixture into 4 equal patties and sprinkle with salt. Grill the burgers to your desired doneness, 4 to 5 minutes per side for medium-rare. Remove the burgers from the grill and let rest for 3 to 4 minutes.
5. Cut the pitas in half. Schmear each half generously with the Feta Tzatziki Spread. Top one half with a burger, then tomatoes, sliced onions and spinach. Place the other pita half on top.

Feta Tzatziki Spread

Combine the yogurt, feta, vinegar, garlic, mint, dill and cucumbers. Season with salt. Let sit for at least 1 hour at room temperature before serving.

REFERENCE: FOOD NETWORK|ANNE BURRELL

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