My Top 5 Forage Improvements/Practices
Goats and Sheep

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The Southern Indiana Purdue Agricultural Center (SIPAC) is one of the eight Purdue Agricultural Centers located around the state of Indiana. Our focus on the 1320 acres at SIPAC is on forages, livestock and forestry. We graze a beef cow herd (185 head) of fall calving commercial cows, maintain a commercial meat goat herd (100 head) that kid out in May, develop 100 spring born beef heifers for the Feldun Purdue Ag Center as well as background their steers for 60 days at weaning, and we develop dairy heifers (150 head of 300 pounders) for 5 months a year. The acreage is about evenly split between forested acres and pasture ground. Our forestry focus is on raising top quality hardwoods and in the last several years focusing on invasive species control and oak regeneration.

SIPAC’s top 5 forage and management tips for Goats:

1. Some sort of managed grazing
2. FEMACHA
3. Planted summer and winter forage crops
4. Browse
5. Quality fencing materials

Managed Grazing

Rotational grazing, intensive grazing, Management intensive Grazing (MiG), mob grazing, high stock density grazing, ultra-high stock density grazing, it does not really matter what it is called, but used properly each of these can be great management tools for both animals and forages. It is important to understand that one style does not fit all situations and they should all be considered for use depending on the situation and
environmental conditions. From a forage standpoint when properly utilized, these management styles can help prevent overgrazing, allow for a longer recovery periods, help to increase soil organic matter, possible higher annual forage yields, and offer the potential for higher quality forages. When studying these programs from the animal’s perspective the potential exists for higher animal performance and decreased parasite loads perhaps leading to improved animal health.

**FEMACHA**

Parasites are a major management issue when raising goats (and most small ruminants). The majority of deaths in the SIPAC goat herd are due to parasite load. To make matters worse the SIPAC herd like many (it could be most) herds have parasite populations that are resistant to all the different classes of chemical dewormers that are on the market today. This has occurred over time due to miss dosing, goat metabolism and over use of the products. The majority of the parasite shedding comes from a smaller population with-in each herd. Therefore treating every animal at each treatment time is not necessary. The FEMACHA program, developed in South Africa, is a way of using the color of the lower eyelid (looking for anemia) to only treat the goats (or sheep) that are showing a parasite load. This method is really only targeting one parasite specie the barber pole worm (*Haemonchus contortus*) however, that is the major killing parasite during the forage growing season. Through use of FEMACA and record keeping it is possible to pick out those goats that are shedding most of the parasites and then those animals can be culled from the herd.

**Planted Summer and Winter Annuals**

Annual crops are a great way to have a high quality forage growing at time when maybe the cool and/or warm season perineal forages are slowing in growth or quality. SIPAC has used sorghum sudan grass and pearl millet in the middle of the summer for alternative forages and grown turnips, spring oats and annual rye grass in the fall and winter. All of these crops have the potential to be very high yielding and produce a high quality forage for the livestock. An added benefit to using these crops, especially with small ruminants, is that they can help with parasite management. Often times, it will have been several months between grazing these areas for the first time which helps to break the parasite life cycle as they can only live so long outside the host animal. When animals are grazing these crops (particularly the summer annuals) they are grazing at eye ball level and not at ground level. This is important as the larvae are not able to move up that high on the plant so a browsing animal is less likely to ingest the larvae and get re-infected.
Browse

By design, goats are natural browsers and not grazers. Browsers want to eat at eyeball level and up and grazers prefer to graze head down between their feet. Having browse available can be a high quality forage to help with animal performance but can also help to break the parasite cycle by allowing the goats to graze in another area during high parasite load times and grazing (actually they would be browsing) higher above the ground. Browse at SIPAC can be anything from spiny amaranth, pig weeds, cocklebur and iron weed that grow well in our winter feeding and feedlot areas to invasive species (multiflora rose, bush honeysuckle, and autumn olive) that are starting to invade the understory of our woods. All of these “weeds” can be a high quality forage crop for the goat herd that they will readily choose to eat before a quality grass legume pasture if given the choice.

Quality fence materials

Many of the things we do with goats at SIPAC could not be done without the use of quality fencing materials. Our exterior fencing is mostly high tensile 12.5 guage wire with 4” spacing for the first 18 inches or so as well as being energized. We also use some woven wire that is 4” x 4” squares that prevents the goats getting their heads stuck through the wire. For interior fences we use exclusively temporary fence. At SIPAC, this may either be electo-netting from Premier Fencing or a 4 wire poly wire product called Smart Fence from Gallagher. There may be other companies that have similar products available. We use a large low impedance 110 volt energizer in most places but also have solar panels and a 12 volt energizer system for use in browse or isolated areas. It is important to have a good ground system and that the fence stays hot all the time (greater than 4000 volts). When building a goat fence, keep the following advice we received in mind “Build the fence you think will hold a goat and then throw a bucket of water at it, if water gets through so will a goat!” The point is use quality materials and know it takes a more substantial fence to keep goats contained than it does cattle.