

Controlled Breeding Season Management for Meat Goats

Introduction

Controlled breeding season is defined as the restricted period determined for mating. It allows producers to develop uniformity among kids, facilitate scheduled management practices and the culling process, develop marketing strategies, and make better use of management resources in general.

The Alternative to Breeding Year Around

In some meat goat herds, bucks are kept with the breeding doe herd for breeding all year. Primary reasons given are that pens are not available to manage the bucks separately or that there is a desire to have kids available to sell year-round. A small area (5,000 to 10,000 sq ft/buck) with no shared fence-line with does is sufficient to maintain bucks when not servicing does. It is important that the pen be large enough for all bucks to exercise and not be crowded.

Various aspects of herd management will be inefficient if does are allowed to become pregnant throughout the year. There will be dry does, pregnant does of various stages, and does nursing kids of various ages at any one time in the herd. Sound nutritional management is dependent on feeding animals based on nutritional needs. It is difficult to properly feed all animals in the herd with year-round breeding. Either pregnant and lactating does will be underfed or open does will be overfed, both scenarios leading to reduced animal performance and(or) increased annual feed expenses. With a controlled breeding season, all does in the breeding group will be at the same stage of reproduction and require one uniform nutritional program to match their physiological status.

Herd health management can be problematic with year-round kidding. Year-round kidding means year-round weaning. Vaccination protocols will be more laborious as a few does and kids may require vaccinating each month. The costs of vaccination increases as small volumes are purchased repeatedly and(or) there is a greater number of unused doses discarded. More problematic will be gastrointestinal parasite control. Does in the last stages of pregnancy and through the preweaning period will be most susceptible to internal parasitism. The need to deworm herd members will be greater as there will be a constant presence of pregnant and lactating does in the herd. With a controlled breeding season, all does will be of similar reproductive status and parasite susceptibility allowing for strategic herd deworming if conditions warrant. With year-round breeding, group treatments with dewormers or other medications can lead to lost pregnancies if does of unknown pregnancy status are treated.

Record-keeping and performance recording become difficult in year-round breeding herds as contemporary groups are small and environmental factors across the seasons confound whole-herd assessments genetic merit for performance traits. Controlled breeding allows large numbers of doe-kid units under the same environmental management conditions permitting unbiased performance evaluations.

Reproductive problems in the doe herd may go undetected for extended periods of time as there is no defined time at which a doe is expected to kid. Records become extremely vital to determine intervals from kidding to kidding for individual does and whether or not a doe is reproductively sound. It may take a year or more to detect a herd infertility problem resulting from an ineffective

breeding buck or a reproductive disease issue. The delayed recognition of reproductive problems is likely to occur in a year-round breeding herd and has direct economic impacts. Controlled breeding makes the detection of infertility issues significantly more practical and timely.

Marketing advantages are often cited as a reason for year-round breeding. This may be true in the small proportion of herds that sell most of their market kids through on-farm sales at one or two kids at a time. The majority of producers sell through traditional off-farm outlets requiring transport to the point of sale. In the majority of herds, marketing advantages are to be gains through the offering of a large number of uniform aged kids at a predetermined date, preferably when prices are expected to high based on historical market trends. Kids in volume will also offset transportation costs from farm to market.

All of the problems and inefficiencies noted regarding the nutritional, health, genetic, and marketing aspects of herd management outweigh the perceived benefits of year-round breeding management. Controlled breeding allows the manager to 'control' the various aspects of the breeding herd, not just the breeding season. Well defined breeding sessions positively impacts all phases of herd management as resources including labor, time, land/feed, and others are used more effectively.

Establishing a Breeding Season

In order to establish a controlled breeding season, producers need to be aware of climatic and environmental changes of the region, as well as the forages and nutritional management of goat herds. The following factors should be addressed:

- September to December is the period of higher cyclicity or ovarian activity. You might need added management to breed does outside the breeding season.
- Assess the body condition score of the does. Females should be in good condition going into the breeding season.
- Provide good nutritional and health management practices. Deworm does and bucks if needed. Does that maintain a good body weight throughout the lactation period will be able to cycle and become pregnant. They should not be too fatty or over conditioned. Both the nutritional and health status will influence body condition, including internal parasites burden.
- Consider how parturition and preweaning periods will be managed. Define the best season suited for birth of offspring. Winter kidding may require shelter to minimize death due to cold exposure.
- Summer kidding results in reduced kid growth and requires nutritional supplementation for does and kids. Summer kids may also increase internal parasite burden in the doe/kid unit. Kids born in early spring will be weaned during early summer. Thus, does will be grazing on better spring pasture, increasing the chance to wean heavier kids. Does kidding in late spring and earlier summer will raise kids when pastures have lower forage quality and higher worm burden. Does on summer pasture may demand more nutritional supplementation, may loose body weight and condition if supplements are not provided, and wean the kids with lower body weight. Alternatively, breeding season can be during the spring (April and May) for fall-born kids. The temperatures are favorable for kid survival, and pasture conditions are of good nutritional quality. Kids can be weaned during winter, although nutritional supplementation may be needed; weaning during the winter offers the advantage of a lower worm burden in the pastures and a better market environment in terms of prices received.
- Know the target market and how the age and weight of kids produced fit the market based on planned breeding and kidding times. Observe the best time to market kids. In a commercial meat goat operation, the recommendation is to market kids soon after weaning to prevent increased costs of production.
- A breeding season should last no longer than 45 days, or two cycles per doe to be bred by mature bucks.

Set Up a Breeding Group

In larger herds, consider forming smaller breed groups in 30-day intervals. For example, in a herd of 300 does or more, divide the herd into two groups of 100 does each. If all 300 does are bred at the same time, the kidding season will be concentrated and may be overwhelming for the management team. Smaller, separate kidding groups can minimize stress on labor and other resources.



until breeding season. Place bucks in pens or pastures with good-quality forages, and allow them to exercise to encourage good health during the breeding season. Provide shelters and shade to facilitate cooling on hot days. Hot temperatures can cause poor quality ejaculates. A well-nourished, healthy buck will produce good semen that is sufficient in quantity and quality. However, avoid overfeeding bucks because a heavy buck will display poor libido and fertility.

Nutritional Management

Group does by class, such as lactating versus dry does or young versus mature does. Feeding strategies are also required. Feed the animals based on the nutritional requirements. Flushing is recommended for does with poor body condition or for does that lose a significant amount of weight during the lactation period. Flushing is a management practice where a ration or concentration of high-energy content or total digestible nutrients (TDN) is provided to does (1 to 1.5 lbs/head/day) during the 30 days prior to the breeding season. Flushing has been reported to increase ovulation rate by 10 to 20 percent. However, this nutritional management will favor does that are in poor body condition. Fat does will show little or no response. This management practice should include good-quality forages, free-choice mineral and good-quality water.

Buck Management

Give special care and attention to bucks. Throughout the year, isolate bucks from does

Before the breeding season, examine bucks to assess physical condition. Examine feet and legs, sense organs (nose, eyes, ears, mouth, and skin), reproductive organs (testicles, scrotum, and penis), and other physical features. The buck should be free of injury or other impairments that would interfere with his ability to maintain body condition, detect does in heat, and/or breed the does. During the examination, identify any diseases and concerns such as abscesses, parasites (internal and external), respiratory conditions, and other signs of disease that can put the health status of the doe herd at risk.

Lower pregnancy rates in goat herds can be attributed to a buck's poor libido, serving capacity, or fertility. If possible, check the quality of a buck's ejaculate just prior to the breeding season. Bucks can display temporary or permanent infertility. If you detect infertility, you can replace the buck without affecting the pregnancy rate. When first turning out a buck, observe the herd to identify problems with buck breeding activity, and respond accordingly.

If you are using a buckling as a herd sire, have the buckling serve few does. This will prevent over use and avoid severe weight loss in the buckling. In many situations, severe weight loss impairs future growth and development.

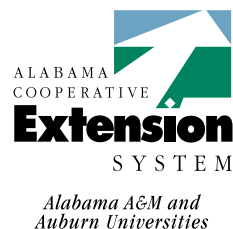
Mating Behavior of Bucks

In general, a buck approaches a doe in heat and smells the doe's vulva and urine. Usually, the doe in heat urinates frequently when stimulated in the presence of a buck. In an effort to see if the doe will allow mounting, the buck makes rapid licking movements or

curls his upper lip to the air. This is called the olfactory reflex, or "Flehman." Then, the buck presents sexual arousal, erection of the penis. If the doe is receptive to mounting, she will stand to be mounted. The intromission of the penis is next, followed by ejaculation. The copula and ejaculation of goats occurs in a fraction of seconds. After ejaculation, the buck displays a typical and characteristic movement backward when dismounting, indicating that the copula and ejaculation is complete. The doe retracts the posterior, and a collection of visible seminal fluid can be seen flowing from the vulva.

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