

HERD MONITORING:
IDENTIFYING HEALTH AND PRODUCTIVITY PROBLEMS
BEFORE THEY BECOME EMERGENCIES

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Proactive approach: check regularly to be sure all is healthy, don't wait until the goat is sick or the farm is emotionally or financially bankrupt.

"A sick goat is a dead goat." Think of the ancestral goat as a herd animal, with predators circling around looking for the weak and the sick. The goat that showed it was sick became lunch. Signs of illness are apt to be subtle, easier to spot in a pet than in one member of a flock of Angoras or meat goats.

What can you monitor?

1. The appearance of health and happiness of each goat at least once a day, of late pregnant and lactating goats and young kids at least twice a day.
 - a. Animals present and accounted for.
 - b. All four legs touch the ground, gets up with a sumptuous stretch.
 - c. BAR = bright, alert, and responsive: clear eyes, not star gazing, not grinding teeth (nonspecific sign of pain).
 - d. Straight back, not hunched up or straining (urinary obstruction in male, dystocia in female) or shaking.
 - e. Full abdomen, not tucked up; lift each young kid with a hand under the belly to verify it is eating well.
 - f. Smooth hair coat.
 - g. Eating, normal feces.
 - h. Breathing not labored. Panting usually OK in hot weather. No more coughing than usual.

2. The feet and body condition of every goat once a month.
 - a. Check feet with foot trimmers in hand! Trim if needed.
 - b. Know how to body condition score - see appendix. Record.
 - c. Weigh kids once a month and record. This means you must have identification of the kids. If the farm is overrun with kids, weigh the same subset each month: 5 singles, 5 twins, 5 triplets (10 if raising males and females).
 - d. Weigh kids before and after weaning to verify nutrition and coccidiosis control.
 - e. Weigh doelings before breeding - should be at least 60% of adult weight. Ex - most dairy breeds 70-75 pounds.
 - f. When selecting replacement animals, don't keep the ones that stopped growing several

months ago!

3. The nutrition of the herd.

- a. Know how much grain is in your scoop and how much you are feeding each day.
- b. Know how many goats you are feeding and if your feeding system allows them all to eat.
- c. Know how long the bag of grain lasts - this should agree with the calculations from a) and b).
- d. Know and keep the ingredients list for concentrates and milk replacers. Tape it to the inside of the lid of the can you store the feed in.
- e. Know hay types and qualities, how to sample hay bales, baylage, how to read the forage reports if you buy hay from a farmer.
- f. Understand how feeding extra forage increases consumption and nutritional value.

4. The parasites in your herd.

- a. Fecal consistency and growth of kids, especially those born late in the kidding period, as an indication of coccidiosis.
- b. Mucous membranes of eyes (inside of lower eyelid), mouth, vulva for anemia (coccidiosis in kids, *Haemonchus* sucking blood in abomasum, lice sucking blood from skin).
- c. Fecal egg counts 3 to 4 weeks after kidding.
- d. Worm egg reduction tests if worming more than 3 times a year or counts are high (perhaps over 400 epg).
- e. External parasites at shearing time.
- f. Slaughter checks (flukes, lungworms).

5. Udder health.

- a. Meat and fiber goats - palpate udder before weaning and before breeding, whenever kid looks hunched up and shivery, or if the doe is lame in a hind leg. Don't keep goats with udder problems.
- b. Dairy goats
 - i. clinical mastitis daily - palpate udder and remove first squirt of milk from teats.
 - ii. somatic cell count monthly - CMT or DHIA. Understand seasonality and estrus effects, importance of differences between halves.
 - iii. culture bulk tank sample if counts > 750,000 and not at tail end of herd lactation.

6. Reproductive efficiency.

- a. Buck fertility; returns to estrus during breeding season. Record breeding dates in a dairy herd. This permits proper dry period and decisions about handling goats with injuries or pregnancy toxemia.

- b. Ultrasound for pregnancy and false pregnancy if possible.
- c. Number of abortions versus number of false pregnancies or cloud bursts. If late pregnancy abortions occur, get laboratory help to rule out infectious diseases. Freeze placentas and kids from first abortion if you choose not to submit them for laboratory examination - you may need those samples later.
- d. Number of kids born, kids weaned as percent of does bred and does kidding. More kids in the uterus means higher hormone levels and slightly higher milk production (unless get pregnancy toxemia).
- e. Nutrition adequate for fertility, for placental development?

7. Other diseases.

- a. CAE serology at least twice a year if on eradication program.
- b. Abscesses monthly - palpate lymph nodes when body condition scoring.
- c. Johne's disease - lab tests twice a year if eradication program, cull based on body condition score if this or other chronic disease in herd but not testing for it.
- d. Fleece quality
- e. Slaughter checks if do home slaughter.
- f. Necropsy of kids and adults that die whenever possible.

8. Barn environment.

- a. Bunk space
- b. Eating behavior and dominance problems.
- c. Air quality at goat level.
- d. Humidity - no moisture on windows!
- e. Dryness - are you willing to kneel or sit in the doe pen? in the kid pen?
- f. Light - natural light from windows? Can you clearly see all the goats when you check the herd?

9. The results of nutrition, management, and disease control efforts.

- a. Weaning weights and ages. Dairy breeds do best if at least 20 pounds when weaned.
- b. Body condition score at important times - see appendix.
- c. Milk production
 - i. amount
 - ii. butterfat as an indication of fiber fed, as well as genetic selection.
 - iii. protein as an indication of energy fed as well as genetic selection.
 - iv. lactation curves.
 - v. DHIA data.
- d. Weight of first 10 kids born, as indication of nutrition during pregnancy.
- e. Fiber production and quality. Small quantities of very fine fiber suggest malnutrition or parasites.
- f. Disease incidence:
 - i. pregnancy toxemia - urine ketones checked if goat doesn't seem right; otherwise, presence of ketones is indication of how many kids the doe is carrying.

Regularly checking urine of all does will drive you crazy.

ii. indigestion from excess grain feeding, inadequate roughage.

iii. polioencephalomalacia (blindness, eventual convulsions) suggests rumen upset or excess sulfates in diet.

iv. weak newborn kids - suggests vitamin E/selenium problems, inadequate doe nutrition for colostrum production, inadequate feeding of colostrum. Take temperature of weak kids to check for hypothermia. Could also be a sign of an infectious abortion disease.

10. Financial health.

a. Honestly record costs

i. feed

ii. animals

iii. electricity

iv. time - yours and that of other family members

b. Honestly record profits if any

i. milk sold, not milk produced

ii. kids sold, not kids born

iii. fiber sold, not fiber shorn

c. Are the goats for fun or profit? Can you afford them?

11. Emotional health.

a. Monitor happiness and satisfaction of self, spouse, and children now.

Did you want to go to the barn this morning?

b. Repeat after kidding is over.

c. Repeat after kid crop sold (Easter).

d. Repeat after show season is over.

e. Can the situation be improved by decreasing herd size? Does your herd pass the toe test = would you let a visitor inspect the feet today and feel no need to apologize for how well they are trimmed?

BODY CONDITION SCORING OF GOATS

Dairy goats which have inadequate body reserves at breeding or parturition are at risk of lowered fertility or mediocre milk production. Obese does are prone to pregnancy toxemia and slow parturition, with ill effects on the viability of the kids. Energy reserves are more easily mobilized than protein stores, such that body condition is often confused with fatness. Body condition encompasses both adipose and muscular tissues and varies with physiologic state. At dry-off (3.5 months before kidding in France), the goat has minimal nutritional requirements and is in a positive nutritional balance; fat and protein are stored. At the end of gestation, the goat's appetite is reduced but the fetal requirements are increased and reserves are mobilized. After parturition, the negative energy balance is exacerbated as milk production increases more rapidly than dry matter intake.

Two months into the lactation the average goat achieves a positive nutritional balance and begins to replace lost body stores. Owners who accurately determine the body condition of their goats are then in a position to feed accordingly. Goats (except Nubians and Boers) have very little subcutaneous fat even when vast quantities of fat are stored in the omentum. Thus visual assessment of the goat is inadequate. Instead, the authors recommend palpation of two body regions: the lumbar area (as in sheep) and the sternum, the only place where subcutaneous fat is consistently deposited in dairy goats. Research trials have shown that body condition scores correlate better than live weights with the adipose tissue content of the goat, as fluctuations related to time of day, ingestion, excretion, etc. are eliminated.

Lumbar palpation, as in sheep, involves feeling for the transverse and dorsal spinous processes behind the last rib and assigning a score of 0 (bone only present) to 5 (muscles and fat bulge up on each side of the spine).

Sternal scores are as follows:

0 Costo-sternal articulations very prominent, the bony surface of the sternum is easily felt and the skin callus over the sternum lacks mobility.

1 Costo-sternal articulations more rounded but still easily felt. The depression over the sternum is not filled in but the callus is movable.

2 Costo-sternal articulations are difficult to feel. Internal fat pads develop under the muscle layers on each side of the sternum, and subcutaneous fat fills the central depression.

3 Distinct depressions palpable on each side between the mass of fat and muscle and the bone.

4 Sternum and ribs are no longer palpable but a slight depression is still palpable on each side.

5 Subcutaneous fat is no longer mobile. No depressions are palpable laterally or caudally.

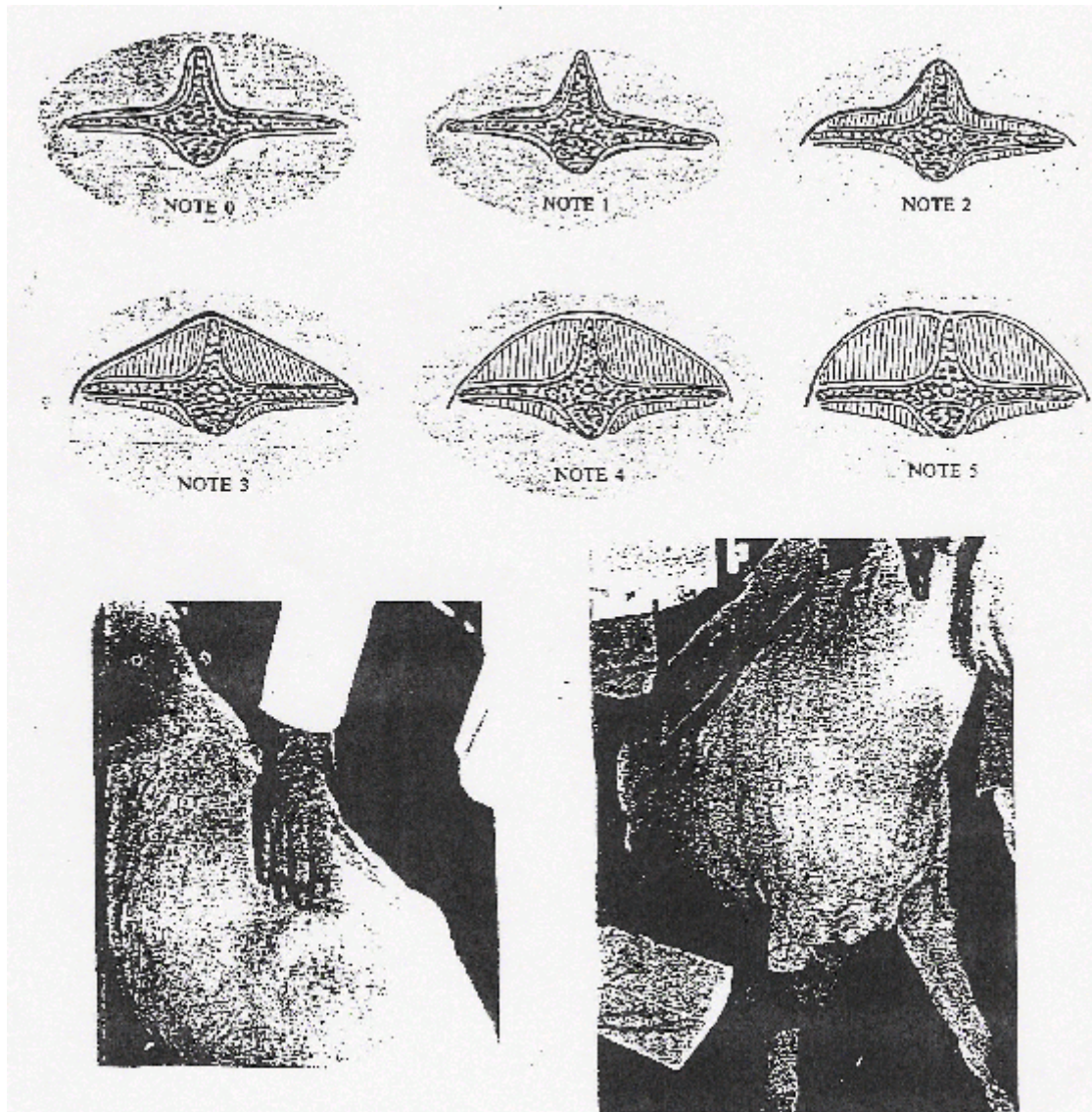
The final score is determined by averaging lumbar and sternal scores.

Scores recommended are:

at dry-off, 2.25-3.5

before parturition, 2.75-3.5

after 45 days lactation, at least 2.0 with no more than a 1.25 decrease since parturition.



[Abstract of an article by the French goat nutritionist, P. Morand_Fehr et al (La Chevre 175:39-42, Nov-Dec 1989) as printed in volume 18 #2, 1990 Wool & Wattles, the newsletter of the American Association of Small Ruminant Practitioners - with permission of the editor.]