

How Big Should a Grazing Cell Be?

Photos by Author

—Ulf Kintzel

Interactions with customers bring up new questions and these questions bring on new topics. Today's topic is such an example. On occasion I am doing some consulting services, mostly for folks who wish to start raising sheep or are at the beginning stages. These meetings are very praxis-oriented and based on my experience.

During such meetings I stress the importance of rotational grazing and emphasize the advantages of a daily rotation versus a three-to five-day rotation versus a weekly rotation. While having such a conversation, I was asked how big a grazing cell had to be for a daily rotation. Hmm, good question. How do I answer something that I decide by looking at the pasture in front of me, taking the time of year, stage of growth, available forage, weather, forage species, and other factors into account? How do I answer a question in one or two sentences that is supposed to make up for years of experience and still give the person asking something he or she can use? Well, this article is an attempt to answer this, possibly using more than just two sentences....

Before I start, I should mention that there is a grazing or pasture stick available. The NRCS offers one. You can measure the available forage. I have never used it, but it has been explained to me on pasture walks and for the sake of this article I viewed a YouTube video as well that explains the use. I have no doubt that this is a valuable tool to measure tonnage, but it doesn't account for several things that influence how the available forage is utilized. For instance, is the forage palatable and wholly usable or are there parts that are too mature and fibrous? What are the species in the forage? Are they liked like orchard and blue grass or strongly disliked like fescue? Is it a dry day when the sheep graze the pasture or is it wet and more forage is contaminated with soil while moving around and thus not eaten? Is it spring and grazing a little shorter is without consequence or is it summer and more residual is highly desirable? The measuring stick can't tell you all that. So there is more to deciding on the size of a grazing cell than just measuring available forage in terms of tonnage.

Let's first establish the goal when we discuss the size of a grazing cell. Let's first assume that a once-a-day rotation

The flock is grazing in its daily grazing cell.



is the desirable grazing practice. While the sheep are in this grazing cell, they should be able to fill themselves to the highest degree possible. To be successful, grass-fed requires exactly that when grazing: full sheep every day. They should, however, still leave residual on average of about four inches. On one hand, you don't want to limit intake. On the other hand, the use of the pasture should be optimal. The cell not being grazed enough is not a desirable outcome either. Underutilization will lead, over time, to less desirable plants and plant parts. However, if you err, you want to err slightly on the side of giving too large of a grazing cell rather than too small. This way you will not deprive your sheep of nutrition. You also do better keeping them in. Full sheep test the fence a lot less than hungry ones.

In the following paragraphs I will describe what to look for and what to take into consideration when deciding on the size of your grazing cell, given the number and size of sheep you graze.

Density: The denser the pasture, the more dry matter you will have in your grazing cell. In fact, getting my pasture denser and denser is one important goal of mine. The denser the pasture, the smaller the grazing cell can be.

Palatability: Vegetative plants are the most palatable. Grass species and many other plants that start growing seed stems becomes less palatable. When the seed heads ripen, there will be a lot of lignin in the stems, which is entirely undesirable to the sheep and cannot be digested, or digestion is very limited. Leafy parts are very few at that stage. Under these conditions, you may have a lot of dry matter in the pasture, but intake will be down. You can still

let them pick through but expect that only 20 or 30 percent are being utilized. The grazing cell needs to be much larger than usual in such instance.

Grass species: There are grass species that are liked by sheep. Among them are orchard grass, rye grass, and bluegrass. However, there is one that sheep don't like. That is tall fescue. I have the finest and most palatable tall fescue on the market growing in one plot. It is only desirable to the sheep in late fall and early winter when its sugar content is higher. At other times, they'd rather go hungry than eat the tall fescue. What I don't know is what sheep do when the only available pasture consists entirely of tall fescue. Do they eat it better then or is intake still reduced? Perhaps somebody who knows can report back to me.

Amount of legumes: I recall one spring when I fenced in a grazing cell, confident it would be plenty for the day. I checked in the evening and was greeted by hungry sheep. Weather conditions had been favorable. What had happened? I had misjudged the density simply because the legumes hadn't started growing yet, just the grass. Legumes like clover need higher temperatures than grass to grow. That is why they grow later in the spring. A high content of legumes of at least 30 percent and up to 50 percent adds significantly to both density of pasture as well as desirability. Legumes of various kinds—white clover, red clover, bird'sfoot trefoil, alfalfa—are liked a lot by sheep.

pH: A pH between 6.5 and 7 allows for grass to grow that is "sweet." The lower the pH, the more sour the grass will taste. That reduces intake. More pasture will need to be offered at a low pH to allow for more selective grazing.





Content sheep are likely getting enough to eat.

rotation and work yourself up to the more desirable one-day rotation. And then I would take notes, mentally or on paper, what happened at the time of grazing and what the situation was when you got back to the same grazing cell and how different factors, like the ones mentioned in the paragraphs above, affected intake.

Turns out I simply cannot give a brief answer to the question of how big a grazing cell should be. Unless that pasture stick works wonders for

Weather: Dry weather is best for grazing. In all likelihood, whatever desirable plant is in the pasture will be eaten. Rain changes all that. First, the sheep that move around while grazing will step on plants and soil them with the picked-up dirt. Secondly, previously grazed pasture with manure lying around will stink. Just like a wet cloth stinks and a dry one doesn't (or stinks far less), wet pasture does too.

So, about one thousand words later I still haven't answered the question about how big the grazing cell should be, have I? It is not possible for me to say something like: for x number of sheep you fence in y square feet or acres of pasture. I can tell you that more often than not I fence in about three to four acres per day for about 300 sheep. However, that is on my pasture where I know pasture species, density, height, palatability, and anything else there is to know. And I always have the next grazing cells already set up for the coming days. That means when I check the sheep in the evening and I find they don't have enough to eat, say because it was a rainy day and some pasture was soiled, I am prepared to do a pasture shift that evening rather than the next morning. Again, I never let my sheep go hungry, not even for a single day.

Here is how I would go about it, if you are entirely new to this: I suggest you fence in a grazing cell and then observe. What was grazed? How much of it? Did the sheep "greet" you when you came to check, or did they appear content? Always have another grazing cell set up where the sheep can be let in if you underestimated what the flock would graze. Alternatively, start with a two-or three-day



Legumes like white clover increase the pasture density.

you, you will have to gain your experience over time as well. The more you observe, the quicker you will gain valuable experience. I wish I would have a better answer for you, but I am afraid that there is no substitute for experience no matter what you do and that just takes time—a lot of time. Sorry, many have searched for the silver bullet to substitute experience with it. None has been found yet. 🐑

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