

# Grazing Basics for Beginners

## What is Rotational Grazing?

Rotational grazing, also known as management-intensive grazing or rational grazing, means moving animals through pastures subdivided into paddocks in order to manage their nutritional needs, maximize plant growth and soil health, and balance the farmer's quality of life. Movement does not necessarily mean traveling from paddock 1 to 2 to 3 in a linear order, as much as watching grass growth and setting up systems to allow the animals to be moved easily to the next paddock subdivision as it becomes *available*.

## How much forage will my animals eat?

Forage includes grass, legumes (such as clover or alfalfa) and forbs (dandelion, plantain). Dry matter intake is calculated based on percentage of animal weight. Different species and conditions require different percentages of body weight, for example:

- Lactating dairy cow 3.0%
- Dry beef cow 1.5-2.0%
- Horse 1.0-2.5%
- Sheep/goats 3.5%

## How do I figure out how large my paddocks should be?

Paddock size is determined by:

1. Number, weight, type animals
2. Dry Matter Intake (DMI)
3. Dry Matter available per acre
4. Length of time in each paddock

### For example:

30 lactating dairy cows (1000 lbs. each) X 3% DM intake X 1200 DM available (per acre) X 1 day = .75 acres  
.75 acres X 1200 lbs available dry matter per acre = 900 lbs. dry matter  
An acre is 43,560 square feet, or a roughly 208' X 208' square.

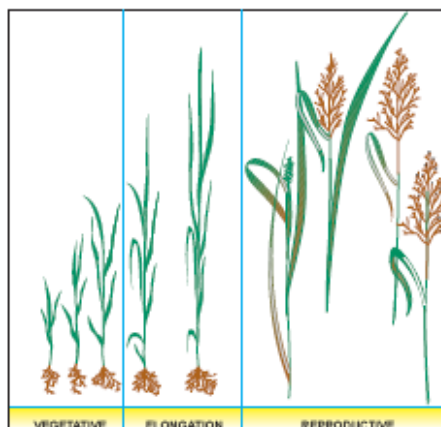


Figure 2. Developmental stages of grass growth.

## How much dry matter is in my paddock?

Dry matter means the total plant matter with all moisture removed. Density of the plant sward, plant composition and plant height all contribute to total dry matter. An average quality pasture with a height of 8" should contain a total of about 2400 lbs of dry matter. That dry matter includes all plant matter down to the soil, so it's important to remove manured areas, spoilage and the bottom 3+ inches of the forage as you estimate. A paddock containing 2400 lbs total dry matter REALLY contains about 1200 lbs of AVAILABLE dry matter. Methods to more accurately measure dry matter include grazing sticks and rising plate meters. With practice, you will get accustomed to paddock sizing according to what the animals eat (and what they refuse/waste), but in the beginning it's helpful to measure. When in doubt, estimate low. It's better to have more feed than less.

## How often should I move the animals?

The frequency of animal movement depends upon livestock nutritional needs, amount and quality of feed available, the size of the paddocks and the farmer's schedule. Lactating, high production animals such as dairy cows are often moved each milking to give them access to the highest quality freshest pasture. Beef cows and nondairy sheep and goats are often moved every one to three days. Decisions about when to move the animals also depend highly on the farmer's schedule and labor situation. If a beginning farmer works an off-farm job, it might be most convenient to move the animals every three to four days, so size your paddocks appropriately to provide enough feed for that time.

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### How do plant growth and timing fit into the system?

One of the most important things to keep in mind about rotational grazing is the importance of **rest** to the pasture plants. After about three days, plants begin to regrow and allowing the animals access to this tender new growth area can really set the plants back. Regrazing the new growth can lead to a reduction in desirable plants, and soil erosion as those plants recover more slowly. From a more seasonal perspective, in the spring when cool season grasses are producing at their highest rate, it seems like there is too much grass, but when those grasses slow down and legumes are more available, you may be surprised by how little comparative feed you have. Paddocks which regrow in two weeks to a good grazing density and height in June may now take 40+ days to recover. It's important to plan additional grazing land to access later in the season. One option is to target haying in the early summer to capture that extra grass, and graze those hay fields later. Caution: grass and legumes grow from specific points on the plant. The higher the growth points, the less adapted to grazing plants are.

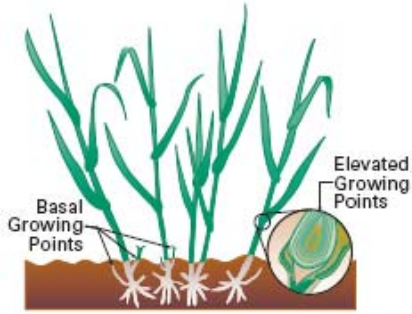


Figure 6. Elevated growing points are vulnerable to removal by grazing.

For example, Kentucky bluegrass has a low growing point and is a terrific grazing grass, but Timothy—typically a hay crop—has much higher growing points. Under intensive grazing management, the Kentucky bluegrass will likely out compete the Timothy for sunshine and resources. As you set up a rotational grazing system, don't be afraid to set up a "sacrifice area"—an area where you have the ability to put the animals and feed them as long as you need to allow the pastures to rest while preventing long term damage.

### I want to get started grazing...what should I do first?

1. **Take soil tests** to determine the status of your land's nutrient balance.
2. **Learn, research and plan** the systems you think would work best given your interests, species, personal schedule, budget and other factors.
3. **Set as much of your infrastructure up ahead** as you practically can, such as water and fencing laneways, which will make your system much easier to manage at the height of the busy summer season, when things tend to slip.

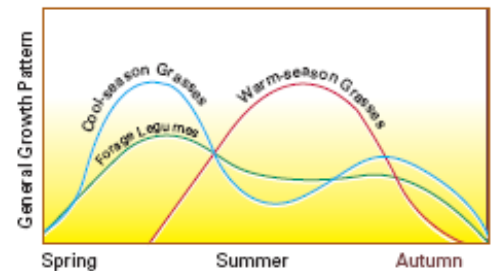


Figure 5. Different types of pasture plants are productive during different parts of the grazing season.

### Conclusion:

Once your grazing system is operating, expect that your management will need to adapt to changing conditions, such as environmental changes, seasonal variation, social interaction of the animals, your schedule, plant species present and more. **There is not one right path to grazing success**, but understanding the underlying principles of good grazing will help start you in the right direction.

### Resources:

*The Grass is Greener on Your Side of the Fence*, by Dr. Bill Murphy, Arriba Publications

Vermont Pasture Network web site: [www.uvm.edu/pasture](http://www.uvm.edu/pasture)

UVM Soil Testing Lab: [www.uvm.edu/pss/ag\\_testing/](http://www.uvm.edu/pss/ag_testing/) (802) 656-3030

VT USDA NRCS offices: [www.vt.nrcs.usda.gov](http://www.vt.nrcs.usda.gov)

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