Calculate your stocking rate.

Once you know your animals' requirements, and your land's production, it is easy to estimate how much forage you have available for your livestock.

You will need the following numbers:
- Pasture Size ________ acres
- Pasture Production ________ lbs/acre
- Animal Requirements ________ lb/day

**Example**

**Assumptions:**
- 30 acres Northern Plains native range
- 15-19 inch precip zone
- Clayey range site
- Mixed Sagebrush - Grass community
- Predicted plant production:
  - Favorable precip year = 2,400 lbs/acre
  - Average precip year = 1,650 lbs/acre
  - Poor precip year = 900 lbs/acre

1,200 lb horse will eat 36 lbs of dry matter/day

In an average year this pasture will produce 49,500 lbs of forage. (1650 lbs/acre x 30 acres)

_Half of this must be left in place to keep the plants healthy, and 15% will be lost to other grazers (deer, antelope, rabbits, mice, etc.). So only 35% of this is available to domestic animals._

This pasture has 17,325 lbs of available forage (49,500 lbs x .35) and can support one 1,200 lb horse for 481 days (17,325 lbs / 36 lbs/day) or three 1,200 lb horses for 160 days (17,325 lbs / 108 lbs/day).

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What is Overgrazed?

Overgrazed is the term used to indicate a degraded condition and composition of the plant community as a result of grazing impact. Specific indicators of an overgrazed pasture include lack of vegetation, or a shift in types of plants away from those desirable to livestock, weed infestations, compacted soil, stunted plants, reduced plant health, excess runoff and erosion, bare soil, and lack of organic matter.

Natural Resource Problems with Overgrazing

**Soil:** Overgrazing causes reduced soil fertility rates and low soil infiltration rates. These problems are indicated by excess runoff, erosion, hard and dry soil.

**Water:** Overgrazing can contribute to water pollution because of increased runoff carrying manure and sediment, and hungry animals spending more time in higher forage producing areas near streams and reservoirs (increasing the likelihood of fecal contamination).

**Air:** Overgrazing reduces plant cover which can cause air pollution in the form of dust storms.

**Plants:** Desirable plants in an overgrazed pasture will be negatively impacted. Plants with a higher relative forage value, or those that are palatable to livestock will be grazed more intensely. This will make them less competitive against low quality forage plants and noxious weeds.

How much does your livestock eat every day?

- Forage required by an animal is commonly measured in Animal Units or an AU. It is a way to compare different animals and their feed requirements.
- One mature pleasure horse will eat approximately 35lbs of grass or hay per day (1.25 AU).
- A 1,000 lb cow not lactating will require approximately 25 pounds of grass or hay per day (1.00 AU).
- A mature ewe or doe goat will eat 4-5 pounds of grass or hay per day (0.2 AU).

Alpaca requirements are similar to those of sheep.

During winter months, or whenever forage quality is decreased, supplemental feed is required. This may be in the form of a complete feed, a grain, or a protein supplement. Replacement feed in the form of hay, may also be required if there is insufficient forage available.

How much does your land produce every year?

In order to estimate the amount of forage your land will produce in a year there are 3 things you need to know: ecological site precipitation zone, soil type, and present plant community. With these 3 things you can look at references from the Natural Resources Conservation Service (NRCS) and find an estimate of the forage production capacity of your land. The UW Cooperative Extension Service Office or the Sheridan County Conservation District can help you determine your ecological site precipitation zone and provide the NRCS references to you!

Sheridan County has three ecological site precipitation zones. These are High Mtns with over 20 inches of annual precip, Northern Plains with 15-19 inches of annual precip, and Northern Plains 10-14 inches of annual precip.

The next page has an example of what a production table looks like for the Northern Plains 15”-19” annual precipitation zone, on clayey soil.