Estimating Forage Production (lbs/acre)
Northwest Wyoming (Park County)
Big Horn Basin - 5 to 9" Precipitation Zone

EXAMPLE

Range Site	Plant Community	Unfavorable Year	Average Year	Favorable Year	Average Year AUM's/ac	Average Year ac/AUM
Loamy (Ly)	Bluebunch Wheatgrass-Rhizomatous Wheatgrass-Needleandthread	225	400	600	0.2	5
	Perennial Grass-Big Sagebrush	180	320	480	0.16	6.25
	Big Sagebrush-Bare ground	200	300	400	0.1	10
	Blue grama Sod	55	100	150	0.05	20.00
	Salt Tolerant Shrub-Bare Ground	125	225	350	0.07	14.28
	Salt Tolerant Shrub-Rhizomatous Wheatgrasses	200	300	425	0.16	6.25

These are example figures only (information from the Natural Resources Conservation Service). For site specific production values please contact individuals listed on this brochure under contact information.

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 Big Horn Basin native range
5-9 inch precip zone
Loamy range site
Perennial Grass - Big Sagebrush community
Predicted plant production:
Favorable precip year = 480 lbs/ acre
Average precip year = 320lbs/acre
Poor precip year = 180lbs/acre
1,200lb horse will eat 36lbs of dry matter/day

In an average year this pasture will produce 9,600lbs of forage. (320lbs/acre x 30acres)

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 **3,360 lbs of available forage** (9,600lbs x .35) and can support **one 1,200lb horse for 93 days** (3,360 lbs / 36lbs/day) or **three 1,200lb horses for 31 days** (3,360 lbs / 108lbs/ day).

Contact Information:

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Grazing Livestock on Small Acreages

Photo USDA ARS

Small Acreage Grazing

As Wyoming county populations grow, more and more people are purchasing and building homes on land parcels ranging in size from one to 40 acres. Many of these buyers desire to own livestock for hobby, pleasure, or 4-H agricultural projects.

Animals grazing on small acreages can create a large number of resource problems that people may not be aware of. These problems include a shortage of grass cover resulting in soil erosion, reduced soil quality, reduced plant palatability, and increased weed species. This brochure is designed to help landowners properly care for livestock on small acreages and still conserve soil, protect palatable forages, and preserve water quality.

Which side do you think is more likely to absorb water from rainfall? Which side will let water run off?

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.

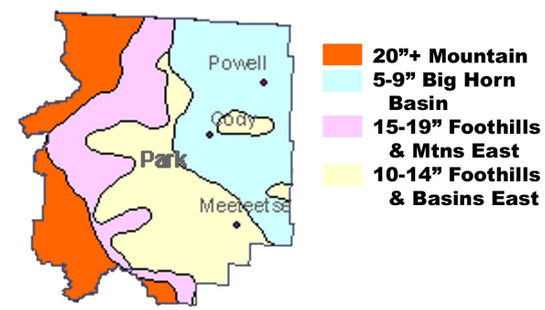
During winter months, or whenever forage quality is decreased, supplemental feed is required. This may be in the form of a complete feed, a grain, or a protein supplement. Replacement feed in the form of hay, may also be required if there is insufficient forage available.

Animal	Weight	AU equivalent	# Animals per AU
Cow	1,000	1.000	1.000
Cow	1,500	1.500	0.667
Heifer	700	0.800	1.250
Steer	700	0.850	1.176
Mature Bull	1,700	1.500	0.667
Milking Cow		1.500	0.667
Working Horse	Mature	2.000	0.500
Saddle Horse	Mature	1.250	0.800
Colt < 2 yrs		0.500	2.000
Sheep	120	0.200	5.000
Goat	Mature	0.170	5.882
Elk	600	0.660	1.515
Mule Deer	125	0.220	4.545
Pronghorn	90	0.170	5.882
Breeding Hogs		0.370	2.703
Slaughter Hogs		0.110	9.091
Layer Chickens		0.002	454.5

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 Cody Conservation District or the UW Cooperative Extension Service Office can help you determine your ecological site precipitation zone and provide the NRCS references to you!*

Park County has four ecological site precipitation zones . These are High Mtns. with 20+ inches of annual precip, Foothills and Basins East with 10-14 inches of annual precip, Foothills and Mtns. East with 15-19 inches of annual precip and Big Horn Basin with 5-9 inches of annual precip.



The next page has an example of what a production table looks like for the Big Horn Basin 5"-9" annual precipitation zone, on loamy soil.