Estimating Forage Production

Northeast Area Wyoming (Campbell-Crook-Weston Cntys)

Northern Rolling High Plains - 10 to 14" Precipitation Zone

Range Site	Plant Community	Unfavorable Year	Average lb/year lb	Favorable Year	Average Year AUM's/ac	Average Year ac/AUM
Clayey (CY)	Rhiz. Wheatgrass-Green Needlegrass	600	1,100	1,400	0.40	2.50
	Heavy sagebrush	600	900	1,200	0.30	3.33
	Creasewood-Wheatgrass	500	700	900	0.20	5.00
	Mixed sagebrush-Grass	600	900	1,200	0.33	3.03
	Blue grama-Pricklypear cactus	400	650	900	0.20	5.00
	Go-back	500	700	900	0.20	5.00
	Introduced grasses	800	1,600	1,200	0.75	1.33

Estimated forage production of different plant species growing in clayey soil in Northeastern Wyoming. Forage production may be subject to change depending on soil type.

Calculate your stocking rate.

Once you know your animals requirements, and your land's production, it is easy to determine 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 Great Plains native range 11-14 inch precip zone
Loamy range site
Low-Good range condition
Predicted plant production:
Favorable precip year = 1300 lbs/ acre
Average precip year = 975lbs/acre
Poor precip year = 360lbs/acre 1,200lb horse will eat 36lbs of dry matter/ day

In an average year this pasture will produce 29,250lbs of forage. (975lbs/acre x 30acres)

Half of this must be left to keep the plants healthy, and 15% will be lost to other grazers (deer, rabbits, mice). **So only 35% of this is available to domestic animals.**

This pasture has 10,238 lbs (29,250lbs x .35) of available forage and can support one 1,200lb horse for 284 days (10,238lbs / 36lbs/day) or three 1,200lb horses for 95 days (284days/3 horses)

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Grazing Livestock on Small Acreages

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 Overgrazing?

Overgrazing is a term used to indicate poor rangeland or pasture land condition. Overgrazing happens when a grazing animal is left to graze too long in a particular area on the same plants. When livestock eat all of the regrowth of a plant multiple times in the growing season, needed energy cannot be transferred to root of the plant (for normal plant growth). Repeated overgrazing kills the plant. Signs of overgrazing include: weeds, bare ground, erosion, compaction of the soil surface and a noticeable reduction in desirable plants over time.

Natural Resource Problems with Overgrazing

Soil: Overgrazing causes soil compac-tion, reduced soil fertility rates, and low soil infiltration rates. These problems are indicated by excess runoff, erosion, hard, dry soil, and soil surface crusting.

Water: Overgrazing can contribute to water pollution because of increased runoff, and an increased concentration of animals time spent in higher forage pro-ducing areas near streams and reser-voirs.

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 im -pacted. Plants with a higher relative for-age 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?

One mature pleasure horse will eat approximately 35 lbs of grass or hay per day.

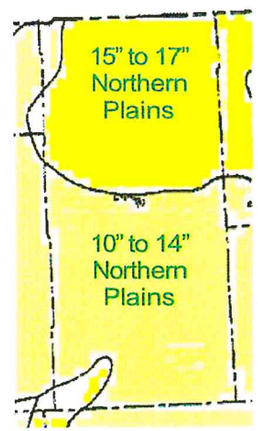
- A 1,000 lb cow not lactating will require approximately 25 pounds of grass or hay per day.
- A mature ewe or doe goat will eat 4-5 pounds of grass or hay per day.
- Alpaca requirements are similar to those of sheep.

During winter months, or whenever forage quality is decreased, supplemen-tal feed is required. This may be in the form of a complete feed, a grain, or a protein supplement.

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
MatureBull	1,700	1.500	0.667
Milking Cows		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	454.545
Rooster		0.004	250.000

How much does your land produce every year?

In order to determine the amount of forage your land will produce in a year there are 4 variable you need to consider, 1) eco-logical site, 2) annual precipitation zone, 3) soil type, and 4) condition. By taking advantage of your references at the Natural Resource Conservation Ditrict (NRCS) and understanding these four variables, you can estimate of the forage production capacity of your land. *This resource is available at either the Campbell County Conservation District or the UW Cooperative Extension Service Office.*



Campbell County has 2 zones. These are Northern High Plains with 10-14 inches of annual precipitation and Northern High Plains with 15-17 inches of precipitation. (NRCS, 2014)

The next page has an example of what a production table looks like for the Northern High Plains 10"-14" annual precipitation.