

WRANGLER

STOCKING

RATES

Wrangler Feed and Forage Balance



Grazing management relies on balancing the amount of forage produced on a ranch with the amount of forage harvested by grazing animals.

The amount of forage available determines the number of animals that can live on a ranch.

You can figure out how much forage is available by inventorying the ranch's forage resources.

Feed and forage inventory:

You need to gather basic information such as:

land use – range, pasture, hay, crop
acres

plant species – ex. pubescent wheatgrass, native range
site productivity

An example of a feed and forage inventory might include this information:

spring pasture	200 acres
pasture species	crested wheatgrass
production	.7 AUM's/Ac.

This information will lead you to a stocking rate.

What are stocking rates?

Stocking rates compare the forage needed to feed a grazing animal to the area available to provide the forage. A stocking rate is labeled in AUMs per acre.

What is an AUM?

915 pounds is an AUM or animal unit month. It is the amount of forage needed to feed a 1000 pound cow with a young calf for 1 month. This number is figured by considering that a 1000 pound cow with calf will eat about 30 pounds of dry matter each day. So, if you take 30 pounds X 30.5 days/month, a cow would need about 915 pounds of forage each month.

Say that you have one cow and one acre. You have determined that the acre of land produces half of the 915 pound forage requirement (457.5 pounds). Then you would know that a cow could graze that acre for $\frac{1}{2}$ of a month or 15 days. The stocking rate would be .5 AUM's/Ac.



Stocking rate guidelines

You can determine stocking rates by clipping and weighing the forage in a field or by using stocking rate guides that have been developed by range scientists.

Two tables are provided below. *Table 1* gives approximate stocking rates for the **basic Wrangler ecological sites**. *Table 2* provides basic stocking rate values for introduced pasture, hayland aftermath and crop aftermath. Aftermath is the forage left after crops are harvested. For example, wheat stubble.

	Ecological Sites	Run-in <i>AUM's/Ac.</i>	Normal <i>AUM's/Ac.</i>	Run-off <i>AUM's/Ac.</i>
Similarity Index	(76-100%)	.55	.40	.25
	(51-75%)	.42	.3	.18
	(26-50%)	.27	.2	.13
	(0-25%)	.14	.1	.07



(Photo courtesy of Ekalaka NRCS)

**Table 2. Approximate stocking rates for a common introduced pasture species, hayland aftermath and crop aftermath
– expressed in AUMs/Ac.**

AUMs per acre X acres of an ecological (range) site = total AUMs

Species	AUMs per Acre
Crested wheatgrass	.7
Hayland aftermath	.4
Crop aftermath (small grain stubble)	.2

Example stocking rate scenario:

Ecological Site = Normal, Similarity Index 51-75% - 100 acres

Grazing Animal Class = Cattle

Stocking Rate Calculations:

- 100 Ac. X .3 AUM's/Ac. = 30 AUM's available



(Photo courtesy of Ekalaka NRCS)

It sounds pretty simple, but there are factors other than formulas that affect stocking rate.

1. Animal Unit Equivalent – based on class of animal, animal size and maturity
2. Steepness of terrain
3. Distance from water
4. Plant season of use – ex. warm or cool season
5. Grazing system
6. Growing season conditions – ex. drought
7. Animal nutrition

In this workshop, the Wrangler Division will focus on the first factor, Animal Unit Equivalent.



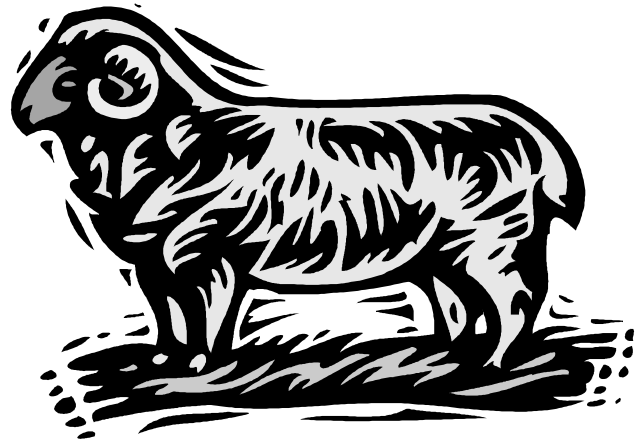
(Photo courtesy of USDA-NRCS)

Animal Unit Equivalents

The Animal Unit Equivalent (“AUE”) is a common denominator for calculating the forage requirements of different kinds of animals.

The standard animal unit is a 1000 pound mature cow with a calf less than 6 months of age.

The AUE of mature sheep is .2. This means that 1 mature sheep would eat 20% of the amount of forage required by 1, 1000 pound cow with a calf. $1 \text{ divided by } .2 = 5$. **So, 5 mature sheep would eat the same amount of forage as one cow.**



Kinds/classes of animals	Animal Unit Equivalent	Forage consumed per day	Forage consumed per month
1000 lb. Cow, with calf, or mature bison	1.00	26	790
Bull, mature	1.35	35	1067
Cattle, 1 year old, Elk, mature	.60	15.6	474
Horse, mature	1.25	32.5	988
Sheep, deer, antelope	.20	5.2	158

Example of a basic stocking rate scenario

You do a range inventory on the Lone Pine pasture. The inventory reveals that there are 1000 acres of a normal ecological site with a similarity index of 40%. Using the AUM Factor Table, you determine that the stocking rate for a normal site with a similarity index (SI) of 40% is .2 AUMs/acre.

➤ **HOW MANY AUM'S ARE AVAILABLE IN THE LONE PINE PASTURE?**

$$1000 \text{ acres} \times .2 \text{ AUM'S/acre} = 200 \text{ AUM'S}$$

You plan to run cow/calf pairs on the unit. Refer back to the Animal Unit Equivalent chart. A cow/calf pair is equal to 1 animal unit (AU).

➤ **HOW LONG (MONTHS) COULD YOU RUN 200 COW/CALF PAIRS ON THE LONE PINE PASTURE?**

$$200 \text{ AUM'S} / 200 \text{ AU'S} = 1 \text{ month}$$

➤ **HOW MANY AUM'S WOULD BE USED BY 250 COW/CALF PAIRS IN THE LONE PINE PASTURE FOR 1 MONTH?**

$$250 \text{ AU'S} \times 1 \text{ MONTH} = 250 \text{ AUM'S}$$

➤ **HOW MANY SHEEP COULD YOU RUN ON THE LONE PINE PASTURE FOR 1 MONTH?**

$$200 \text{ AUM'S} / .2 \text{ AU/1 month} = 1000 \text{ sheep}$$

➤ **HOW MANY COW/CALF PAIRS COULD YOU RUN FOR 1 MONTH ON THE LONE PINE PASTURE IF THE RANGELAND HAD A SI OF 60%?**

$$1000 \text{ ACRES} \times .3 \text{ AUM'S/acre} = 300 \text{ AUM'S} / 1 \text{ AU/1 month} = 300 \text{ cow/calf pairs}$$

