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Pasture Stocking Rates

How many animals will my pasture support? This is a common question, especially for the first time livestock producer. Unfortunately, it is a complex and often difficult question to be answered.

The first step should be to accurately evaluate the pasture site to determine the anticipated average annual forage yield. A well maintained orchardgrass-ladino clover pasture should yield annually 10 to 15 tons/acre of fresh pasture, being equivalent to 2.5 to 4.0 tons/acre of dry matter (DM). Often producers launch themselves into a livestock venture by buying the livestock first, without first doing some critical pasture site investigation.

The second step is to determine daily feed requirement of the herd or flock. For cattle, sheep, and horses 2-3% of an animals actual body weight is an excellent estimate of daily dry matter (DM) intake of quality forage and grain. Animals that are young and developing, pregnant, or used actively for work or breeding would have the higher feed requirement of 3% of body weight equaling DM forage and grain intake. While animals that are mature and maintaining, generally require 2% of body weight as DM intake. Thus a horse weighing 1100 lbs used occasionally for riding would require: 1100lbs X .02 DM/day = 22 lb DM/day.

In order to keep this horse fit all year, the dry matter feed intake would be 22lbs/day X 365 days = 8030 lbs or 4 tons of DM. If the pasture was also cut for hay during the surplus growth periods and feed losses are minimized, then 1 acre should support an 1100 lb horse annual forage requirements. It is also very important that the ration is balanced, and the components of a balanced ration include: carbohydrates, proteins, fats, minerals, vitamins, and water. Also, it is important to include roughage and bulk to the ration. If high quality legume-grass hay or pasture is utilized then the addition of grains, protein supplements and minerals may only be required to be 25% or less of the ration. For a poor hay or pasture the addition of grains, protein supplements, and minerals may be required to be as much as 50% of the ration.

A third point to remember is that all feeds include a percentage of water; therefore, convert the feed components in a ration into actual dry matter weight. Most field-cured hays in Maryland and grains are 85 to 90% dry matter. The pasture forage percent DM is based on maturity and species, typically ranging from 20 to 50% DM in he field. If our 1100 lb horse was on a spring orchard grass and ladino clover pasture consuming 75 lbs/day of forage determined to be 26% DM, then we could calculate that 75lbs/day X .26 = 19.5 lbs DM. The horse would only require 2.5 lb of additional grain and mineral supplements to balance the daily ration. If the spring pasture was considered overly lush it may be advisable to balance the ration by providing only minerals and supplementing the pasture with mature dry grass hay as follows: 15 lbs/day of 85% DM timothy hay = 12.75lb/day DM + 35 lbs/day 26% pasture = 9.1 lbs/day DM + .15 lb/day of minerals for a total of 22lbs/day DM in a balanced ration.

In summary, the pasture requires constant balancing of daily yield potential and animal feed requirements. At times a pasture may be over or under grazed, and both are detrimental to stand longevity and production. If you have questions about livestock utilization of your pasture give your Extension Educator a call, and together your needs can be assessed

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