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volves good grazing management to ensure its survival and perpetuation.

We need to remember that ideally we should be capturing 90 percent of the sunlight that falls on the sward and allow the tillers to convert it to chemical energy in the form of carbohydrates and sugars.

The plant, really, is a minifactory. It takes in raw products and pro-

duces a finished product. It takes in sunlight, water, carbon dioxide and nutrients. The green leaf area produces carbohydrates through the process of photosynthesis. After the carbohydrates are produced, they got to one of two places – either to meet the growth demand of the plant or the consumer outlet, or it is sent to the storage site or warehouse for future use.

It is very important that we know where in a tiller this warehouse is lo-

located. If we allow this storage site to be removed in our grazing management, we are weakening our sward. If we do not correct our management to prevent this loss, we can totally change the species makeup of our pastures.

The storage site of Kentucky bluegrass is in the first 1 inch of growth above the ground and in the underground rhizome or stem. It is not generally removed with grazing and because of this fact it can survive close and frequent grazing. It is oftentimes the only grass left in our pastures under heavy grazing pressure.

If our stands are to persist, we need to manage our pastures to leave adequate stubble heights after

grazing. Those average stubble heights are listed in Table 1 below.

The whole idea behind the stubble height is to leave the warehouse intact so the stored carbohydrates are available to generate new growth. If the tiller has green leaves left on it after grazing, they will continue to produce sugars and the warehouse is not as important. But if they are all grazed off, the warehouse is critical for energy for new growth.

New growth comes from the continued growth of the old tiller or from buds that produce new tillers. The buds get their energy supply from the warehouse. Until the new growth starts to produce energy, the warehouse is being tapped.

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MODEL 55/55-N

The Model 55 is the most versatile of all models matching up to a wide variety of bale patterns. It can carry up to 12 two-tie bales, 8 three-tie or 3 midsize bales at one time. It can also be connected to a 90 degree rotator, a powered vertical lift or any of a variety of loader units.

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Table 1. Average Stubble Heights

Species	Height. (Inches)
Kentucky Bluegrass	1-2
Ryegrass	1-2
Orchardgrass	2-3
Tall Fescue	2-3
Other tall grasses	2-3
Small Grains	3
Alfalfa	1-3
Red Clover	2
White or Ladino Clover	1-2
Birdsfoot Trefoil	2-3
Warm Season Grasses	6-8

The other important factor to consider in this process of producing and storing sugars is that we give the plant an adequate period of time between harvests or grazings, generally called a rest period. During this rest period, a plant stores excess sugars it does not need for growth in its warehouse storage sites. In many grasses in springtime, this rest period can be as short as 10 to 14 days and may stretch out to 45 or more days in mid-summer. This rest period is controlled by how fast the plant is reaching an adequate grazing height, which for tall growing species is about 8 to 10 inches and in short growing species like bluegrass, it is about 4 to 6 inches.

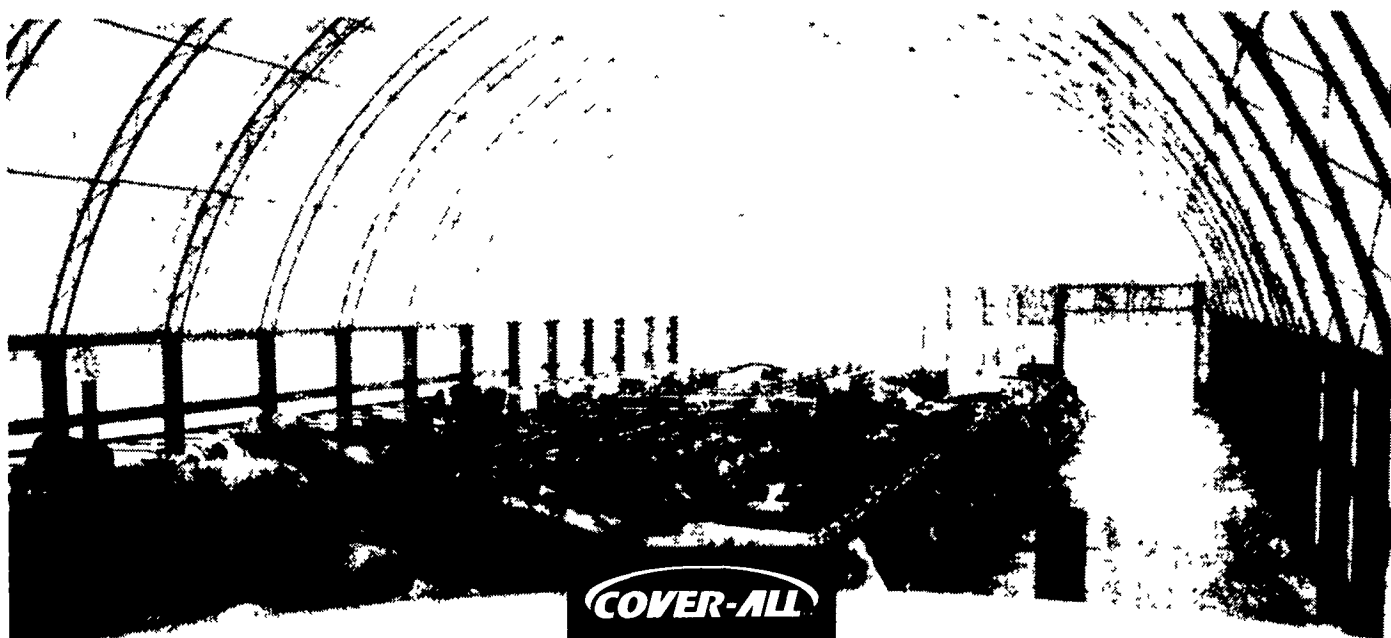
It is best to control our grazing livestock and rotate them through our paddocks by monitoring forage growth as opposed to grazing by a calendar. Oftentimes a sward may be past its prime or not ready for grazing if we follow a calendar to control turn-in and turn-out of our livestock to a paddock. We need to remember to keep our swards in a vegetative state if we want to provide our livestock with high quality forages for maximum animal production.

We need to keep in mind that our goal is "to meet our livestock's nutritional needs by using pastures as much as possible to lower our production costs and maximize our profits." In doing this, we also have to remember that the forages have needs that must be met if they are going to continue to meet our livestock's needs. When we meet both of these with our grazing management, we have a system that will sustain itself for a long time.

If you would like additional information on grazing, you can stop by any of our local county NRCS offices and discuss your needs with them. You can also give me a call at (717) 237-2221 or write to me at NRCS, One Credit Union Place, Suite 340, Harrisburg, PA 17110-2993.

I will also be at many pasture walks and grazing field days over the grazing season. I recommend that you try and attend these events. We all learn something as we share our experiences and knowledge at these informal programs out on the farm where it is all happening.

Until next time, happy grazing!



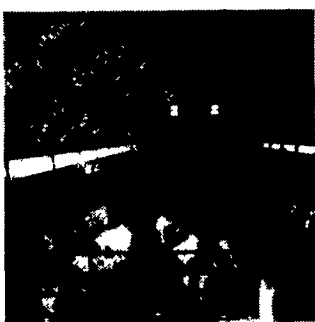
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