

## THE GREAT IMPORTANCE OF SOLAR RECEPTION AND GRAZING IMPACT

The importance of solar reception and grazing impact cannot be overstated. When wet meadows are not cropped or grazed from year to year there is a buildup of dead and decadent vegetation which prevents plants from receiving needed sunlight.

My awareness of this began back in the 1960's, when I noticed there was a lack of plant diversity beneath many of our stack yard fences, wherein Nebraska sedge (*Carex nebrascensis*) was often the only species in evidence; whereas next to these fence lines, where the grass had been mowed year after year, there was great variety of plant life; such as Timothy, Red Top and Clover in evidence. I also noticed, that in marshy areas, on the Ruby Lake National Wildlife Refuge, where we held a grazing permit, in areas where grazing was prohibited, there was a similar phenomena occurring – only in this instance it was Baltic rush (*Juncus balticus*) that dominated.

However it was not until some years later, when I was reviewing a scientific paper that had been prepared by George Vensel regarding grazing/wildlife relationships on the Malheur National Wildlife Refuge that I first found written explanation. Basically, plants of every kind need three things to survive, soil, water and sunlight. Photosynthesis cannot occur without sunlight. And when old plant material is not removed from year to year by grazing or cropping, accumulating litter restricts sunlight critical for plant growth and survival.

So what happens when this is allowed to occur for more than a year or two? Some of the more important plants, beneficial to both livestock and wildlife, such as forbs, legumes, and finer-stemmed grasses simply die out. Plant diversity is lost; and insect production declines as well. For those of you that live in town, think of how your yards would look if you failed to mow your lawn or trim your trees and shrubbery. Plants, whether they are in your yard, or out in the country, in order to remain healthy need to be hedged, and in the wild, hedging is accomplished best by sheep and cattle.

Recently, it has been the practice on many wildlife refuges, to burn wet meadows as a means of removing excess plant matter. This however, does nothing to improve plant diversity. The most effective way of restoring plant diversity on wet meadow areas, is by haying or cropping during the growing season. If you wait until after the plants have matured, it's too late - the majority of plants have already been harmed. When wet land vegetation is removed early in season all plants have an equal chance at receiving available sunlight. In addition, when wet meadow grasses are cropped at an early date, they then freshen. New leaves are formed that are tender and nutritious. Plants that have been cropped also require less moisture than do mature plants, thus they stay green and lush for a longer period of time.

Why is it, do you suppose, that during the 1940's and 50's it was common to see great numbers of sage grouse along the edges of meadow lands that had been grazed or hayed during early summer. It was because of the green and nutritious growth that was there of course. And if by chance there had been a rain or two recently, there was always an abundance fresh new clover or maybe even dandelion for the birds to use; which plants would not have been evident at such locations if it were not for the cropping such areas.

*Steve Vensel May 20, 2002*