Managing Drought Stressed Pastures

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Severe drought has affected pasture growth throughout much of Wisconsin and Minnesota. While little can be done to increase forage pasture growth in the short run, careful management now can minimize long term stand damage and help maintain forage yields when rains do come. The following offers useful information regarding ways in which the impact of drought on pastures can be minimized.

Grazing Management. When drought comes and pasture forage is in short supply, it is tempting to continue to graze until all the forage is gone. While this will provide a few more grazing days in the short term, it will delay regrowth and decrease forage yields when rains come. Leaving green, living leaf area will provide for photosynthesis and more rapid regrowth than if the plants are completely defoliated. Where possible leave an appropriate stubble height to allow for carbohydrate storage and regrowth. For short grasses like bluegrass and ryegrass this is 2". For taller grasses such as orchardgrass, bromegrass, timothy and tall fescue, the proper residual height is 4". If all plant material is brown and dead, grazing this material will not harm the plants.

Another temptation is to remove cattle from pastures, then put them back for a day or two each time there is a small amount of regrowth. Again, while this allows for some grazing in the short run it has detrimental effects in the long run. Continually removing regrowth removes root carbohydrates and will reduce the plant's ability to regrow when rains resume. Long term pasture yields will be reduced. A better strategy is to allow plants to regrow to appropriate heights before grazing. This allows replenishment of root reserves and will mean healthy plants and higher pasture yields. The appropriate regrowth height is 6" for bluegrass and ryegrass and 10" for orchardgrass, bromegrass, timothy and tall fescue.

Animal Management. These recommendations mean that animals will likely need to be removed from pastures and fed stored feed for some time. For those without adequate facilities for this there are three options. One is to establish a sacrifice paddock where feeding will take place. This limits the damage this practice causes to a discrete area. Forage growth from this area will be minimal this year but will likely recover with minimal inputs next year. A second option is to rotate the pastures where feeding takes place. Leave the feed bunk or wagon in a paddock for only a day or two then move to another. This limits the amount of plant damage in any one paddock. A third option is to feed animals in alley ways and lanes. In all cases, make sure animals have adequate access to water.

Increasing Available Forage. There are still options available to increase late summer/fall pasture forage availability. Applications of 50 units of nitrogen have shown to increase late summer forage production by around 1,000 lbs DM/ac. Of course, realizing the benefits of nitrogen is dependant on rainfall. Nitrogen sources such as ammonium nitrate and ammonium sulfate will reduce volatilization losses from dry pastures after application. Volatility losses from urea, while greater than other sources, are still only about 20%, so urea is also an option.

Forage brassicas are another option to increase fall forage production. Brassicas such as rape and turnips can be seeded in August for fall grazing. These crops provide high quality pasture and can be grazed multiple times beginning within 60 days of seeding. As with nitrogen applications, the success of these crops is dependent upon late summer rains.

Grazing standing corn is another option for those short of pasture forage due to drought. Corn provides good quality forage and, for some fields where grain yields are low due to poor rainfall, grazing may be the most economical harvest method. Corn should be strip grazed using highly visible electric fence such as polytape.

Planning for Dry Weather. Unfortunately dry weather happens nearly every year to some extent, some years more than others. Planning ahead for dry weather can help minimize the impact. Below are a few ideas to consider in the future.

- Rotational Grazing. For those practicing continuous grazing, dividing pastures into smaller (5-10 ac) paddocks and moving animals frequently from paddock to paddock is the best way to increase pasture yields. Employing rotational grazing and a good fertility program can easily double the available forage in a pasture, which would provide more grazing days and help reduce the impact of dry weather.
- Nitrogen Management. Applications of 50 units in early May and again in early August have shown to increase pastures dry matter yields by up to 2,000 lbs/ac. Mid summer applications have not proven as effective. It is important to limit nitrogen application rates, as applying too much at one time will result in leaching and volatility losses. Nitrogen applications in early May will provide additional pasture which can be mechanically harvested and fed during dry weather later in summer. August applications provide for increased late summer/early fall pasture yields.
- Warm Season Annual Grasses. There are a number of warm-season annual grasses which can provide forage during dry weather. These include sorghum-sudan hybrids and several types of millets. These forages are typically planted in early June and provide forage within sixty days. Forage yields are in the 2–3 tons/ac range and provide multiple grazings. These species do better in hot, dry weather than our cool-season species and, therefore, are a good choice for managing drought.