

Flooded Corn Fields

Following the rain, corn fields may be experiencing ponding soil conditions. The concern with flooding or saturated soils is oxygen depletion. Small seedlings are most vulnerable and information on germinating seeds is limited. In either case, survival will be dependent on length of flood, air temperatures, and in the case of germinating seeds to some level - corn hybrid. Germinating and emerging corn requires oxygen. Soil oxygen in flooded fields is depleted within approximately 48 hours. Research indicates emerged corn, prior to 6th leaf stage, can survive up to 4 days when air temp is less than 77 degrees F. As air temps increase, this time period can be reduce from 4 days to 1 day. In addition to oxygen depletion, concerns associated with flooding are seed rots, seedling blights and crazy top.

Once water recedes, growth will resume approximately within 3 to 5 days, this is the time to begin evaluating corn stand and plant survivability. Healthy radicle root and coleoptile should be white to cream color. Conduct stand counts and utilize replant decision guides to make a determination whether to keep the existing stand. Refer to MU guide 4091: "Corn and Soybean Replant Decisions" at the following link: <http://extension.missouri.edu/p/G4091> for more information.

A helpful resource is Iowa State's IPM article: "Corn Survival in Flooded and Saturated Fields" at the following link: <http://www.ipm.iastate.edu/ipm/icm/2007/4-30/flooded.html>.

Forage Pasture and Hay

Warm, dry conditions over the winter followed by the wet conditions that are moving through the area only compounds the issue of managing for quality forage. I have put together a Hay and Baleage reference sheet which outlines the three primary loss factors: 1) growth stage at harvest; 2) conditions and handling of forage during harvest; 3) baling moisture and storage. The reference is "[Quality Hay and Baleage Quick Reference.](#)" Craig Roberts, MU Forage Specialist, talks [weather stressed grass](#) in a recent article.

Cool season grass reproductive stages are triggered day length and not grass height. Quality hay and grazing is from leaves. In fescue, when seed heads emerge, energy begins to shift to stalk strength (more stemmy hay) and seed development which takes energy away from leaves. As stems increase, hay quality decreases. Therefore, early cutting of cool season grass provides the best quality. Early harvest, boot stage, also reduces the levels of ergovaline produced by toxic endophyte in fescue which is concentrated in seed heads. The recommended stages of maturity for harvesting common forage plants in Missouri are:

- Alfalfa: bud to 1/10 bloom.
- Red clover: 1/4 to 1/2 bloom.
- Timothy: late boot.
- Bromegrass: heads emerged.
- Orchardgrass: blooms emerged.
- Reed canarygrass: heads emerged.
- Tall fescue: boot stage.

Considering a Warm-Season Grass - Bermudagrass

I have had some questions about the utility of warm season grasses including bermudagrass in a forage and hay operation. The following information on bermudagrass is from Tim Schnakenberg, MU Agronomy Specialist, wrote the following article on bermudagrass in his Forage Focus newsletter.

The month of May is a good time to be converting to a warm-season grass in your cattle forage operation. Bermudagrass fills the summer gap for both hay and grazing. Missouri producers would do very well to convert much of their hay operation to a warm season grass and focus on grazing their fescue. Bermudagrass is probably the best option for most to accomplish this. I (*Schnakenberg*) think it's best fit is to hay the first growth, then graze it the remainder of the summer. Another approach is to dedicate some Bermuda fields to haying all summer. You can almost take another harvest off of bermudagrass every 30 days if needed. Tonnage produced can be astounding if water and fertility is not limited. The practice of harvesting fescue hay doesn't always match up well with the climate of Missouri. It's important for producers to do their homework on variety selection. The recently released Arkansas publication, **Forage Bermudagrass Variety Selection**, is on variety selection. Winter-hardiness and tonnage are important factors to consider in Missouri. Recent Arkansas variety data has found that sprigged varieties are higher yielding than seeded varieties. The cost of establishment is much higher for sprigged varieties, however. Seeded varieties still produce great yield even in comparison to fescue. Producers of bermudagrass often find that hay yields can easily double that of fescue, even though the growing season is much shorter. Seeding or sprigging should be done in May if possible. No-tilling seed is an option if the drill has sharp coulters and lots of weight. It's important not to plant too deep. Many who seed bermudagrass will use conventional tillage into a firm seedbed. Keep nitrogen rates at sprigging or seeding time at a minimum to keep weed growth down. Bermudagrass is a paradigm change for most producers north of the Mason-Dixon line, but most producers I (*Schnakenberg*) know who try it are satisfied. I (*Schnakenberg*) think it's time for a paradigm change for many producers which will complement their fescue operation very well.

Thank You,

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