

Drought and Frost Concerns

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Providing research-based information to Minnesota horse owners



Sorghum-sudangrass



Frost injured alfalfa (note yellowing on leaves)

Drought Concerns

Sorghum-sudangrass has good yield potential, especially in dry years, and can be used for pasture or hay. The crop is most commonly used during times of high temperatures and drought, usually as an emergency forage for cattle. Even though sorghum-sudangrass is not commonly grazed by horses or fed in horse quality hay, it might be fed during times of drought, especially when other forage is limited.

If buying sorghum-sudangrass during a drought year, test the forage for cyanide and nitrate content before feeding it. Forage positive for cyanide should not be fed. Legume and grass hays may also be checked for nitrate concentration during a drought. Nitrates are normally found in forages, with most forages having between 100 (0.1%) to 1,000 (1%) ppm nitrate, even at maturity. Research has shown that feeding hay containing 1.5 to 2% nitrate to pregnant and non-pregnant mares resulted in clinically normal foals, even though higher than normal levels of nitrate were detected in blood samples. As a general rule, horses should not be fed hay containing more than 2% nitrate, because the safety of such forage has not been researched in horses. See “Nitrate Accumulators” fact sheet for additional information on nitrate.

Sorghum, sudangrass and sorghum-sudan hybrids, along with Johnsongrass, have also been implicated in cases of cystitis (urinary bladder inflammation), and abortion. Mares affected by cystitis may also accumulate a yellowish, sticky, granular fluid accumulates in the bladder. Death may also result from kidney damage. These grasses may also develop toxic levels of cyanide, also called prussic acid, under drought and/or frost conditions.

Frost Concerns

Some deciduous leaves can be deadly after a frost or after they have wilted due to broken branches, fall leaf shed or storm damage. Leaves of greatest concern for horses are wilted maple and prunus species, including chokecherry, ornamental almond, and cherry trees. Identify all such seasonally toxic trees on your property, and keep horses



Fall colored cherry leaf



Fall maple leaf color

from their fallen or frost damaged leaves for at least 30 days. Even though these leaves are not commonly eaten, horses can accidentally ingest them, especially if hungry or bored. Cyanide toxicity can also be an issue after frost.

There are no reports of toxicity of horses grazing frost damaged alfalfa or clover. Cattle, however, are prone to bloat if they are allowed to graze bloat-causing legumes (i.e. clovers and alfalfa), and can be more at risk when there is moisture on these legumes (i.e. dew, frost and/or rain). Frost damaged alfalfa and clovers can have higher concentrations of sugars, leading to an increase in potential for founder and colic. To reduce the chance of adverse health effects, it is recommend that horse owners wait up to a week before turning horses back onto a pasture after a killing frost.

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