

## Cover Crops for Grazing

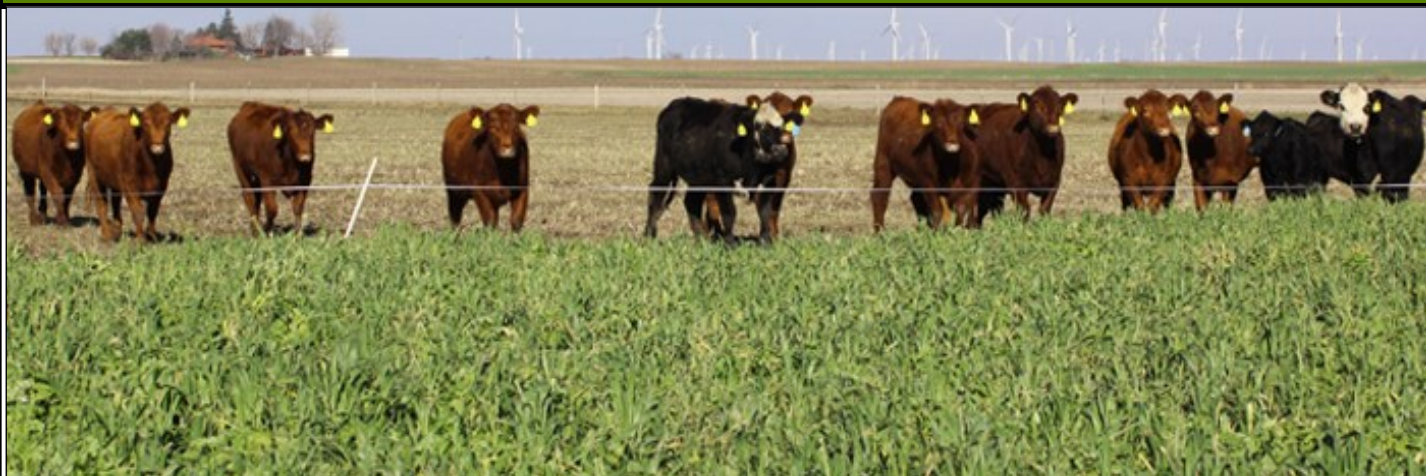


Photo courtesy of USDA-NRCS-Illinois: Cattle grazing on cover crops on Jim Iserman farm in LaSalle County, Illinois.

Cover crops offer livestock producers high quality forages for grazing; extend the grazing season, reduce purchased and stored feed cost; and can reduce labor for feeding and manure handling. Benefits of grazing cover crops far out-weigh any limitations or hazards. Grazing benefits can be limited by forage allocation methods, feeding cautions and government program participation. 1) Rotational or strip grazing is needed to improve harvest efficiency and reduce trampling and waste. 2) Some government program participation may limit grazing in the fall. 3) Certain cover crop species have potential feeding cautions of health concerns that need management consideration.

Cool season annuals such as cereal rye, wheat, triticale, oats, barley and annual ryegrass can all have very high nutritional quality. (Above 30% CP). Possible health concerns include: grass tetany, bloat, and high blood urea nitrogen levels (fertility issues). Grass tetany or grass staggers is a metabolic disorder caused by a magnesium deficiency usually in high potassium, high protein pastures > 25% CP. (Avoid over application of N & K) Contributing factors could be nutritional stress – abrupt pasture quality changes, weather changes, and lactation. Symptoms include: nervous, lack of coordination, staggering and falling, paddling legs and if untreated can lead to death. Animals can

be treated and recover quickly with proper treatment. Magnesium sulfate injection or intravenous calcium-magnesium gluconate. Confer with your veterinarian. Prevention is always best. Feed animals supplemental magnesium (MgO) added to the mineral mix. Bloat usually is caused by legumes but can also occur when over consuming high quality forages.

Below: Triticale 109 days following planting. On 4/1/13. Photo courtesy of USDA-NRCS-Kansas.



Bloat is a disorder caused by an accumulation of gas in the rumen and reticulum (mostly carbon dioxide and methane) Gas is normally discharged by belching but when foaming occurs or ani-

mals over consume they cannot inhale because of a blocked airway. Contributing factors include: moving hungry animals from low to high quality forage when they are hungry; moving animals when the forage is wet; frost; moving animals to legumes or high quality forages too quickly with an adjustment period. Species of cover crops causing bloat are crimson clover, hairy vetch, sweet clover, red clover, alfalfa or high quality grasses or brassicas. Symptoms would include rumen distended on the left side of the animal. Treatments include anti-foaming

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agents, or rumenotomy to remove gas. Again prevention and good management can reduce or eliminate the problem. Fill animals with dry forage prior to grazing. Move animals to new pastures in the afternoon when forage is dry. Use grass legume mixtures, use strip or rotational grazing with smaller paddocks. Feed anti-foaming agents like poloxalene, bloat guard blocks prior to turn out.

Brassica crops can cause health issues if not properly grazed. Bloat, nitrate poisoning, digestive disturbances and a neurological disease of ruminants (Polyencephalomalacia) a depressed thiamine enzyme activity, are all concerns. Grazing turnips, radish, rape, kale or hybrids are the species involved. Thiamine deficiency shows up as depression, blindness, convulsions and death if untreated. Thiamine therapy can lead to recovery. Prevention is best by slow dietary change to adjust rumen microbes, have animals full when introducing new high quality forages. Introduce animals to brassicas over 3 days. And include grasses with brassicas to increase the fiber in the diet. Use strip grazing to allocate forage.

Crops in the sudan family of forages may contain hydrogen cyanide or prussic acid. Prussic acid poisoning causes respiratory failure in the animal because it cannot carry oxygen in the bloodstream.

Contributing factors include: Livestock feeding on young plants

should be 18 inches tall before grazing; Drought stunted or frosted plants; high nitro-



Above: Sudan grass 30 days following planting. Planted 6/23/13. Photo courtesy of USDA-NRCS-Kansas

gen fertility above 200 lbs / acre. Soils deficient in P & K increase prussic acid levels. Crops involved: Sudangrass, sorghum-sudangrass hybrids, Johnson grass, shatter cane, sorghum alnum, and wild black cherry trees. Symptoms include: salivation, increased respiration, staggers, convulsions and death. Immediate treatment with sodium sulfate or sodium thiosulfate allows the blood to transport oxygen normally. Again prevention is best. Allow safe grazing height for forages. Watch for tiller growth after frost. Fill animals before tuning in the first time.

Nitrate poisoning occurs when plant nitrate concentration exceeds the rumen's ability to covert nitrite to ammonia in the rumen. Heavy manure or nitrogen application and drought can be contributing factors. Cover crops potentially involved are the sudan family, pearl millet, foxtail millet, Japanese millet, wheat, oats, cereal rye, barley, triticale, and annual ryegrass. Symptoms of nitrate poisoning include labored breathing, frothing at the mouth, collapse, convulsions and death. Treatment can be successful with the injection of 1% solution of methylene blue into the bloodstream. Preventive measures: Test forages for nitrate concentrations, know nitrate levels that affect your livestock. Raise the forage cutting height to leave more stalks in the field. Higher nitrate concentrations are in the lower part of the plant.

Management is the key to preventing problems when grazing cover crops. Avoid abrupt changes in forage quality. Fill animals with dry forage prior to access to high quality forages. Mix grass with legumes and high quality brassicas to increase fiber in the diet. Provide proper mineral supplementation. Use managed grazing (smaller paddocks or strip grazing) to allocate forages more uniformly. Recognize symptoms quickly. Having a good veterinarian, client, patient relationship is great insurance for protecting herd health.

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