Pasture plants grazing tolerance

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Only tough plants tolerate the rough treatment they get in a pasture. Row crops like corn, cotton or soybeans are allowed to grow all season and are harvested for their seed or fruit. In contrast, pasture plants have a high percentage of their leaves torn off at frequent intervals by grazing cattle that stomp on them. Sometimes, during droughts, cattle will graze the plants down to the soil. Horse pastures are often badly overgrazed and damaged by hooves. With all of this abuse, we still expect pasture plants to survive and remain productive.

Many grasses and legumes are marked on the basis of high yield potential as shown in clipping yield trials. This is fine if they are to be used for hay production, but it is unlikely that a cattle producer will notice a 10 or 20 percent increase in pasture yield by a new variety with normal grazing practices. The most important thing to the livestock producer is how well that plant will hold up in the pasture over time. Unfortunately, most new forage grass and legume varieties were not selected and tested under tough grazing practices that often occur on the farm. The result is that many of these plants fail to remain productive in the pasture unless special grazing management is used to favor them. Fortunately, there are a number of grazing-tolerant pasture plants, and more new varieties of this kind selected under grazing in Georgia will soon be available to livestock producers.

What plant characteristics favor grazing tolerance?

Some plants such as bermudagrass and bahiagrass have rhizomes that store food and serve as a bank account to permit regrowth after close grazing. In addition, they maintain a mass of leaves close to the soil that continue to utilize sunlight and produce more food. Thus, these plants are extremely tolerant of close continuous grazing. Johnsongrass also has large rhizomes for food storage but lacks leaves close to the soil so this plant will not tolerate continuous close grazing. This is why johnsongrass does not survive long in most pastures but does well in bermudagrass hayfields where it can accumulate food in rhizomes between hay cuttings.

Tall fescue stores large amounts of food in the basal part of the plant where it also has a mass of buds that develop new leaves quickly after being eaten by cattle. Under close grazing, tall fescue also maintains a considerable number of leaves near the soil, although less than bermudagrass or bahiagrass. Orchardgrass is another very desirable cool season perennial grass, but it does not tolerate close continuous grazing as well as tall fescue because of less leaf growth at the soil surface and greater elevation of growing points that can be damaged.

Switchgrass, big bluestem and eastern gamagrass are warm season perennial bunchgrasses that elevate their growing points early in development so if they are removed by close grazing, regrowth from limited dormant basal buds will be very slow. In addition, these grasses have little leaf tissue near the soil so there will be inadequate food storage with close continuous grazing and plants will be weakened. Rotational stocking with a four-week rest period is essential for stand maintenance and productivity.

White clover is the only perennial legume that is highly tolerant of close grazing. Stolons store food for regrowth. Also, abundant leaves near the soil continue to utilize sunlight and produce more food, even with close grazing. Perennial peanut stores a substantial amount of food in rhizomes and has some leaves close to the soil, making it moderately grazing tolerant. In contrast, alfalfa, kuduz, sericea lespedeza and red clover have taproots that store food. However, their lack of leaves close to the soil mean that persistence and productivity of these plants depends on rotational stocking with a rest period between grazings for recharging food stores.

Grazing tolerance of forage species

Very grazing-tolerant species

Bahiagrass and bermudagrass tolerate close continuous grazing. Toxic endophyte-infected tall fescue on clay soils is generally very tolerant of grazing except under extreme drought conditions and on the dry sandy soils of the Coastal Plain. Tall fescue containing non-toxic endophyte such as Max Q is similar to toxic endophyte-infected tall fescue in good grazing tolerance on clay soils but rotational stocking is highly recommended, especially in central Georgia, to obtain best performance and favor competition over invading bermudagrass. Annual ryegrass will tolerate close grazing but productivity will be better if grazed less closely. White clover, especially the medium leaf type that is more tolerant of close grazing than large-leaved ladino clover.

Moderately grazing-tolerant species

Orchardgrass vigor and stands will be harmed by close grazing in the summer. Rotational stocking is recommended in the summer to maintain productivity and stands in north Georgia. Orchardgrass is not recommended in central Georgia. Rye, oat and wheat tolerate grazing quite well, although under wet winter conditions on clay soils, pastures can be badly torn up as they do not form good sods. Rotational stocking can be useful. Alfagraze and other grazing-tolerant alfalfa varieties will maintain good stands under continuous grazing but rotational stocking is recommended as there will be higher productivity, better utilization and less encroachment by weeds such as crabgrass, goosegrass and bermudagrass. Perennial peanut stands that are well established, or three years old, are fairly tolerant of grazing but rotational stocking is recommended as it will improve forage production and reduce volunteer bermudagrass competition.

Species with fair grazing tolerance

Red clover is a short-lived perennial legume that can easily be

destroyed by close continuous grazing. Rotational stocking or maintaining three to four inches of growth in the summer is recommended. Jesup endophyte-free tall fescue is more tolerant of close continuous grazing than other endophyte-free varieties, but this type of management can be expected to reduce stands and productivity over time. During the summer, rotationally stock or maintain three to four inches of growth.

Endophyte-free tall fescue varieties other than Jesup do not tolerate close, continous grazing in the summer and should be only rotationally stocked or grazed to maintain three to four inches of growth. Chicory is a perennial and is tolerant of drought and acid soils, with high nutritive quality that grows from early spring to late autumn. It will survive two years with close, continuous grazing, but stand persistence, productivity and competitive ability with associated grasses are much improved with rotational stocking.

Species with poor grazing tolerance

Switchgrass, big bluestem, indiangrass and eastern gamagrass are warm season perennial bunchgrasses with short rhizomes. They are easily damaged by close, continuous grazing. Ideally, grazing of these grasses should begin in spring when plants are about 12 inches tall and rotationally stocked with appropriate rest periods. Alfalfa (non-grazing-tolerant varieties), sericea lespedeza and kudzu will not persist under continuous close grazing and should only be rotationally stocked.

Cattle producers benefit from 106th Congress

The policy wins cattle producers scored during the 106th Congress will provide the foundation to build an increasingly profitable beef industry in the upcoming years, according to the National Cattlemen's Beef Association.

Lawmakers over the last two years addressed and passed many critical pieces of legislation that will create a climate in which cattle producers can affordably raise the beef that consumers are wanting in greater quantities.

"The policy gains are significant tools," said Lynn Cornwell, NCBA president-elect. "We now have mechanisms in place to increase demand for our product abroad. We also have the means to provide greater market transparency, which will benefit individual producers."

The good news this year for cattle producers is that beef demand has continued to climb every quarter. This positive movement can be attributed to many factors including positive legislative and regulatory strides made during the 106th Congress.

PNTR: Cattle producers lobbied congressmen and the administration for more than a year to support permanent normal trade relations for China. The president signed the bill Oct. 10, 2000. Under the agreement, tariffs on beef imports will drop from 45 percent to 12 percent over five years. Economists predict beef exports to China will more than triple from 23,000 metric tons annually to 70,000 metric tons.

Carousel Retaliation: Cattle producers successfully urged Congress to pass carousel retaliation because it is crafted to pressure the European Union to comply with international trade law. The European Union, in the dispute over U.S. beef raised with growth promoters, has not complied with international trade rules. Carousel has also provided the impetus to bring the EU to the negotiating table.

Mandatory Price Reporting: The mandatory price reporting (MPR) legislation Congress passed in late 1999 will provide increased market transparency. USDA published a final rule in late Nov. 2000. Once the USDA implements the MPR rule, cattle producers will have daily access to regularly updated market figures such as price and volume information regarding negotiated and non-negotiated purchases of cattle and boxed beef sales. Packers will also report retail prices of beef exports and imports.

Death Tax: Support continues to grow for death tax repeal. Although the president twice vetoed different pieces of legislation that would have phased out the death tax, both houses of Congress passed the measure with bipartisan support. In fact, the measure passed with even greater bipartisan support the second time.

TMDLs: Cattle producers took a stand when the Environmental Protection Agency published a proposed rule that would place overly burdensome and costly restrictions on the cattle industry. Congress, as a result, passed a measure that would bar FY2001 funding for implementation of new Total Maximum Daily Loads (TMDL), effectively preventing EPA from implementing its controversial new regulations for at least one year. The delay buys the cattle industry time to lobby for positive, science-based changes to the regulation.

Property Rights: The House approved a property rights bill that calls for protections to landowners when they have to take their land out of production due to government regulations.

Agriculture Appropriations: Congress passed an agriculture appropriations bill that includes additional funding for disaster assistance, agriculture research and food safety initiatives. Lawmakers approved about $490 million in disaster assistance, $40 million for pasture recovery and $10 million for livestock indemnity payments. The measure also provides $500,000 in funding to the National Research Council for an evaluation of food safety.

Cattle producers also scored many regulatory wins:

Dietary Guidelines: The USDA earlier this year released a set of dietary guidelines. Cattle producers successfully worked to make sure daily portions of meat remains part of the government guidelines for a healthy diet.

Soy Rule: Cattle producers also successfully fought to push the USDA to revise its soy rule, which determines how much alternative protein sources such as soy can be used in the school lunch program.

Other regulatory and legislative issues on which NCBA worked during the last two years: Rescinding the USDA quality grade - NCBA believes providing grades such as USDA prime on imported meat misinforms consumers.Voluntary labeling - NCBA worked with a coalition of other commodity groups to present a proposal to USDA that would mark U.S. beef as made in the USA. Inequities between meat and poultry - NCBA continues to work to get the USDA to reform rules that allow poultry to have significantly more added water weight than beef.