10 Reasons to Add Legumes to Your Pastures

Lower Nitrogen Fertilizer Costs

Legumes have the ability to obtain nitrogen from the atmosphere and fix it in nodules on the roots. The amount of nitrogen fixed varies depending on species, stand density, soil fertility, weather and the amount of leaf surface left on the legumes. Numerous studies have shown that legumes can fix from 60 to 200 pounds of nitrogen per acre per year. This represents a fertilizer value of from $18 to over $60 per acre per year.

Improved Forage Quality

Forage quality of legumes is generally higher than that of most grasses at the same stage of maturity. Legumes are generally higher in crude protein, digestibility and mineral content and are digested quicker than most grasses. The result is higher quality and the potential for better animal performance.

Better Growth Distribution

The addition of legumes to grass pastures often extends the grazing season and fills voids in grass monocultures. Use of proper legume species can provide additional spring and fall grazing to warm season grass pastures. Other legumes can furnish quality grazing during the summer months when cool season pastures are less productive.

Increased Forage Yield

Contrary to what some believe, the total yield from grass/legume mixtures is usually increased over straight grass pastures. Studies conducted at the University of Kentucky over several years have shown that red clover grown with tall fescue pastures produces more total yield than straight tall fescue fertilized with 180 lb. N/acre.

Reduced Risk

Having a mixed sward of grasses and legumes constitutes a lower risk factor than having a pure stand of either one alone. Mixed swards are less susceptible to devastation from disease, insects and adverse weather conditions.

Added Benefits in Crop Rotations

In addition to adding nitrogen to succeeding crops, legumes can improve soil tilth by creating deep root channels which benefit subsequent crops.

Reduced Animal Toxicities

Growing legumes with tall fescue is the number one strategy used to combat endophyte problems associated with tall fescue. Grass tetany problems can also be reduced or eliminated by the presence of legumes in the animal’s diets.
Environmental Acceptance

Because of legume plants' ability to 'fix' nitrogen through Rhizobium bacteria, legumes provide a natural slow release nitrogen, which is more environmentally than commercial nitrogen. Legumes, because of their flowering habit, furnish pollen and nectar for honeybees and tend to increase populations of beneficial insects. Legumes in the sward also provide food for many species of wildlife.

Aesthetic Value

Legumes provide color and diversity to grass sward when flowering. A mixed sward is generally more eye appealing than a monoculture.

Increased Profit Potential

The use of legumes can have an enormous impact on the economics of pasture based agriculture. Due to the potential for higher nutrition levels with the addition of legumes, animal performance on pasture should be better. Several studies have shown more milk production, higher weaning weights, higher average daily gains and higher reproductive efficiency when legumes make up a significant portion of the pasture sward. Legumes also reduce expenses by lowering nitrogen fertilizer expense and supplemental feed costs. Legumes in forage programs give dual benefits: 1) increased production and performance and 2) decreased costs. Legumes truly are sustainable forage plants and fit well into a sustainable forage/livestock program. Legumes are agronomically sound, environmentally friendly and economically advantageous.

*Parts of this text was taken from a pamphlet prepared by Dr. Don Ball, Extension Agronomist/Professor, Auburn University and Dr. Garry Lacefield, Extension Agronomist/Professor, University of Kentucky.