

Planting Success

With its many environmentally and economically friendly traits, clover is a viable option for pastureland.

by Megan Silveira, assistant editor

The backbone of every strong cattle operation lies in the strength of their herd. However, cattle are only as great as the feed they consume.

“Forage quality is so critical to animal production,” said Garry Lacefield, extension forage specialist at the University of Kentucky.

When first observing a cattle operation, Lacefield said producers often turn their attention to the livestock themselves rather than the fields they’re grazing. This oversight is a mistake, in his opinion, as forage plays a major role in the total success and profit of an operation.

Lacefield urged cattlemen across

the country to remember their cows’ outputs can only improve if the producer invests in their pastureland. He promoted clover as one of the best forages, as the benefits of planting the legume are not limited to a specific region.

He said annual clover is typically seen in the southeastern part of the country, but over the past decade, a renewed interest has allowed it to reach farther north. Crimson clover, with its ability to survive winters in more northern climates, is part of the reason for this growth, he explains.

More widely adapted, Lacefield lists white clover as a popular choice because of its survival and growth

rates when rain comes in late summer to early fall. He does warn, however, this is a shallow-rooted clover that struggles in dry climates.

When the proper plant is matched to its environment, Lacefield said clover can produce extraordinary benefits for a cattle producer.

For all regions and operations, Lacefield lists the top 10 reasons to plant the legume.

1. Biological nitrogen (N) fixation
2. Improvement of forage quality
3. Better distribution of growth
4. Increased forage yield
5. Reduced risk
6. Ability to thrive in crop rotation
7. Reduced animal toxicity



- 8. Environmental acceptability
- 9. Creation of more interesting and attractive pastures
- 10. Increased profit

These advantages were addressed at the National Cattlemen’s Beef Association (NCBA) 2021 Winter Reboot in February.

Agronomic advantage

Adding clover to pasture provides the ability to complete biological nitrogen fixation, Lacefield said. This process involves the clover taking atmospheric nitrogen, which has no value to plants, and converting it from gas to chemical form.

Grasses are incapable of this process, and Lacefield said only legumes can complete nitrogen fixation. Red clover is the highest nitrogen-producing clover, he added.

Why care about nitrogen? Don Ball, extension agronomist at Auburn University, said focusing on environmental concerns should be a priority for cattle producers.

“This is something we should focus on more than we do,” he explains, as the agriculture industry uses more than 20 million tons of nutrient nitrogen annually, not including fertilizer. Ball said legumes have the ability to counteract that number.

“Legumes provide an environmentally friendly source of nitrogen,” he said of clover’s ability to complete nitrogen fixation. The naturally occurring process not only benefits the environment but also creates a conversation point in the sustainability talk with consumers.

Ball knows he and his fellow agriculturists are doing all they can to care for the environment, but the industry sometimes struggles to get that message across to consumers.

He said something as simple as planting clover can help start the conversation.

By adding clover to a pasture mix, Lacefield said the land and herd can benefit. In his opinion, clover not only makes pastures more attractive and interesting, but also distributes growth better than grasses.

He said clover eliminates some of the concern for toxicity in the herd as it offsets various livestock disorders caused by forage grasses, works well in crop rotation production methods and is typically accepted as being an “environmentally friendly” forage.

Continuing on the topic of promoting environmental well-being, Ball said clover also serves as a forage for wildlife. Even if producers do not plan pastures with the intention of feeding wildlife, Ball said this inadvertently always becomes a part of their operation.

“Anybody who grows forage crops is involved in wildlife advancement,” he explained.

Economic efficiency

Clover also improves forage quality. Lacefield said clover is a legume, and legumes have significant advantages compared to grasses — legumes are higher in protein and more digestible. Since legumes pass through the rumen quicker than other forages, Lacefield said cattle express a higher rate of gain and higher levels of intake.

Even better? Females grazing on pastures with a clover mix exhibit higher conception rates. Lacefield said two studies recently compared

conception rates of females, with one set being grazed on a pasture of tall fescue grasses and the other set being grazed on pasture including tall


fescue and clover.

“The cows in the pasture that contained clover had a 14% higher conception rate in the first study and a 20% higher

conception rate in the second study,” he said.

In addition to improved cow herd production, Ball said planting a clover mix can further reduce costs for producers.

Agronomic traits like better yield and long grazing seasons help make clover appealing to a cattle producer and their pocketbook, he said. Clover also requires less fertilizer, saving additional money.

“The takeaway message here,” Ball said, “is forage legumes increase the profit potential for livestock production.” 

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