RESEARCH

"Improving grazing capacity through introduction of bloat free legumes in existing pasture stands."

GRAZING SAINFOIN AND CICER MILKVETCH IN EXISTING ALFALFA AND GRASS STANDS

PROJECT NO.: FRG.06.14
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Background: Including legumes in a pasture improves biodiversity, forage quality, yield, and soil nutrient status without having to apply extra nitrogen fertilizer. While alfalfa has long been the legume species of choice, concerns about bloat have often limited its inclusion into forage stands. Non-bloating legumes such as sainfoin and cicer milkvetch have been growing in popularity, but have traditionally suffered from poor establishment and longevity in mixed stands.

Previous small plot research indicated that newer varieties of sainfoin planted in alternate rows with alfalfa were able to maintain 30-40% biomass under simulated grazing (clipping). This is above the suggested 25-30% inclusion for bloat reduction. In addition, legumes with creeping root systems, such as cicer milkvetch, have also been shown to be effective in reducing the damage done by burrowing rodents such as gophers.

Objectives: The objectives of this study are to:

1. Determine establishment success of sainfoin and cicer milkvetch populations in existing mixed forage stands (alfalfa and tame grass).
2. Determine grazing animal performance and bloat incidence when grazing mixed legume pastures.
3. Conduct an economic analysis of using new legume varieties for pasture rejuvenation.

Implications of the Research: This project will provide information on the establishment of new and recently released varieities of sainfoin and cicer milkvetch when planted into existing stands. It will also expand on the results of the small plot trials by measuring forage and cattle performance under actual field-scale grazing, and provide cost of production and return on investment data.

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