



Complex forage blends: reducing supplementation costs through strategic forage selection.

## GROW YOUR OWN TOTAL MIXED RATION (TMR): TAILORING FORAGE MIXTURES FOR OPTIMAL ANIMAL PERFORMANCE

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**Background:** There is a lot of producer interest in using diverse forage mixtures (i.e., cover crops, polycrops, etc.) to support beef production. Many factors influence whether a particular mixture of forage species may perform well in any given situation, such as regional adaptation, seed cost, yield, nutrient composition, and ease of establishment. While several mixtures are commercially available from seed companies, it can be difficult to determine which forage mixture is the right one for its intended use.

**Objectives:** The objectives of this study are to:

1. Evaluate strategies for improved forage yield, quality, and intake of diverse forage mixtures as silage and in grazing systems.
2. Evaluate ensiling characteristics of simple or complex forage mixtures.
3. Determine ruminal fermentation characteristics, methane production, and digestibility of simple and complex forage mixtures.
4. Evaluate forage inclusion strategies for backgrounding steers.
5. Evaluate performance and methane production for growing and pregnant heifers while grazing.
6. Determine the production costs and profitability for producing simple and complex forage mixtures.

**Implications of the Research:** This project will investigate if it is possible to provide a “roadmap” for producers to use when choosing forage mixtures that will more closely meet the nutrient requirements of cattle being fed, and if such a strategy can improve forage production, animal performance, reduce risk, and improve return on investment.

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