Fermentation of Alfalfa Silage After Application of Liquid Dairy Manure

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Introduction

- Nutrition consultants and producers observed poor silage fermentation and animal performance on some silages.

- A common denominator of manure application was identified.
Introduction

- A hypothesis was constructed that manure application maybe altering silage fermentation.

- Very little data was available to confirm this.
Response

- A replicated study was initiated at M.A.R.S.
- Manure was applied at 5000 gal/acre to first crop alfalfa stubble
  - 5 days after harvest (S)
  - 15 days after harvest (V)
  - 1 day before 2nd crop harvest (B)
- 7.47” of rain between cuttings
Response

- Pre-ensiled forage was analyzed for:
  - DM, lactic acid bacteria, enterobacteria, & clostridia
- Second crop was ensiled at 16 hour wilt time
- Silage was analyzed for:
  - DM, pH, fermentation characteristics, mold and yeast counts
Results

Silage Dry Matter vs. Manure Treatment of Pre-Ensiled Alfalfa Forage

Signifies a level significantly different from control
Results

Lactic Acid Bacteria Counts vs. Manure Treatment of Pre-Ensiled Alfalfa Forage

Signifies a level significantly different from control
Results

Silage pH vs. Manure Treatment of Fermented Alfalfa Silage

Signifies a level significantly different from control
Results

Fermentation Characteristics vs. Manure Application of Alfalfa Silage

Signifies a level significantly different from control
Conclusion

- Liquid dairy manure should not be applied to alfalfa foliage.
- When manure is applied to alfalfa stubble, inoculate alfalfa forage at ensiling.