

Understanding Yeast in Feedstuffs



Major crops affected: Corn Silage, High Moisture Corn, and Earlage/Snaplage

Conditions favoring production: Cool growing season resulting in late harvest. These conditions are unfavorable for bacteria species that are responsible for the fermentation and preservation of ensiled feeds.

Symptoms: Very little research is available on the effects of yeasts on animal performance. The most common result of high yeast counts is unstable silages that heat rapidly and subsequently grow additional mold. These unstable silages result in nutrient losses and can potentially reduce dry matter intakes.

Mechanism of Yeast and Aerobic Instability

1. High endemic yeast population is ensiled
2. During slow fermentations, moderate growth of yeast occurs until oxygen is expired in the silage.
3. At feedout, yeasts are re-exposed to oxygen
4. Yeast growth becomes exponential.
5. Lactic acid is consumed
6. Heating occurs.
7. Silage acids are volatilized.
8. Silage pH rises.
9. Molds with low oxygen requirements (*Mucor*) invade the silage.
10. Aerobic instability.

Yeast Count Interpretation

CFU/g	Aerobic Stability	Comments
<10,000	120-140 hours	Typical values in well preserved feed
1,000,000	~ 40 hours	
25-50,000,000		Upper range for inadequately fermented feed.

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