



American Farm Products Inc.

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SilagePro[®] B and SilagePro[®] Buchneri 5 DAY Research

Making Milk with Forage:

Preserving the Quality of Silage Through Improved Aerobic Stability

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Dairy Research, Teaching, and Extension
UNIVERSITY OF DELAWARE

What Causes Aerobic Spoilage? Air and Bad Yeasts!

- ➔ Silage is exposed to air
 - ➔ Yeasts 'wake up' and degrade lactic acid
 - ➔ Numbers of yeasts increase
 - ➔ **Highly degradable nutrients are destroyed**
 - ➔ Heat is produced
 - ➔ pH increases
 - ➔ Molds/bacteria 'wake up' causing further spoilage
 - ➔ More heating
 - ➔ **Massive spoilage**



Silages That Are Most Prone to Aerobic Spoilage that may Benefit from Silage Additives

- High moisture Corn
 - Corn and barley silage
 - Silages with high DM (>40%DM)
 - Silage fed during warm weather (summer, etc.)
 - Silages fed out slowly
 - Silage that will be moved between silos
 - Silage fed from intermediate feeding piles

L. Kung, Univ. of Delaware

Manage the Feeding Face to Minimize Aerobic Spoilage

- Remove sufficient silage each day to prevent spoilage ~ 12 in/d
- More in hot weather and for drier and poorly packed silages
- Keep face clean, minimize face damage
- Knock down only enough silage to feed



Aerobic Stability is important in avoiding spoiled silage because:

1. Spoiled silage produces undesirable end product
2. Spoiled silage depresses nutrient intake and production
3. **Spoiled silage reduces farm income**

Aerobic Stability is affected by:

1. Air-Porosity (density of the silage)
2. **Numbers of lactate utilizing yeasts**
3. Ambient temperature

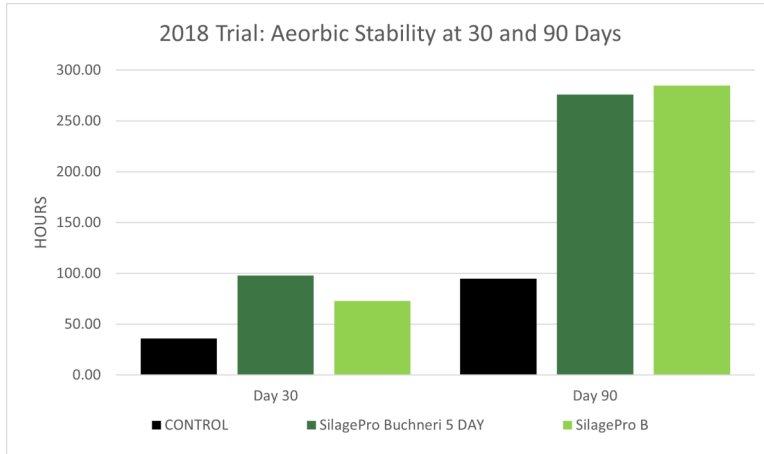
As the numbers of yeasts in silage increases, the hours of aerobic stability decrease, animal intake decreases, the number of low fat tests increases, etc.

Consistent Advantage:

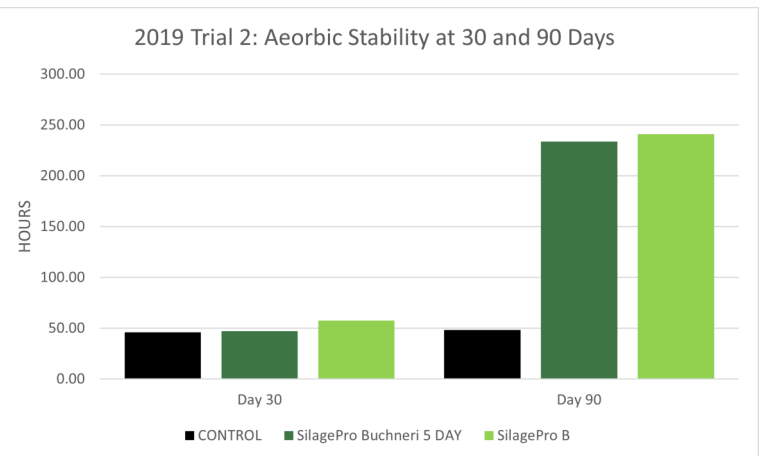
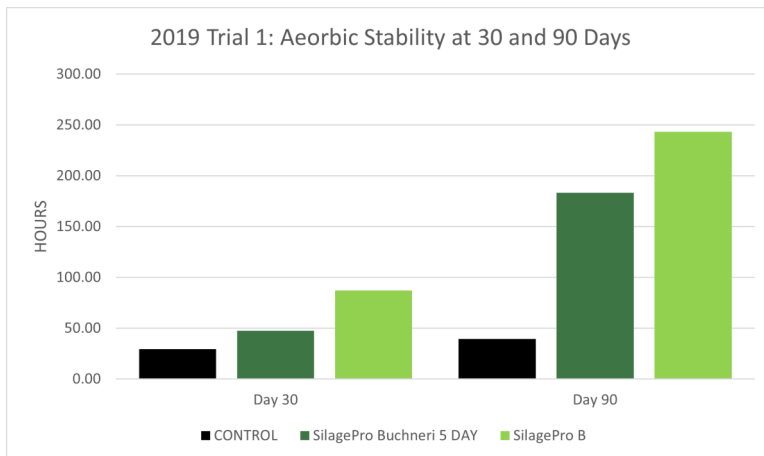
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L. buchneri Inoculants:

Trials conducted under the supervision of Dr. Limin Kung, Jr., University of Delaware.



SilagePro[®] Buchneri 5 DAY and **SilagePro[®] B** each contain unique SilagePro[®] enzyme extracts plus a robust cascade of lactic acid bacteria (LAB) applied at the rate of 100,000 cfu/gram of silage. Additionally, **SilagePro[®] Buchneri 5 DAY** contains 200,000 cfu/gram of L. buchneri as applied and **SilagePro[®] B** contains 400,000 cfu/gram of L. buchneri as applied.



* 2019 Trial 1 and 2 show the average of 5 replicates per trial

- To maintain forage quality, silages need to ferment well and be aerobically stable. **SilagePro[®] B** and **SilagePro[®] Buchneri 5 DAY** minimize aerobic spoilage by reducing the number of yeasts that cause silage to heat, thereby increasing aerobic stability of silages by up to 200+ hours over untreated silage.
- Based on research, we recommend **SilagePro[®] Buchneri 5 DAY** for all silages and **SilagePro[®] B** for high moisture grains. High moisture grains require an increased concentration of L. buchneri due to higher levels of dry matter.