

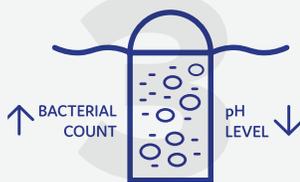
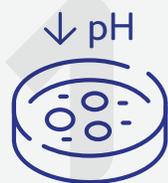
# VAN GROW

Biotechnology

Active Culture Forage Products

## Enhanced Stabilization of Feed

Learn why our premixed, active culture forage products are superior to freeze dried inoculates

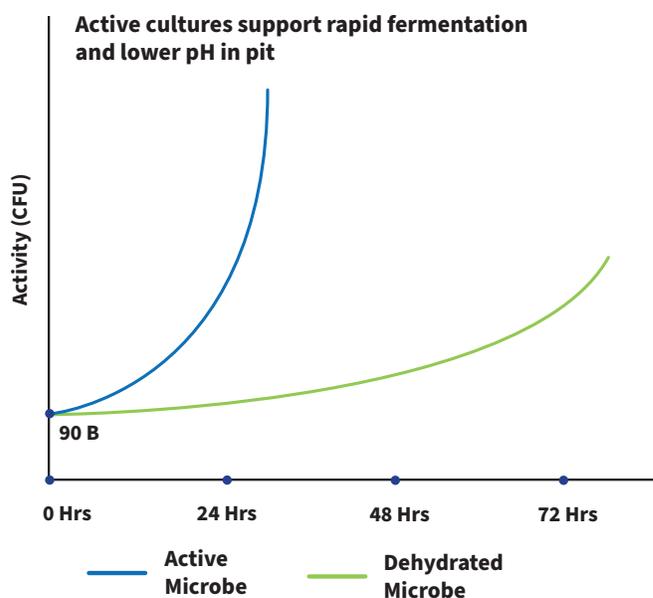


### 5 Components of Exceptional Forage

- 1.** Silage is preserved when a fermentation produces enough organic acid to rapidly lower pH. Our acidophilic (acid loving) cultures thrive in conditions where undesirable bacteria stop growing. Our strains produce a beneficial carboxylic acid called lactic acid. This organic acid is a primary metabolite which preserves the silage pit much the same way that vinegar preserves pickles. Strains which produce different organic acids can achieve the same low pH, but can impart an off odor and even cause digestive problems.
- 2.** Our bacteria are native sourced and regionally acclimated which means they are already adapted to thrive in real world conditions. Laboratory derived strains lack the specific genes required to compete in the field. We further enhance vigor by pitting two classes of bacteria against each other which results in an evolved super strain.
- 3.** Natural metabolites and antimicrobial proteins are produced and excreted into our broth. These metabolites play an important role in suppressing the growth of other wild types of bacteria upon contact. The inclusion of these metabolites distinguishes our product from other freeze dried bacterial inoculants. The pre-mixed liquid tote simplifies the application process and eliminates errors associated with powder mixing.
- 4.** Natural enzymes found in the broth also play an important role in our inoculant performance. Rapid growth upon application translates to higher bacterial counts in the pit and lower pH levels in shorter periods of time. Our live strains can double every 21 minutes.
- 5.** Studies have shown that beneficial bacteria not only help preserve the silage, but that the overall health of the animal improves by reducing pathogenic organisms in the gut and improving overall nutrient intake.

## Van Grow Forage Inoculant Differentiators

- Premixed concentrate comes in a tote with food source, providing a consistent, homogenous mixture.
- Extended shelf life, through full harvest season, and up to nine months, when stored in shop.
- > 90 Billion CFUs at application.
- Can be left in tanks overnight, saving time, money and labor.
- Lactic acid producing bacteria preserves silage and keeps forage cool.
- Can be applied to silage, alfalfa, oats and baled hay.



## AC 1000 Silage Preserver Premixed Concentrate Ingredients

**Active acid forming microbes:** Lactobacillus plantarum, Lactobacillus acidophilus, native sourced Lactobacillus, Bacillus subtilis

**pH:** 3.5

**Organic Acids include:** Lactic Acid, Acetic Acid

**Enzymes:** Amylase

**Dosage:** 4 oz per ton

**Guaranteed 90 billion CFU per ton**

Silage Fermentation Products	VGA*	Industry Averages	
		60 d	4 yr
pH	3.73	3.86	3.97
Lactic Acid	5.83	4.53	3.56
Acetic Acid	2.19	2.01	1.51
Butyric Acid	0.00	0.04	0.13
Propionic Acid	0.17	0.29	0.17
Succinic A	0.14	0.11	0.22
Formic A	0.05		0.07
Ethanol	0.62	0.66	0.56
1,2 Propanediol			
1 Propanol			
2,3 Butanediol			
2 Butanol			
2 Propanol			
Total Acids	8.38		
Total Alcohols			
Fermentation DM Loss	1.91	1.91	2.13

\* Van Grow Average

## AC 1250 Haylage Preserver Premixed Concentrate Ingredients

**Active acid forming microbes:** Proprietary blend of native sourced Lactobacillus, Bacillus subtilis

**pH:** 3.8

**Organic Acids include:** Lactic Acid, Acetic Acid

**Enzymes:** Amylase

**Dosage:** 4 oz per ton

**Guaranteed 90 billion CFU per ton**

Haylage Fermentation Products	VGA*	Industry Averages	
		60 d	4 yr
pH	4.96	4.83	4.76
Lactic Acid	2.12	4.06	3.89
Acetic Acid	1.28	1.55	1.27
Butyric Acid	0.05	0.29	0.23
Propionic Acid	0.17		0.28
Succinic A	0.22	0.29	0.44
Formic A	0.16		0.14
Ethanol	0.30	0.49	0.41
1,2 Propanediol			
1 Propanol			
2,3 Butanediol			
2 Butanol			
2 Propanol			
Total Acids	4.00		
Total Alcohols			
Fermentation DM Loss	2.39	2.90	3.08

\* Van Grow Average