



Biomax[®] SB

Increased starch digestibility in corn silage

Biomax[®] SB is a targeted inoculant designed to increase the digestibility of starch in corn silage:

- Effectively drives efficient fermentation of corn silage
- Increases rumen starch availability

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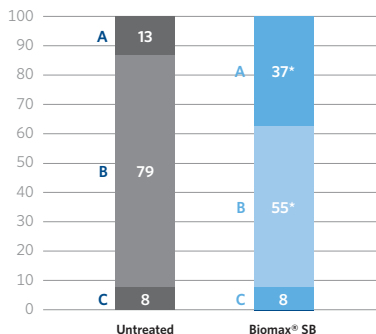
Difficult to digest: Starch!

Sub-optimal starch digestibility can compromise the energetic efficiency of dairy cows fed corn silage fermented less than 120-150 days. This is due primarily to the lack of complete breakdown of the corn proteins that encapsulate starch in the kernel. As the corn kernel matures, prolamin proteins, specifically zein, form cross-linkages that create a matrix that is not soluble in the rumen, preventing the starch from being available for digestion by rumen bacteria.

Starch is released over time

During the ensiling process, the acids produced from silage fermentation as well as natural "proteolysis" degrade the prolamin encapsulation, releasing starch from the zein protein. This process takes 4-6 months to fully release the starch and increase ruminal starch digestibility. The question is: Do you have the time to wait?

Figure 1: High moisture ear corn ensiled for 45 days.



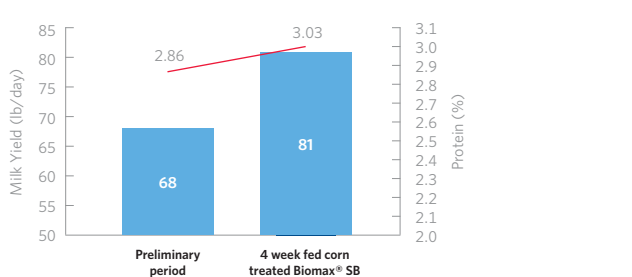
*p < 0.05 significantly different from untreated.

Inoculating high moisture ear corn with Biomax® SB increased soluble starch and sugars after just 45 days of ensiling ("A" fraction).

More starch, more milk

High moisture corn inoculated with Biomax® SB was ensiled for 40 days and fed for 4 weeks. An increase in rumen available starch and rumen available dry matter gave a clear tendency towards increased milk production and milk protein yield with high moisture corn.

Figure 2: High moisture corn ensiled for 4 weeks.



Specific trial data available upon request.

What's inside Biomax® SB

Biomax® SB is a targeted silage inoculant containing 2 strains of lactic acid bacteria. One strain, *Enterococcus faecium* CH212, is proven to increase the availability of starch for rumen digestion in corn silage ensiled less than the optimal time. The second strain, *Lactobacillus plantarum* CH6072 is proven to rapidly produce lactic acid which decreases silage pH. In addition to lowering pH, lactic acid is one of several acids that will help breakdown the zein protein matrix to release the encapsulated starch.

Package:

- 500 g canister treats 500 tons of fresh forage
- One box contains 6 x 500 g canisters

Form:

Powder

Solubility:

Water soluble

Shelf life:

24 months at room temperature (<77°F)

Application:

One 500 g canister treats 500 tons of fresh corn forage or high moisture corn. Mix inoculant into amount of water appropriate for your applicator. Apply solution evenly over corn forage or high moisture corn as it is harvested or ensiled. When used as directed, 1 gram of Biomax® SB inoculates 1 ton of fresh corn forage or high moisture corn at a rate of 100,000 cfu/g.

Content:

- *Enterococcus faecium* CH212
- *Lactobacillus plantarum* CH6072

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