



SiloSolve® FC keeps grass silage fresher with two fungus-fighting bacterial strains

By: Mai-Brit Voss, Product Manager

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“Aerobic stability indicates how fresh feed stays after exposure to oxygen — the greater the aerobic stability, the fresher the feed stays, and the less heat it produces,” explains Product Manager Mai-Brit Voss, noting that heat is generated when feed degrades. “In this study, we found that inoculating grass silage with SiloSolve® FC markedly improved aerobic stability, leading to less spoilage and greater dry matter recovery.”

Study design

The study was conducted at the Institute of Animal Science in Lithuania to evaluate the effect of SiloSolve® FC on the fermentation and aerobic stability of grass silage. Grass with a moisture content of 67.2 % was chopped by a forage harvester under farm conditions to a length of 0.8-1.2 inches and ensiled in mini silos.

The trial included two treatments replicated five times each: untreated grass and grass inoculated with SiloSolve® FC at a dose of 150,000 cfu/g of fresh forage. Within two hours of crop preparation, mini silos were filled with approximately 2.2 lbs of fresh-cut grass, sealed and fermented for 90 days at a constant temperature of 68°F. At day 90, dry matter content was measured and a 10-day aerobic stability test was performed. Aerobic stability was determined by monitoring the temperature increase in silage stored in insulated PVC-tubes at 68°F ambient temperature.

Two bacterial strains in SiloSolve® FC work together to keep grass silage fresh both during fermentation and at feed-out, a new European study shows.

SiloSolve® FC, the latest addition to the range of SiloSolve® silage inoculants, contains two bacterial strains that compliment each other to reduce spoilage microorganisms in silage. During fermentation, a new, patented strain called *Lactococcus lactis* 0224 prevents the growth of yeasts and molds by eliminating residual oxygen from ensiled grass. Once the silage is exposed to air at feed-out, *Lactobacillus buchmeri* preserves silage by producing

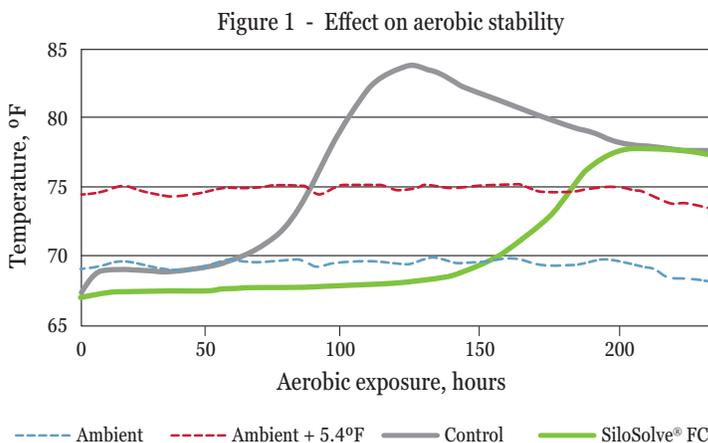
acetic acid, which controls the growth of spoilage microorganisms and increases aerobic stability.

Results

At day 90, yeasts and molds were significantly reduced in the silage treated with SiloSolve® FC compared to control (Table 1). The inoculated silage also demonstrated four more days of aerobic stability, exceeding ambient temperature by 5.4°F 186 hours after aerobic exposure, compared to 90 hours for the untreated silage (Figure 1).

Treatment	Molds, cfu/g	Yeasts, cfu/g
Untreated	1,140	1,780
SiloSolve® FC	24*	15*

*Significant difference for treated vs. untreated p<0.05



According to Voss, the benefit of reducing fungi is an increase in dry matter recovery. In this study, she says, there was a 3% increase in dry matter recovery for the inoculated silage compared with the untreated silage (Table 2).

Treatment	DM recovery (%)
Untreated	92.1
SiloSolve® FC	95.1*

*Significant difference for treated vs. untreated p<0.05

“These data reinforce the valuable synergies between the two bacterial strains in SiloSolve® FC,” Voss commented. “By reducing oxygen

during fermentation and increasing aerobic stability at feed-out, producers limit waste due to better silage quality, and as a result, enhance the performance of their cows.”