

SiloSolve® FC allows for early opening of alfalfa silage



Introduction

Most farmers will recognize the challenges of silage management during feed out: Heating of silage largely due to the growth of yeast and mould is particularly problematic. In addition, certain moulds produce harmful mycotoxins. Mycotoxins may compromise production and health of animals. Another challenge could be feed shortage, forcing farmers to initiate feed out well in advance of the optimum 90 days of fermentation. A shorter fermentation time is problematic as this will not allow the silage to reach a stable stage. The risk of heating and loss of valuable nutrients may jeopardize milk production and could lead to a severe economic impact.

Research objective

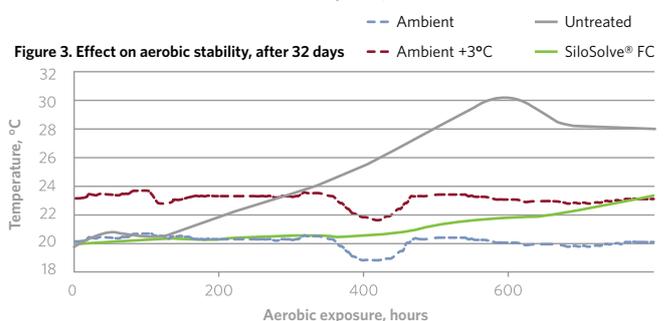
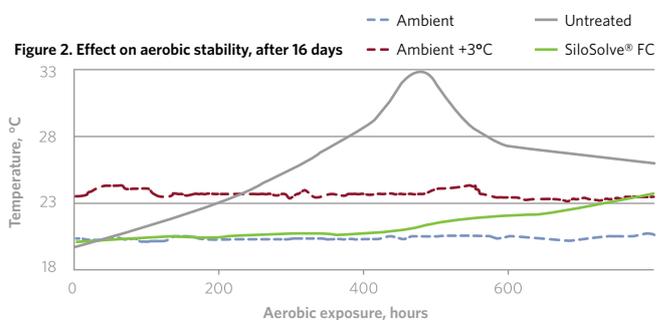
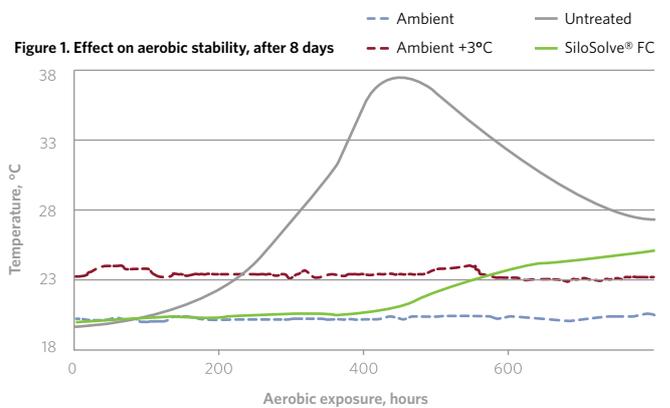
The objective of this study was to determine the effect of SiloSolve® FC on short fermentation time at 8, 16 and 32 days of fermentation, on the aerobic stability of alfalfa silage.

Materials and methods

A research trial was conducted at the Institute of Animal Science LVA, Lithuania, to evaluate the efficacy of SiloSolve® FC on fermentation and aerobic stability of alfalfa silage. Alfalfa with a dry matter content of 34.1% was chopped by a forage harvester under farm conditions to a nominal chop length of 2-3 cm and ensiled in mini silos. Two treatments each of five replicates were included in the trial: Untreated alfalfa and alfalfa inoculated with SiloSolve® FC at a dose of 150.000 CFU/g of fresh forage. Within 2 hours from crop preparation, mini silos were filled with approximately 1 kg fresh cut alfalfa, sealed and fermented for 8, 16 and 32 days at a constant temperature of 20°C. At days 8, 16 and 32 the silage weight, pH and mould and yeast content were determined, as well as after the aerobic stability test, which lasted for 30 days. The aerobic stability is determined by monitoring the temperature increase in silages stored in insulated PVC-tubes at 20°C ambient temperature.

Results and discussion

SiloSolve® FC is a completely new silage inoculant that combines the effects of a proven lactic acid bacterial strain (*Lactobacillus buchneri* DSM22501) with a unique strain of *Lactococcus lactis* O224 with an oxygen scavenging ability. As soon as silage is exposed to air during feed out, yeasts and moulds will utilize the nutrients and grow dramatically fast, with heat formation as a result. However, when SiloSolve® FC is used, the aerobic stability increases significantly even after a very short fermentation time compared to the untreated control ($P < 0.05$), which can be observed in the following figures. In addition, inoculated silage significantly reduced the weight loss during aerobic exposure for all fermentation periods and the number of yeasts and moulds in the silage.



Conclusion

The fast fermentation and exclusion of oxygen preserves the silage and thereby increases the stability after 8, 16 and 32 days of fermentation all followed by 30 days of stability challenge. The increased preservation of the alfalfa silage leads to a better preservation of the high quality nutrients for the dairy cows. Therefore, addition of SiloSolve® FC could be an economic advantage for dairy producers around the world.

Trial no. 80364