

Effect of Shredding and Re-ensiling of Wrapped Round Bale on the Subsequent Silage Fermentation

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Summary

The wrapped round bale silage was shredded and stored in a highly airtight silo to improve the availability of wrapped round bale. The round bale silage made from 2nd cut Italian ryegrass with an average moisture content of 62.0% (Mild wilting) and 48.9% (Heavy wilting) were shredded to a length of about 10cm and stored in a drum silo. The results were as follows; the concentrations of lactic acid (% of DM) were increased by re-ensiling from 1.6% to 4.6% (Mild wilting) and from 0.4% to 2.9% (Heavy wilting). With the increase in lactic acid content, the silage pH value declined from 5.3 to 4.2 (Mild wilting) and from 5.7 to 4.5 (Heavy wilting). These results indicate that lactic acid fermentation is suppressed under the unstable fermentation condition of round bale silage such as non-chopping and low density and low airtight conditions in some cases. In that case, storing the shredded silage from a wrapped round bale in a highly airtight silo improves the fermentation condition and accelerates lactic acid fermentation and decline in the pH value. Therefore, the treatment in this study is expected to be a method which will prevent deterioration of wrapped round bale silage which must be preserved over a long period.

Keywords: Silo, Re-ensiling, Fermentative quality, Round bale silage