

Hoang Huong Giang et al. 2004a

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Evaluation of ensiling methods to preserve sweet potato roots and vines as pig feed

Abstract -

A laboratory experiment on ensiling sweet potato (SP) included 5 different ratios of sweet potato roots (SPR) and vines (SPV): 70, 60, 50, 40 and 30% of SPR with 30, 40, 50, 60 and 70% of SPV on a dry matter basis, respectively, giving treatments SP7:3, SP6:4, SP5:5, SP4:6 and SP3:7. Samples of SP silage were analysed at 0, 7, 14, 21, 28, 42, 70 and 84 days after ensiling to determine chemical composition and fermentation and physical characteristics.

When SPR levels decreased from treatment SP7:3 to treatment SP3:7 the colour changed from yellow to a deeper green because of the dark green colour of SPV. However, the colour did not change from 14 to 84 days of ensiling. The silage on all treatments had a good smell at all times up to 84 days. With increasing ensiling time, dry matter content increased and crude protein decreased in all treatments, but the changes were not significant. Other chemical components such as NDF, calcium, and phosphorus did not change during the 84 days of ensiling in all treatments. The pH value in all treatments decreased rapidly in the first week (from around 6.4 to around 3.8) and continued to decrease up to day 14 (to around 3.6), then remained low until 84 days. Acetic acid and lactic acid increased quickly in the first 2 weeks ($P < 0.01$) and then remained constant to 84 days. As the SPR level of the SP silage increased, pH values decreased (during the 84 days of ensiling) and lactic acid increased during the 2 first weeks of ensiling. The $\text{NH}_3\text{-N}$ content in all treatments fluctuated at around 2-3% of total nitrogen and was not affected by ensiling duration or ratio of root to vine.

Key words

: Composition, fermentation, silage, sweet potato roots, vines

Reference

: Hoang Huong Giang, Le Viet Ly and Ogle B 2004: Evaluation of ensiling methods to preserve sweet potato roots and vines as pig feed. *Livestock Research for Rural Development*. Vol. 16, Art. #45. Retrieved June 30, 2004, from <http://www.cipav.org.co/lrrd/lrrd16/7/gian16045.htm>

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