

## **Abstract**

This research has done for the study of the effect of additives, Propionic acid, Formic acid, Molasses and Urea and on chemical composition, microbial population, dry matter degradability and aerobic stability of Sorghum silage with use of Propionic acid (1%), Formic acid (0.6%), Molasses (10%) and Urea (4%). Ensiling took place in buckets. The silage were opened after 45 days. The silage treated with propionic acid had the highest amount of dry matter. Treatment contains of Propionic acid had higher ether extract than other treatments. The amount of crude protein of sorghum silage increased by treatment includes of all of additives (treatment 6) ( $P < 0.05$ ). All additives used in this study, except of silage treated with Urea, decreased acid detergent fiber and neutral detergent fiber ( $P < 0.05$ ). The total number of microorganisms in the control treatment and treatment contains of Molasses was higher than other treatments. There was no mold pollution in any of silages treated with additives. The effective degradability of the dry matter in treatment contains of all of additives was the highest value ( $P < 0.05$ ). Aerobic stability in treatment contains of all of additives and treatment contains of Propionic acid and treatment contains of Formic acid were higher than other treatments.

**Keywords:** Sorghum silage, Additives, Degradability, Microbial population



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