# Use of Maize Crop Residuals for Bale Silage Production

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This study investigated the effect of cobs remained in the maize crop residues and different inclusion rates of molasses on the nutritional and sensory quality of maize bale silage. PAC 984 grain maize variety harvested after approximately 75 days was used in preparation of silage. Three sets of bale silage were prepared using 25%, 50% and 100% of cobs remained in the maize crop residues to evaluate the effect of cob percentage. Molasses was incorporated at 3% and 5% to evaluate the quality in silage. There were 5 treatments, each with 2 replicates. After 40 days of ensiling, samples were collected for proximate analysis (Dry matter (DM), crude protein (CP), crude fat (CF), crude fiber (F), organic matter (OM) and pH) and sensory evaluation which was carried out for all the treatments immediately after silage bales were opened. Data were subjected to one-way ANOVA and Tukey mean separation test procedures using SPSS software. Cob and molasses percentage significantly ($p<0.05$) affected on DM, CP, F, and pH of silage but not on CF and OM. Silage prepared with 100% cobs showed the highest ($P<0.05$) DM (29.45±0.07%), CP (6.68±0.18%), F (32.65±0.15%) and the lowest pH (4.46±0.01) compared to the other treatments. Silage prepared with 5% of molasses showed the highest ($P<0.05$) DM (27.45±0.07%), CP (5.53±0.14%), and the lowest ($P<0.05$) F (25.66±0.06%) and pH (4.42±0.01) compared to 3% molasses treatment. The sensory evaluation (color, odor and texture) identified the silage prepared with 5% of molasses as the best. This study revealed that silage prepared with residues remaining with 100% cobs was superior in nutritional composition compared to the silage prepared using residues without cobs but low in quality in comparison to bale silage produced commercially using forage maize.

**Keywords;** Cob and Molasses percentage, Maize, Silage

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