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The Potential of Willow Silage as Forage for Lactating Awassi Ewes and their Nursing Lambs

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Abstract

A study was conducted to evaluate the potential of willow silage (*Salix* spp) as a forage source for lactating Awassi ewes and their nursing lambs. Twenty-one Awassi ewes and their lambs were randomly assigned to one of the two dietary treatments; control group (Cont; n = 11) were ewes fed wheat straw, a common expensive forage source in Jordan and willow silage group (WS; n = 10) were ewes fed willow silage as a source of forage of the diets. Concentrate were formulated accordingly to each diet for iso-caloric, iso-nitrogenous rations. Lactating ewes were fed high concentrate diet ad libitum for 10 weeks of lactation. Milk yield and milk component were measured biweekly. Final body weight for ewes were measure at the end of experiment. Weaning weight for lambs were measured at 60 days of age. Blood samples were collected after 6 weeks to measure cell blood count. Neutral detergent fiber (NDF) and acid detergent fiber (ADF) was higher in control diet. There were no differences in final body weight (BW) and body condition score of ewes between two groups. Lambs nursing from ewes in WS diet had higher but not significant weaning BW and average BW gain than control. Ewes fed the willow silage diet had higher ($p < 0.05$) milk production than ewes fed control diets (1150 vs. 956 ml milk per day for WS and Control, respectively) with no differences among treatment groups in total solids, fat and protein content. No different in blood cell count except for platelets count in which WS group had higher platelets count compare with control as a result of higher salicylic acid in willow silage diets. Cost per kg milk production (US\$) was higher ($p < 0.05$) in control group compared with WS. As a results, using willow silage in nursing ewe's diets will increase milk production, improve growth performance of nursing lambs and reduce cost of milk production, which demonstrate a potential to use as a forage source for ewes and their nursing lambs forage sources.

Keywords: willow silage, Awassi ewes, milk production, nursing lambs