

EFFECT OF WATER SPRAY AND FORMALDEHYDE TREATED AND UNTREATED ANISE SEEDS SUPPLEMENTATION ON PRODUCTIVE PERFORMANCE OF HOLSTEIN COWS UNDER HEAT STRESS.

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ABSTRACT

This study was carried out at the Animal Farm pertaining to the Department of Animal Resources, College of Agriculture, University of Baghdad, using 18 multiparous Holstein cows following their peak milk production. The cows were randomly divided into two main groups (with and without spraying the body with water). Each group was sub-divided into three sub groups including 3 cows each representing treatment of anise (0 and 30 gm of formaldehyde-treated anise as well as 30 gm. Formaldehyde untreated anise to the concentrate diet/cow/day). The field part of the experiment was continued for the period from 1/7/2012 to 2/10/2012 to study the effect these treatments on the productive performance under heat stress conditions in Summer. Anise -treated group exhibited greater ($P < 0.05$) average daily milk yield (DMY) during weeks 7th and 9th as compared with the control group. At the week 11th, higher ($P < 0.05$) average DMY was noticed for formaldehyde treated and untreated anise treatments namely 11.85 and 11.36 kg/cow respectively as compared with the control group (10.30 kg/cow), and this effect was continued until the end of the experiment. The average DMY for water- sprayed cows in the third week was 13.16 kg/cow, whereas for non-sprayed group being 12.00 kg/cow. This influence was continued till the end of the experiment. The anise treatment had positive effect ($P < 0.05$) on milk components including protein, fat, lactose and ash during the last periods of the experiment recording 3.01 , 3.66 , 4.45 and 0.66 % respectively for anise-treated group and 2.80 , 2.18 , 4.15 and 0.62 % respectively for non-treated group. The spraying effect of milk fat lacked significance, while decreased ($P < 0.05$) milk protein and lactose constituents in 1/9/2012 of the experiment as compared with non-sprayed group. This effect was continued until the end of the experiment.. The interaction between the anise treatment and water spraying was positively significant ($P < 0.05$) on most studied traits. The formaldehyde 30 gm/cow/day anise treated group was always better than untreated group during the experiment.

Key words : Anise , Holstein , Milk Production and Components .