

**EFFECTS OF CRUSHED LINSEED OR LINSEED OIL SUPPLEMENTATION ON PERFORMANCE OF DAIRY GOATS AND FATTY ACIDS PROFILE IN MILK TOP OF FORM**

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**ABSTRACT**

Fifteen lactating Damascus goats after the first week of lactation were divided into 3 groups (five animals each) using complete random block design to evaluate effect of linseed or linseed oil as diet supplement on rumen parameters, milk production, milk composition and milk fatty acids profile for lactating goats. Animals were fed on 50% concentrate feed mixture (CFM), and 50% berseem clover (control ration), control ration+50g/head/day crushed linseed (LS) and control ration+20 ml/head/day linseed oil (LO). Dry matter intake (DMI) was not affected by LO or LS. Ruminant total volatile fatty acids (TVFA) and butyrate proportions were increased ( $P < 0.05$ ) but, ammonia nitrogen concentration were decreased ( $P > 0.05$ ) with experimental additives. Milk yield, milk protein and milk fat percent were higher ( $P < 0.05$ ) for animals fed LO followed by LS and then control, while milk urea nitrogen was decreased ( $P < 0.05$ ) with additives. The experimental additives decreased ( $P < 0.05$ ) total saturated fatty acids (TSFA) and increased ( $P > 0.05$ ) the proportion of C18:3N3 milk fat. Total unsaturated fatty acids (TUSFA) were increased ( $P < 0.05$ ) with LO but, no significant increase with LS noticed compare to control. The proportions of conjugated linoleic acid (CLA) increased ( $P < 0.05$ ) with adding LO or LS to the diet. It could conclude that adding linseed or linseed oil to goat rations improved the productivity of lactating goats and so enhance milk components with no deleterious effects on general health.

**Key words:** *Conjugated linoleic acid, Goats, Linseed, Linseed oil, Milk production*