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Session 28

Linseed oil and natural or synthetic vitamin E in ewe diets: milk performance and fatty acid profile
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The objective of this study was to evaluate the effects of dietary linseed oil and vitamin E, synthetic or
natural, on milk performance and fatty acid (FA) profile in early lactating ewes. After lambing, forty-eight
Churra ewes were fed daily 2.3 kg of TMR with lucerne and concentrate at a 40:60 ratio. The dietary
therapies were: Control (CTL), without linseed oil), LO (with 3% linseed oil), LO+Syn E (LO plus 400 mg/kg
TMR of synthetic vitamin E) and LO+Nat E (LO plus 400 mg/kg TMR of natural vitamin E). Data were
subjected to ANOVA using the GLM and MIXED procedures of SAS. Milk yield and protein percentage were
not affected by the three diets containing linseed oil compared to CTL (P>0.05), whereas milk fat percentage
increased in dairy ewes fed LO with vitamin E (P<0.05). Milk from LO, LO+Syn E and LO+Nat E treatments
had lower percentages of saturated FA and higher percentages of monounsaturated FA and polyunsaturated
FA (PUFA) than ewes fed the CTL diet. Linseed oil supplementation, without vitamin E, caused an increase
in trans-11 C18:1 (VA; P<0.001), trans-10 C18:1 (P<0.05), trans-10 cis-12 C18:2 (P<0.05), cis-9, trans-11
C18:2 (RA; P<0.01) and in C18:3 n-3 (P<0.001) in milk fat compared to the CTL. Addition of vitamin E to
LO diets did not influence significantly (P>0.05) the majority of milk fatty acids compared to the CTL.
The LO+Syn E treatment resulted in higher percentage of RA (P<0.01) and trans-10 cis-12 C18:2 (P<0.05)
than LO+Nat E and CTL treatments. In conclusion, feeding linseed oil to lactating ewes could be a way to
increase VA, RA and PUFA n-3 in milk, whereas the type of vitamin E (natural or synthetic) added to the
linseed oil diet could influence the content of some conjugated C18:2 isomers in milk.

Digestibility of grass-based diets supplemented with four levels of Gliricidia sepium hay in lambs
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In dry tropical areas of Mexico, Gliricidia sepium hay is readily available; therefore, the objective of the
present study was to evaluate the effect of supplementing G. sepium hay at increasing levels of inclusion
(0, 10, 20 and 30%) on digestibility of BG hay by hair sheep lambs. The objective of this experiment was
to evaluate the effect of supplementing increasing levels of G. sepium with different levels of inclusion
of Buffel grass (BG) hay on digestibility by hair sheep lambs. Eight male lambs were used in a replicated 4×4
Latin square design with 21-d experimental periods (n=4). Animals were fed BG with different levels of
G. sepium: T1) 100% BG (control); T2) 90% BG + 10% G. sepium; T3) 80% BG + 20% G. sepium; and
T4) 70% BG + 30% G. sepium. The intake of crude protein (CP), organic matter (OM) and gross energy
(GE) was higher (P<0.05) in those lambs fed T4 diet than control. NDF and ADF digestibilities were higher
(P<0.05) in T1 than in the other treatments. CP digestibility was higher (P<0.05) in T4 compared to T1, T2
and T3. The study showed that inclusion of G. sepium up to 30% with BG in forage based diets of sheep
does not affect DM and fibre intake, nor influenced DM and OM digestibilities but increases CP intake and
reduces NDF and ADF digestibilities.