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e-mail: A.Koumas@arinet.ari.gov.cy

The effect of artificial rearing on lamb growth and ewe milk production of Chios sheep

A. Koumas and C. Papachristoforou

Agricultural Research Institute, P.O.Box 22016, Lefkosia 1516, Cyprus

Abstract

Multiparous Chios ewes were randomly allocated on either a natural suckling (NS) regime (109 ewes) or were separated from their lambs at birth (124 ewes); separated lambs were artificially reared (AR) on milk replacer. Lambs were weaned at 35 ± 3 days of age. After weaning, 30 male lambs from NS and 45 lambs from AR, were fattened for 63 days. Milk yield of ewes was recorded at 20 days after lambing and at monthly intervals thereafter. No differences were observed in the birth weight of lambs between the two rearing methods (4.2 and 4.1 kg for NS and AR lambs, respectively). NS lambs grew faster before weaning (318 g/day) than AR lambs (275 g/day) and were heavier at weaning (15.6 VS 13.9 kg). After weaning, males from both groups had similar growth rate (NS: 313 and AR: 303 g/day), reaching the same final weight of 34.5 kg at 98 days. Non-suckling ewes produced more milk ($P \leq 0.05$) than NS ewes (291 kg in 220 days VS 229 kg in 189 days, respectively). Regarding milk fat and protein content (%), no differences were observed between suckling and non-suckling ewes (fat: 5.94 and 5.86, protein: 5.42 and 5.46, respectively). In addition, ewes on NS produced 19.3 kg of surplus milk before weaning. Results indicate that artificially reared and suckling lambs reached the same weight at 14 weeks of age despite the lower weaning weight of the former group, while ewes on the zero suckling regime produced more commercial milk over the whole lactation than NS ewes. In dual purpose breeds as the Chios, artificial rearing of lambs may increase farmers' income.