



# Effects of different dietary protein sources on the lactating sheep's milk yield and quality



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## INTRODUCTION

The main food sources of dairy ewes are hay, stubble, crop residues, rangeland and silage, complemented with concentrate feed.

The concentrates feeds are composed mainly by imported raw materials: corn and soybeans, that their price has not stopped increasing.

Local raw materials can be used as alternative to those imported.

## OBJECTIVES

This study aimed to investigate the effect of local raw materials (Triticale, Faba bean, Field Pea) on milk yield and quality of lactating dairy ewes.

## MATERIALS AND METHODS

### Animals and diets

Twenty (20) Sicilo-Sarde ewes divided into two homogenous groups. During the lactating period (12 weeks) ewes received two equal meals of oat hay (1.8 kg/ewe/day) and 500 g/ewe/day of one of two concentrates. The (CF) concentrate included 24% Faba bean, 72 % Triticale and 4% VMC and the (CP) concentrate included 26% Field Pea, 70 % Triticale and 4% VMC.

### Milk analyses

The estimation of milk yield was calculated by multiplying the quantity of milk produced after two hour from feed distribution by 12. Individual milk sample was collected for physico-chemical composition by using Lactoscan.

### Statistical analyses

Data of milk production and chemical composition were subjected to statistical analysis by the GLM procedure (SAS, 2000).

## RESULTS

Table 1. Effect of faba bean and field pea on milk yield and chemical characteristic of milk.

	CF	CP	ESM	P
Milk yield (ml / day/ ewes)	594.67 <sup>a</sup>	541.08 <sup>a</sup>	24.67	0.285
Fat (%)	7.90 <sup>a</sup>	7.83 <sup>b</sup>	0.11	0.769
Protein (%)	5.42 <sup>a</sup>	5.50 <sup>a</sup>	0.05	0.451
Lactose (%)	3.81 <sup>b</sup>	4.02 <sup>a</sup>	0.05	0.037
Urea (mg/dl)	41.53 <sup>a</sup>	44.07 <sup>a</sup>	8.11	0.118

Table 2. Effect of faba bean and field pea on physical characteristic of milk.

	CF	CP	ESM	P
pH	6.65 <sup>a</sup>	6.67 <sup>a</sup>	0.01	0.584
Density	1032.36 <sup>b</sup>	1033.81 <sup>a</sup>	0.17	<.0001
Freezing point (°C)	-0.537 <sup>a</sup>	-0.550 <sup>a</sup>	0.007	0.362

## CONCLUSION

Faba bean, Field pea and Triticale may be incorporated in the formulation of concentrated feed for sheep. These local raw materials can not only maintain milk yield and improve some proprieties but also improve farmer's income, because they are cheaper than those imported.

## REFERENCES

SAS, 2000. Statistical Analysis Systems Institute, Inc, version 8 Edition, Cary, NC.