

TRACE ELEMENTS SUPPLEMENTATION TO DAIRY DONKEY'S DIET: MILK YIELD PER MILKING AND MAJOR MILK COMPONENTS

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INTRODUCTION

- Donkey's milk is indicated as a valid alternative for children with cow's milk allergy or multiple food intolerance
- Studies on ass's milk gross composition showed similarities with human milk
- No data is available on mineral nutrition of lactating jennies
- In Italy, donkey population increased by 30% during the last few years

OBJECTIVE

- to determine the effect of trace elements supplementation to dairy donkey's diet on milk yield and major milk components



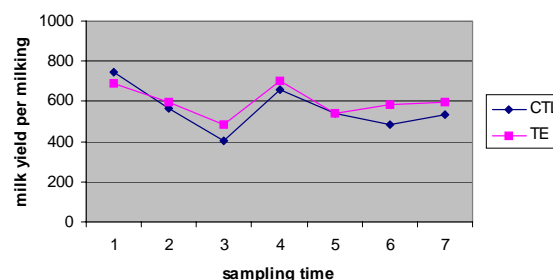
MATERIALS AND METHODS

- Animals and diet** -- 16 Martina Franca derived jennies were divided into 2 groups (Control, CTL, and Trace elements, TE): jennies in CTL group were daily fed 8 kg of coarse hay and 2.5 kg of mixed feed (12.5% CP). Jennies in TE group were fed the control diet but mixed feed was added with 140mg Fe, 24mg Cu, 148mg Zn, 70mg Mn, 3.2 mg I and 0.24mg Se/kg.
- jennies were 32-58 days of lactations at the first sampling time, when dietary treatment started.
- Individual milk samples were collected at 2 weeks interval by machine milking at 11:00.
- Analyses** -- Protein, fat, lactose by IR (Milkoscan 605, Foss Italia); Total solids, ash -- Gravimetric

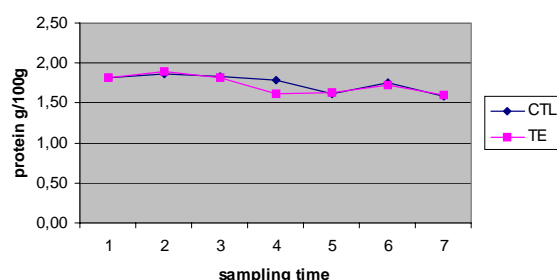
effect of trace elements supplementation on milk yield per milking and major milk components

	CTL group	TE group	
	Mean \pm SE		P
Milk yield per milking, ml	561.25 \pm 24.63	598.98 \pm 25.15	NS
Total solids, g/100g	9.81 \pm 0.04	9.82 \pm 0.04	NS
Protein, g/100g	1.76 \pm 0.01	1.75 \pm 0.01	NS
Fat, g/100g	0.28 \pm 0.04	0.27 \pm 0.04	NS
Lactose, g/100g	7.04 \pm 0.01	7.07 \pm 0.01	NS
Ash, g/100g	0.43 \pm 0.01	0.43 \pm 0.08	NS

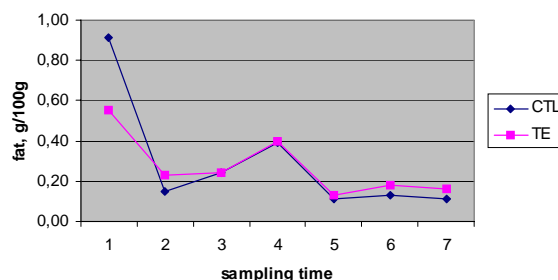
milk yield per milking during the trial



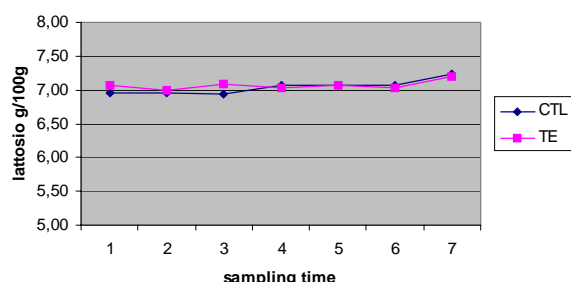
protein content during the trial



fat content during the trial



lactose content during the trial



CONCLUSIONS

- No significant effect of trace elements supplementation was observed on milk yield per milking, total solids, protein, fat, lactose and ash content of donkey's milk
- The effect of sampling time was significant for all the investigated variables
- Further researches will elucidate the effects of dietary mineral supplementation on trace elements content of milk