Effect of sunflower oil with organic selenium and vitamin E inclusion in lactation cow's rations upon milk production, composition and effect on human health[1]

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INTRODUCTION

The heart diseases are the main problem of public health, mainly due to the decrease in life quality, to the great financial expense, besides the responsibility for 30% of total human dead in Brazil. The milk frequently is relate to the heart disease and some professional of human healthy have suggested to take off the milk from the diet due his proportion of saturated fatty acids.

OBJECTIVE

To aggregate quality to the milk, healthy to the animal and to the man, this research was carried out to study the effect of the sunflower oil with organic selenium and vitamin E inclusion in lactation cow's rations. The milk from the different treatments (500 mL/day) was ingested by children from an elementary school.

MATERIAL AND METHODS

Twenty four Jersey cows were allocated in four treatments: C (control); C + A (5 mg of organic selenium + 1000 IU of vitamin E/day): O (3% of sunflower oil in DM diet); O + A (3% of sunflower oil in DM diet + 5 mg of organic selenium + 1000 IU of vitamin E/day). The experimental period lasted 12 weeks with 14 days for adaptation to the diets, with two daily milking, daily evaluation of feed intake and milk production. Weekly were analyzed milk fat, protein, lactose, total solids and somatic cells counting (SCC). In the weeks 0, 4, 8 and 12 were analyzed the cows serum levels of vitamin E and leucocytes.

RESULTS

This research was not concluded yet and are to bee analyzed cholesterol, lipid profile and rate of lipid oxidation in milk. The children that ingested 500 mL milk/day are being evaluated for growth and their serum lipid fractions.

Selenium and vitamin E supplementation improved mammary gland healthy and decreased sub clinic mastitis ($P < 0.05$), increased milk production and milk fat ($P < 0.08$). The oil in the cow diet decreased the dry matter intake ($P < 0.05$). It was no effect ($P > 0.05$) in the leucocytes in blood serum and in the others milk components. Vitamin E supplementation increased vit. E in milk and in children blood.

Serum vitamin E (µg/mL) in children's blood.

	Treatments				
week	**control**	**oil**	**control + vit. E + Se**	**oil + vit E + Se**	**skim milk**
0	**5,48**	**5,22**	**5,52**	**5,24**	**5,28**
4	**5,96**	**8,75**	**7,96**	**10,20**	**5,36**
5	**5,94**	**8,60**	**7,92**	**10,80**	**5,06**

CONCLUSIONS

Sunflower oil with organic selenium and vitamin E decreased sub clinic mastitis and increased milk production. Selenium in cows ration increased serum and milk selenium. Children that ingested milk from cows supplemented with sunflower oil and vitamin E had higher vitamin E blood level.

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