

Effect of Parenteral Administration of Vitamin A in Pregnant Dry Cows, on Vitamin A Status of Neonatal Calves

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Abstract : To evaluate the effect of intramuscular administration of vitamin A during dry period in pregnant dairy cows, which already received it in their daily ration, on vitamin A status of neonatal calves, a total of 30 cows were randomly selected and divided to two main groups; treatment and control group. Animals in the treatment group were subdivided into two groups. Single intramuscular injection of 2000000 IU vitamin A; was carried in 10 dairy cows at 7 months of pregnancy (group 1). In the second group of treated animals (10 cows) the injection was performed in 8 months of pregnancy (group 2). Ten pregnant dairy cows were received saline injection as placebo and selected as the control group. Blood samples were collected from experimental dairy cows at 7 and 8 months of pregnancy as well as their newborn calves' pre and after colostrum intake. There was no significant difference between vitamin A and β - carotene concentration of dairy cows of three groups in two last months of pregnancy ($P > 0.05$). Vitamin A concentration of calves of two treatment groups before and after receiving of colostrum were significantly higher than that in the control group ($P < 0.05$). There was no significant difference between serum concentrations of vitamin A in calves of two treated groups ($P > 0.05$). β - Carotene concentration of serum samples of dairy cows and neonatal calves of three groups were not significantly different as compared with together. From results of the present study it can be concluded that daily supplementation of vitamin A in late pregnancy in dairy cows may not compensate the calves need for vitamin A and single injection of this vitamin A during dry either in 7 or 8 months of pregnancy can significantly increase level of vitamin A in their colostrum and neonatal calves.

Keywords : dry cow, beta carotene, newborn calves, vitamin A, dry cows

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