

Suppada Kananub 2010: Factors Affecting Serum Protein and Immunoglobulin G Levels in Dairy Calves Raised in Small Holder Farms in Thailand. Master of Science (Veterinary Clinical Studies), Major Field: Veterinary Clinical Studies, Interdisciplinary Graduate Programe. Thesis Advisor: Assistant Professor Pipat Arunvipas, Ph.D. 58 pages.

Samples, colostrum and blood, were taken from 51 dairy cows and their calves in Nakhon pathom, Ratchaburi and Kanchanaburi that used evaluate serum protein and immunoglobulin G (IgG) levels of calves. Questionnaires were used to evaluate affecting factors that associated calve's IgG levels. This study found IgG and serum protein levels of calves were similar result. Calves at birth were hypimmunoglobulinemia. IgG and serum protein levels were increased after calves received colostrum, maximum levels in second day after calving. Serum protein and IgG levels were decreased in seventh and fourteenth day after calving. Total Ig and IgG levels in colostrum were similar pattern, maximum levels in calving day and rapidly decreased. Low level of total Ig and IgG were in seventh and fourteenth day after calving. In this study found that quality of colostrums and calve's age at first feeding affecting significantly IgG level's one-day calves. Calves that received low quality colostrum (≤ 50 mg/ml) were more likely to 5.14 times to low IgG level in one day age compare to calves that received high quality colostrum (>50 mg/ml). Calves that received colostrums delay to 6 hours after birth were more likely to 5.85 times to low IgG level in one day age caompare to calves that received colostrums early 6 hours after birth. Besides, calves that received low quality colostrum and delay to 6 hours after birth were more likely to 11 times to low IgG level in one day age compare to calves that received high quality colostrum and early to 6 hours after birth ($p < 0.05$). So neonatal calves management should emphasize quality of colostrums and calve's age at first feeding.

Student's signature

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