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16.3 EFFECT OF PROBIOTIC (*SACCHAROMYCES CEREVISIAE* CNCM I-1079) ON BLOOD PARAMETERS, GROWTH AND HEALTH OF NEONATAL HOLSTEIN CALVES

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Probiotics are used to control or maintain a constant state of intestinal bacteria. When the bacterial populations are altered by stress or antibiotic therapy, animal health and performance may decline. This experiment was design to study the effects of feeding a Probiotic (*Saccharomyces cerevisiae* CNCM I-1079) on growth and health of neonatal holstein calves. Forty -five neonatal Holstein calves were selected from one dairy farm of Mashhad suburb. After birth, calves were randomly assigned to three groups. Calves in group I (control group) received no probiotic. Calves in group II (experiment I group) was given probiotic at 1gr/day with colostrums and then with milk during the first 2 weeks of life. Calves in group III (experiment II group) was given probiotic at 1gr/day with colostrums and then with milk during the first 3 weeks of life. At the third week, milk was replaced with milk replacer. The body weight and skeletal growth (Heart girth, body length and withers height) were measured at birth and repeated every week until 5 weeks of age. Blood samples were collected via jugular vein puncture at the time of weighing and analyzed for hematological indices, plasma total protein concentration and plasma fibrinogen concentration. Fecal scores (fluidity) were monitored and evaluated. Daily health was also recorded. Data were analyzed by using ANOVA, Kruskal-Wallis and Chi-square procedure with SPSS 13. There was not significant differences between groups for hematological indices, plasma total protein concentration and plasma fibrinogen concentration, skeletal growth average daily gain, the incidence of neonatal diarrhea and the days of the treatment; however, fecal scores at third weeks of age between groups I ( $1/8 \pm 0/26$ ) and III ( $1/07 \pm 0/07$ ) was significantly different. The results of this study indicated that under the circumstance of this investigation, Probiotic (*Saccharomyces cerevisiae* CNCM I-1079) was not effective in improving calf performance and health but under nutritional stress condition was effective in maintaining fecal score.