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Effect of Different Levels of Fibrolytic Enzyme on Feed Digestibility and Production Performance in Lactating Dairy Cows

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Abstract : The poor quality conventional feed for the livestock production in Pakistan are wheat straw, tops of sugar cane and tree leaves. To enhance the nutritive value of feed, this study focused on investigating the effects of fibrolytic enzyme (Fibrozyme®, Alltech Inc. Company, USA) at different levels i.e. 0, 5, 10, and 15g/kg of total mix ration on feed intake, digestibility, milk yield and composition, and economics of the ration in Holstein Friesians cows. Twelve Holstein Friesians cows of almost the same age, and lactation stage were randomly allocated into 4 equal groups i.e. A, B, C, and D. Four experimental rations supplemented with Fibrozyme® 0g, 5g, 10g, and 15g/Kg of total mix ration were assigned to these sets correspondingly. The dry matter intake was linearly and significantly ($P<0.05$) improved. A significant effect of Fibrozyme® was observed for organic matter digestibility, ether extract digestibility, crude fiber digestibility, nitrogen free extract digestibility, and acid detergent fiber digestibility while the results were statistically non-significant for crude protein digestibility, neutral detergent fiber digestibility, and ash digestibility. Milk yield and composition except fat were significantly ($P<0.05$) increased in all Fibrozyme® treated groups. This study concludes that supplementation of Fibrozyme® at the rate of 15g/Kg total mix ration improved the dry matter intake, nutrients digestibility, and milk production and constituents like protein, lactose, and solid not fat. Therefore, treatment of total mix ration with Fibrozyme® was desirably reasonable and profitable.

Keywords : digestibility, fibrozyme, TMR, digestibility, lactating cow
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