

THE EFFECT OF DIFFERENT LEVELS OF GARLIC POWDER AND SODIUM MONENSINON ON FECES SCORE AND PERFORMANCE OF STEERS FED HIGH CONCENTRATE DIETS

Amin Gholipour, Amir Davar Forouzandeh Shahraki

Department of Animal Science, Khorasgan Branch (Isfahan), Islamic Azad University, Isfahan, Iran

Corresponding Author E-mail: amina9097@yahoo.com

Introduction

Since the ionophore usage has been forbidden in animal feed, production cost has been increased by 3.5 to 5 percentages. So, the researchers follow some suitable ionophore alternatives. Photochemical existed in plants is one of the potential ionophore alternatives. Thereby, the present study was carried out to evaluate the effect of different levels of garlic powder and sodium monensinon on feces score and performance of steers fed high concentrate diets.

Materials and Methods

Forty Holstein steers were randomly attributed into 4 dietary treatments with 10 replicates each in a complete random design. Experimental treatments consisted of 1) basal diet (control), basal diet supplemented with 30 mg/kg sodium monensinon, 3) basal diet supplemented with 0.5% garlic powder and 4) basal diet supplemented with 1% garlic powder. Length trial included two 28-d periods. Feed intake and body weight gain was measured at d 28 and 56 of trial. Faces score were evaluated weekly according to 1 to 5 scoring system of Michigan University.

Results and Discussion

Results of the current study showed that dietary inclusion of garlic powder led to a significant ($P<0.05$) decrease in feed intake during two 28-d periods. However, the highest feed intake was obtained in steers fed on 30 mg/kg sodium monensinon. In addition, body weight gain was significantly ($P<0.05$) decreased in steers received 1% garlic powder at d 28 and 56 of trial. Nevertheless, the highest body weight gain was observed in steers supplemented with 0.5% garlic powder. This might be attributed to an increase in available energy due to a reduction in methane production (Yang et al. 2007). Similarly, dietary treatments especially 0.5% garlic powder significantly ($P<0.05$) improved feed conversion ratio throughout experiment. An increase in available energy might be responsible for an improvement in feed conversion ratio. Furthermore, feces score was unaffected by supplementation of garlic powder during total weeks of trial.

Key words: garlic powder, performance, feces score, steers

References:

Yang WZ, Benchaar C, Amitaj BN, Chaves AV, He ML, McAllister TA. 2007. Effects of garlic and juniper berry essential oils on ruminal fermentation and the site and extent of digestion in lactating cows. *Journal of Dairy Science*, 90: 5671-5681.