

Effects of Specific Essential Oil Compounds on, Feed Intake, Milk Production, and Ruminal Environment in Dairy Cows during Heat Exposure

Authors : Kamran Reza-Yazdi, Mohammad Fallah, Mahdi Khodaparast, Farshad Kateb, Morteza Hosseini-Ghaffari

Abstract : The objective of this study was to determine effect of dietary essential oil (EO) compounds, which contained cinnamaldehyde, eugenol, peppermint, coriander, cumin, lemongrass, and an organic carrier on feed intake, milk composition, and rumen fermentation of dairy cows during heat exposure. Thirty-two Holstein cows (days in milk= 60 ± 5) were assigned to one of two treatment groups: a Control and EO fed. The experiment lasted 28 days. Dry matter intake (DMI) was measured daily while and milk production was measured weekly. Our result showed that DMI and milk yield was decreased ($P < 0.01$) in control cows relative to EO cows. Furthermore, supplementation with EO was associated with a decrease in the molar proportion of propionate ($P < 0.05$) and increase ($P < 0.05$) in acetate to propionate ratio. In conclusion, EO supplementations in diets can be useful nutritional modification to alleviate for the decrease DMI and milk production during heat exposure in lactating dairy cows.

Keywords : dairy cow, feed additive, plant extract, eugenol

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