

## (163) Growth trends in *Bos grunniens* raised in pasture-based systems in Eastern Kentucky

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Room: Louisville Omni, Olmsted 1

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**Abstract:** *Bos grunniens* (yak) are well-adapted to the rugged, high-altitude regions of central Asia where they are utilized for a variety of purposes. While the species is well-researched in its native land, limited research has been conducted in North America. The objective of this on-farm project was to evaluate performance of male and female growing yaks in pasture-based systems over two years. Grazing periods were 138 and 151 d for Yr 1 and Yr 2, respectively. The same plots were grazed both years, and pasture areas were approximately 0.49 ha each with three animals grazing each pasture in Yr 1 and two animals grazing each pasture in Yr 2. Pastures were comprised mostly of cool-season grasses with intermittent legumes and weeds. Yaks were assigned to one of four pastures based on sex with a total of six males (beginning weight  $132.8 \pm 13.5$  kg) and six females (beginning weight  $124.3 \pm 34.4$  kg) being grazed in Yr 1, and four males (beginning weight  $157.3 \pm 15.0$  kg) and four females (beginning weight  $160.9 \pm 26.4$  kg) being grazed in Yr 2. Animals in Yr 1 averaged 432 d of age, and animals in Yr 2 averaged 710 d of age at the start of the respective grazing periods. Pasture samples were collected throughout the study to assess nutritive value; botanical composition, presence of endophyte and concentration of ergovaline were also assessed. Tall fescue (*Festuca arundinacea*) samples collected at the end of the grazing period in Yr 2 averaged 32.65% infection and 146 ppb ergovaline. Data were analyzed using proc mixed procedure of SAS with sex and year as main effects and pasture as a random effect where  $\alpha = 0.05$ . In Yr 1, males gained at a greater rate than females (0.45 kg/d vs. 0.23 kg/d;  $P = 0.0026$ ). In Yr 2, a similar difference was observed for seasonal gains with males gaining 0.61 kg/d and females gaining 0.25 kg/d ( $P = 0.0003$ ). A difference was also observed between growth rates of males in Yr 1 compared with males in Yr 2 (0.45 kg/d vs. 0.61 kg/d;  $P = 0.0024$ ), but this difference was not observed in females. Gender can impact body weight gain in *Bos grunniens* raised in pasture-based systems with males gaining more rapidly than females.