ABSTRACT

SNAKEWEED (*GUTIERREZIA SPP.*) CONSUMPTION BY GRAZING BEEF CATTLE

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Two studies were designed to investigate snakeweed (SW) consumption by grazing beef cattle. In study 1, microhistological examinations were performed on fecal samples \((n = 337)\) that were collected seasonally from beef cows at two independent ranches and New Mexico State University’s Chihuahuan Desert Rangeland Research Center (CDRRC) and Corona Range and Livestock Research Center. Standing
crop (kg/ha), percent vegetative composition and percent ground cover were estimated for each collection period at each study area. Standing crop (excluding SW) ranged from 183 to 1108 kg/ha, while SW production ranged from 20 to 536 kg/ha. Snakeweed made up from 0.6 to 13.7% of total vegetative composition of pastures. Stocking rate varied widely due to management, season of use, and grazing system. Fecal occurrence of SW, as revealed by microhistological examinations, was only evident in a single sample, at 1.25% of total composition. In study 2, 12 Hereford X Angus cross beef cows were assigned by pairs to six 1 ha paddocks (d 0) at the CDRRC. Pastures were sampled prior to d 0 and after d 8 to estimate standing crop (kg/ha), percent vegetative composition and percent basal cover. Bite counts were recorded morning and afternoon on d 1 and d 8. Beginning total herbage varied among paddocks from 669 to 928 kg/ha, with SW ranging from 251 to 538 kg/ha and making up between 33% and 70% of total herbage by weight. Snakeweed comprised between 17% and 44% of vegetative composition and between 3% and 13% of basal cover for paddocks. All cattle were observed to eat SW at some time, ranging between 0.4% and 6% of total bites taken. Snakeweed comprised 4% of the diet (estimated by bite counts) on d 1.
and 2% on d 8. Bite counts for SW, grass and forbs were different ($p = 0.03, 0.01$ and $0.008$, respectively) between d 1 and d 8, with the selection of snakeweed and forbs shifting downward by half from d 1 to 8. Correlation analysis revealed no significant correlations ($p \geq 0.05$) between bite count and standing crop. Percent SW eaten was positively correlated ($r = 0.85, p = 0.03$) with dropseeds as percent vegetative composition for d1, and with croton as percent vegetative composition ($r = 0.83, p < 0.05$) and basal cover ($r = 0.93, p < 0.01$) for d 8. The relationship that the increase in SW eaten has with available dropseed and croton may simply be due to a cows desire for green forage during early spring and selecting for fresh, green forage more than for species.