

Seasonal Differences in Pasture Species Preferences by Red and Fallow Deer in New Zealand

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Alternative pasture species to the traditionally used endophyte-infected perennial ryegrass have been investigated for deer in New Zealand for two reasons. Productivity peaks of ryegrass-based pastures are out of phase with the summer lactation feed demand of deer, and endophyte infection risks the neuromuscular disorder "Ryegrass staggers." Alternative pasture species with high productivity in summer were compared with ryegrasses for acceptability by deer in all seasons of the year, using a photographic technique specifically developed for recording pasture species preferences and behavior by grazing animals. Research plots were established on a commercial deer farm at Wardville, Matamata, New Zealand, to determine pasture species

preferences by both lactating red deer (*Cervus elaphus*) hinds and stags. Four replicates of each of 16 grasses, herbs, and legumes were sown in 7 x 7 m plots, and when established were used to test the preferences of stags and hinds in each season of the year. Both hinds and stags showed a preference for legumes and herbs compared with grasses, but hinds showed a stronger preference for red clover than did stags. Grasses were more acceptable in winter than in summer, but only "Matua" prairie grass and "Moata" Italian ryegrass were ever as palatable to deer as were the legumes. Red deer grazing behavior was dominated by alternative periods of grazing and lying down, with shorter times spent walking or standing.

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