

AN EVALUATION OF THE EFFECTS OF ANNUAL RYEGRASS CYTOTYPE ON HERBAGE MASS, NUTRITIVE VALUE, AND CATTLE PERFORMANCE

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Annual ryegrass (*Lolium multiflorum* Lam.) can be divided into two cytotypes: diploid ($2n = 2x$) or tetraploid ($2n = 4x$). Improving genetics of diploid to tetraploids results in increased seedling vigor, more robust growth and thus supposedly greater yield. There has been conflicting research that suggests no difference in yield among diploid and tetraploid cultivars. If there is no difference in yield between cytotypes, then is there an advantage in weight gain of cattle grazing tetraploid cytotpe? To determine if there is an advantage in weight gain of cattle grazing diploid and tetraploid annual ryegrass, this research project took place at the H. H. Leveck Animal Research Center in Starkville, MS. Two diploid annual ryegrass cultivars ('Marshall' and 'Tam 90') and two tetraploid cultivars ('Jumbo' and 'Nelson') were planted in 2 acre pastures replicated four times. Four-steers were randomly assigned to each of the 16 pastures for an 82-d grazing period. Initial and end body weights were taken over a two-day period then averaged for each steer. Weights were taken starting at day 0 then every 28-d throughout the season. Final ADG for cattle grazing 'Tam 90' (2.43 lbs/d) were greater than 'Marshall' (2.03 lbs/d). Variability around the mean for cattle grazing 'Nelson' (2.29 lbs/d) and 'Jumbo' (2.18 lbs/d) fell into the same category as 'Tam 90' and 'Marshall'. Other parameters measured included: visual emergence ratings, dry matter yield, and nutritive value.

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