

SEED PRODUCTION, DRY MATTER YIELD AND NUTRITIVE VALUE OF RYE GRASS (*Lolium spp.*) GROWN IN UPCOUNTRY WET ZONE OF SRI LANKA.

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Annual Rye (AR) (*Lolium multiflorum* L.) and Perennial Rye (PR) (*Lolium perenne* L.) are widely cultivated forage species in upcountry wet zone of Sri Lanka. This study was to measure the dry matter yield and nutritive value of PR and PR based White Clover (WC) (*Trifolium repens*) and seed production of AR in upcountry wet zone of Sri Lanka. An established stand of AR, variety Tetila was fertilized and used as a seed crop. Panicles were harvested after maturity and seeds were separated by three manual methods namely, fallen grains after shaking the panicle (FGS), fully stripped grains from the panicle (FSG) and stripped grains after first shaking of the panicle (SSG). Germination percentage and viability of seeds were examined 3 weeks after storage. In the 2nd experiment, two varieties of PR grass namely, Bronzin and Quantum were grown as a pure stand and as a mixture with WC. Four treatments were arranged in a RCBD with 3 replicates in the field. Forage was harvested every 21 to 25 days and fresh yield was measured. Experiment was continued for a period of 3 months and three harvests were taken. Method of seed collection showed a significant ($p < 0.05$) effect on quality and FGS had the best ($p < 0.05$) viability and seed germination % compared to FSG or SSG. Seed yield of Tetila was 580 kg ha⁻¹. Fresh and dry yields of Bronzin Rye were higher ($p < 0.05$) compared to Quantum Rye in all harvests except the 2nd, which coincided with a very dry period. Fresh and dry yield of Bronzin-WC mixture were higher ($p < 0.05$) than that of Quantum-WC mixture. Crude protein (CP) content of Bronzin Rye was higher ($p < 0.05$) than that of Quantum Rye alone or Quantum Rye with WC. However, CP content of Bronzin Rye with WC was higher ($p < 0.05$) than the Bronzin Rye alone. This suggests that Bronzin Rye is the best type to grow in Nuwara Eliya than Quantum Rye and use of WC with Quantum Rye could improve forage quality.

Key words: Annual rye, Nutritive value, Perennial rye, Seed production, Yield