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Influence of growing seasons and genotypes on seed yield and quality in *Cenchrus ciliaris* grass

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Abstract
Seed production of *Cenchrus* grasses is traditionally taken during monsoon season (July to September) as rainfed. In the present investigation observations on seed yield and quality parameters were recorded during monsoon, autumn and spring season during 2014-2017. Analysis of variance revealed significant differences for season, genotype and their interaction for seed yield and its contributing traits and seed quality parameters. Seed yield was higher during spring season ranging from 49.1-204.1 kg/ha and highest seed yield was produced by IG 67-3833 followed by IGFRI-3108 and IG 96-414. Proportion of filled spikelet with true seed was greatly influenced by seasons, ranging from 53-65.8%. Spikelet germination was very poor during monsoon season (19%) as compared to seed produced during autumn (38.1%) and spring (35.4%). Among the genotypes, highest germination was recorded in IG 67-3833 (40.4%) and lowest in CAZRI-75 (22.8%). Ergot sclerotia were found in all the genotypes ranging from 1.6-16.4% in monsoon produce, while in other seasons no incidence of ergot was observed across the genotypes. The findings revealed that it is possible to produce seeds of *Cenchrus* grasses during the three seasons within a year. Higher seed yield with better quality could be obtained during autumn and spring, while higher fodder yield was recorded in monsoon season.

Keywords: *Cenchrus ciliaris,* Germination, Seasons, Seed quality, Seed yield