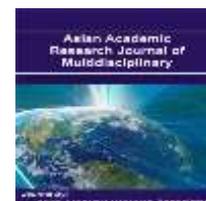




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RAMIFICATIONS OF SEED QUALITY PARAMETERS AND VARIATIONS ON FIELD PERFORMANCE OF PASTURE SEED LOTS MARKETED IN UASIN GISHU, KENYA

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Abstract

Tropical pasture seeds have low purity and germination levels. There may also be variations in seed quality between seed lots, variations in vigour hence causing uncertainties in periods required to attain required crop stand in pasture fields. Stated quality parameters therefore are not reliable estimations of stand establishment of marketed pasture seed. This study was carried out to investigate the implications of laboratory determined seed quality on the germination, vigour and stand establishment of seed lots of Rhodes grass. Certified seed lots of Rhodes Grass (*Chloris gayana* cv Boma) were obtained from registered seed stockists in April 2004, and compared for bulk quality, determined by assessment of purity, standard germination and vigour in laboratory and compared with green house and field experiments. Four (4) different seed lots of Rhodes grass were used as treatments and sown in three (3) replications laid out in Randomized Complete Blocks. Daily growth rates of heterotrophic seedlings in the laboratory were recorded and emergence and final count was assessed in the greenhouse and field. Data was subjected to analysis of variance (ANOVA) and means were separated using the least significant difference (LSD). Laboratory germination for the seed lots ranged from 42.00% to 47.75%. Field emergence ranged from 13.00% to 21.50%. Field stand establishment for the four seed lots averaged 17.38%. The pure germinating seed (PGS) range of the seed lots was between 18.94 to 27.38%, while mean germination time (MGT) ranged from 2.94 to 4.56 days. Out of all seed quality attributes, caryopsis count (PCC) and MGT, as attributes of purity had the highest correlation with field emergence. The results support the incorporation of caryopsis count on pure seed fractions as an additional check to improve the evaluation of Rhodes grass seed purity. Vigour tests give more accurate assessments on germination uniformity and of the planting quality of pasture seed.

Key words: Rhodes grass, pasture seed quality, percent caryopsis count, seed vigour, stand establishment, variation
