Studies on seed quality parameters in deteriorating seeds in Brassica (Brassica campestris)
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Seeds of two promising varieties viz; Sangam and TH 68 of Brassica campestris were stored for 4 years under ambient conditions. Both these varieties with their four seed lots each were studied for various seed quality parameters. Results revealed that the germination percent of both these varieties remained above the prescribed Minimum Seed Certification Standard (85.00%) limit in 1 and 2 years old seeds. Germination percent, seedling length (cm), seedling dry weight (mg), speed of germination, seedling vigor index-1, seedling establishment (%), speed of emergence, seed yield (q/ha.), seed viability (%), dehydrogenase activity test, respiration rate (mlO2/seedling/h), oil content (%), pH of the seed leachates, total protein (mg/g) and peroxidase enzymes (unit g-1 Fr. wt.min-1) decreased significantly as the age of the seed increased. However, this decline was more rapid in 3 and 4 years old seeds in both these varieties. Electrical conductivity (mmhos/cm/seed) and total soluble carbohydrates (mg/g) increased significantly with increase in the age of the seed. Germination percent, seedling length (cm), seedling dry weight (mg), speed of germination, seedling vigor index-1, seed viability (%), respiration rate (mlO2/seedling/h), oil content (%), pH of the seed leachates, total protein (mg/g) and peroxidase enzymes (unit g-1 Fr. wt.min-1) are significantly correlated with speed of emergence, seedling establishment (%) and seed yield (q/ha.). Electrical conductivity (mmhos/cm/seed) and total soluble carbohydrates (mg) were negatively and significantly correlated with speed of emergence, seedling establishment (%) and seed yield (q/ha.).