

Change in storage enzymes activities in natural and accelerated aged seed of maize (*Zea mays* L.)

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SUMMARY

A study was conducted on hybrid maize, viz., Hema. Seeds were subjected to natural *vis-a-vis* accelerated ageing conditions and evaluated for change in storage enzymes activities in natural and accelerated aged seed. The accelerated aging test was carried out at two different temperatures: 41 and 42°C, with four relative humidity levels: 85, 90, 95 and 100 per cent and duration periods of 3, 6, 9 and 12 days. Natural ageing was carried for 12 months. The present investigation revealed that the level of various enzymes have been studied so as to find the exact cause of seed deterioration. The activity of all the enzymes, viz., peroxidase, dehydrogenase and amylase decreased after natural and artificial ageing treatment in all the varieties. Among different ageing treatments, the dehydrogenase activity and amylase activity were recorded less in natural as well as accelerated aged seed lot as compared to fresh lot. In natural aged seed lot peroxidase activity decreased as the ageing progressed. The results revealed that, high level of correlation between loss in seed viability and the decreases that occurred in enzyme activity.

Key Words : Storage enzymes activities, Accelerated aging test, Seeds, Maize

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