

Title Storability of onion seeds and effects of packaging and storage conditions on viability and vigour

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Abstract

Fresh onion seeds desiccated to 6.0% seed moisture content (SMC) were stored in various packaging materials under different storage conditions. Seeds packed in aluminum-laminated pouches beside those stored with silica gel at 25 °C maintained satisfactory germinability and vigour after 12 months. Desiccated seeds stored in moisture impervious containers produced more vigorous seedlings. Germination potential of onion seeds increased with reduced SMC besides storage in moisture impervious packets along with desiccants as physiological and biochemical attributes are regulated. Seed viability and vigour decreased with accelerated ageing due to increased lipid peroxidation, decreased activities of several free radical and peroxide scavenging enzymes. Electrical conductance of seed leachates also increased with ageing. Thus, adoption of appropriate storage temperature and moisture control techniques would significantly affect onion seed quality, which was due to minimum accumulation of free peroxide radicals and enhanced activity of free radical scavenging enzymes.