Title Effect of set-size and storage temperature on bolting, bulbing and seed yield in two onion cultivars

Author Khalid Mahmud Khokhar

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Abstract

The effects of three set-sizes (12.5, 17.5 and 22.5 mm in diameter) and seven storage temperatures (0, 5, 10, 15, 20, 25 and 30 °C) on bolting, bulbing and seed yield in two onion (*Allium cepa* L.) cultivars 'Hygro' and 'Delta' were investigated. The incidence of bolting increased linearly with set-size and curvi-linearly with decreasing storage temperature. Time to inflorescence emergence and floret opening showed a curvi-linear response to storage temperature with the earliest inflorescence emergence and floret opening occurring at 5 °C and the latest at 30 °C for 'Hygro' and at 25 °C for 'Delta'. Seed yield per umbel also showed a curvi-linear response to storage temperature with the lowest seed yield occurring at 30 °C for 'Hygro' and at 25 °C for 'Delta' and the highest seed yield at 5 °C. For a seed crop, storage of large sets (22.5 mm) of these cultivars at 5 °C for 120 days appeared to be optimum with 5–12% higher seed yield per umbel than that of 90 days storage. Bulb yield showed a curvi-linear response to storage temperature with the highest bulb yield occurring at 25 °C and the lowest at 5 °C.