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
Effects of Stratification, Temperature and Storage on Germination in Three Provenances of *Fraxinus angustifolia* subsp. *oxycarpa* Seeds

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Abstract: The effects of stratification, temperature and storage on seed germination performance were investigated in 3 provenances of *Fraxinus angustifolia* subsp. *oxycarpa* seeds. In the first study, seeds were subjected to 9 different periods of cold stratification or warm stratification followed by cold stratification to overcome dormancy. Stratification and provenances affected seed germination percentage (GP) and germination value (GV) when seeds were germinated in darkness at 30/20 °C. Sixteen weeks' cold stratification (GP = 40.0, GV = 3.8), 4 weeks' warm stratification + 4 weeks' cold stratification (GP = 43.7, GV = 4.2) and 4 weeks' warm stratification + 8 weeks' cold stratification (GP = 45.8, GV = 4.3) were the most efficient in promoting germination performance, as well as dormancy removal. In the second study, the effects of storage at +4 °C and -5 °C for 12 months on the quality of pretreated seeds were investigated. Seeds from each provenance stored at +4 °C were germinated during storage, while seeds stored at -5 °C had high germination parameters after storage. In the third study, dormant seeds stored at -5 °C and +4 °C for 12 months were subjected to stratification (4 weeks of warm + 4 weeks of cold stratification) and then germinated at 30/20 °C, 20 °C and 25/4 °C. Germination performance was not reduced by storage temperature in any provenances but was significantly affected by germination temperature, and the 25/4 °C regime always gave the highest germination parameters (GP = 60.8, GV = 6.6).

Key Words: *Fraxinus angustifolia* subsp. *oxycarpa*, seed dormancy, pretreatment, seed storage

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