

Abstract

In order to evaluate the effect of harvesting time from mother plants during the growing season and varying temperature conditions during storage on the dynamics of seed dormancy of Lamb'squarters (*Chenopodium album* L.) and Redroot pigweed (*Amaranthus retroflexus* L.) has been conducted research in 2012 at the Weed Science Laboratory, College of Agriculture and Natural Resources, Tehran University. Seeds of each species after maturity in three months August, September and October were separated from the mother plant. The seeds was placed into pots with soil moisture content -1 bar. The pots were kept at temperatures of 5, 10, 20 and 30°C and in germinator. After the 40 days duration the seeds storage the germination tests was conducted at temperatures of 15, 20, 25, 30 and 35°C in darkness and light. Numbers of the germination tests was 4 times and overall seeds retention times was 160 days. Experimental results showed that the pattern of seed germination in two species was differ in the three months, so that for Redroot pigweed seeds in September and for Lamb'squarters seeds in August the highest percentage of germination was observed. The germination response was changed after the experience of storage conditions that affected harvesting time, temperature and storage duration. These changes are due to the considered temperatures in this experiment reduced dormancy level and increased germination rates. *Chenopodium album* L. seeds were kept at 10 and 5°C result in higher germination rates, thus this temperatures reduced level of dormancy in seeds of Lamb'squarters. At 20°C minimum germination of seeds Lamb'squarters can be observed. The Redroot pigweed at 10 and then 20°C were conducted the high percentage of germination. In this species appears to reduce levels dormancy in each of the four storage temperatures. In connection with the storage duration, for *C. album* L. seeds 160 days and for *A. retroflexus* 120 and 160 days, was able to do high percentage of seed germination. Temperature of 20°C during germination tests the best conditions provided for obtaining a high germination percentage of *C. album* L. seeds. At temperatures 30 and 35°C conducted the lowest germination in seeds of this species. In *A. retroflexus* respectively, at 30 and 35°C, was performed the highest and lowest germination rates at 20 and 15°C. Showed both species studied higher germination in light compared to dark treatment.

Keywords: Germination pattern, Dormancy, Storage temperature, Harvesting time seed, Storage duration.