

Pregermination Treatment of Eastern Redcedar Seed

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INTRODUCTION

Eastern redcedar (*Juniperus virginiana*) is a major component of windbreaks and wildlife habitat plantings throughout the Great Plains. This species is notorious for inconsistent germination with results varying with the seed source and crop year.

Great Plains nursery managers have found that seeding redcedar in mid to late summer provides fairly consistent germination. However, late spring frosts occasionally kill new germinants resulting in inconsistent supply of seedlings. It has been suggested that planting pre-ripened seed after danger of frost may be a solution to this problem.

The author stumbled onto a procedure to pretreat redcedar which gives consistent results in a container-grown seedling nursery. His procedure is described in this paper.

PROCEDURE

Our first attempt to grow redcedar in a greenhouse was with freshly collected seed. After studying the seed manual (Schopmeyer 1974), a 60 day moist-cool treatment was used with excellent results. Our education began the next year when

we used the same seed and treatment only to have nearly zero germination. It was apparent that seed which had been dried for storage required different treatment than freshly collected seed.

The author has forgotten who to give credit for the suggestion that he should try to duplicate the treatment that bare-root nursery managers were in effect using by planting in late summer. He will be forever thankful for the suggestion. He found that a 30-day moist-warm period followed by a 90-day moist-cool period gives consistent germination. This treatment has been used successfully on seed from Kansas, Nebraska and South Dakota seed sources.

We treat the seed in five gallon plastic buckets with holes in the bottom to ensure drainage. Before placing the seed in stratification, the seed is soaked in water for 24 hours. Peat and seed are alternated in 1.5 inch layers. The seed is placed in fiberglass net (window screen) bags so that it can be easily separated from the peat. The peat and seed are kept moist, but well drained. The warm period is at room temperature-usually 70 to 80 degrees F, and the cool period is 33 to 35 degrees

Van Haverbeke and Comer's (1985) research suggests that these results can be improved with

a 96 hours soak in citric acid (10,000 ppm), 6 weeks in moist-warm (24 degrees C and 10 weeks moistcool stratification (5 degrees C). There is a need for continued research to develop a quick, reliable method to pretreat redcedar seed.

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