

Excised Embryo Test for Western White Pine¹

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Abstract.--The excised embryo test provides accurate estimates of viability for Western White Pine (Pinus monticola) seed in 10 days.

INTRODUCTION

Western White Pine (Pinus monticola) seed is dormant and needs three months stratification and one month incubation for laboratory germination testing. Often the seed dormancy is still not overcome and the germination test is substantially below the germination in the nursery beds. A quick viability test should be used for deep dormancy species. The excised embryo test has been used on tree seed to determine viability since 1934 (Heit 1955) and has a close correlation with actual germination.

THE EXCISED EMBRYO TEST

The excised embryo test is quick, seven to ten days, and accurate. It works well on Western White Pine (Pinus monticola). The test is performed on 200 seed per lot as follows:

1. Surface sterilize the seed.
2. Cut 1 mm off the radicle end of the seed.
3. Soak the seed in water 18 hours.
4. Cut the seed on both sides of the embryo.
5. Pry open the seed to expose the embryo.
6. Remove the embryo with a needle.
7. Incubate the embryo nine days at 20°C. Live embryos will spread open the cotyledons and green up. Dead embryos will deteriorate.

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