

GERMINATION OF DIGGER PINE

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Seeds of digger pine (*Pinus sabiniana* Dougl.) have a hard seed coat and are large, often exceeding one-half inch. The Woody-Plant Seed Manual (USDA Misc. Publ. 654), the standard reference on seeds of North American tree species, does not contain information on germination of digger pine. Therefore, our experience with germination of this species, although limited, may interest others interested in this species.

Seeds collected in the fall of 1967 near Redding, Calif., and stored at 35° F. until January 1968, were soaked in distilled water for 48 hours. Then, the seeds were divided into seven lots of 50. Three lots were transferred immediately to a room maintained at 90° F. and 80-percent relative humidity. The remaining lots were transferred after 6 weeks of naked stratification at 35° F. For the seventh lot, the thickness of seed coats at both ends of the seeds was reduced about one-half by using sandpaper before stratification.

Germination of stratified seeds started about 4 weeks after the seeds had been placed in a hot-wet room, and then continued for 16 weeks. Average germination of stratified seeds with intact seed coats (Lots 4-6) was slightly under 50 percent (fig. 1) ; but for seeds that had been sanded (Lot 7), germination was almost 90 percent. All unstratified seeds failed to germinate.

Stratified and unstratified seeds that had not

germinated were removed from the hot-wet room after 27 weeks and cut open for inspection. None of these seeds was empty or damaged by insects.

The results indicated that stratification is essential for germination of digger pine and that treatments, weakening the hard seedcoat, are likely to increase germination.

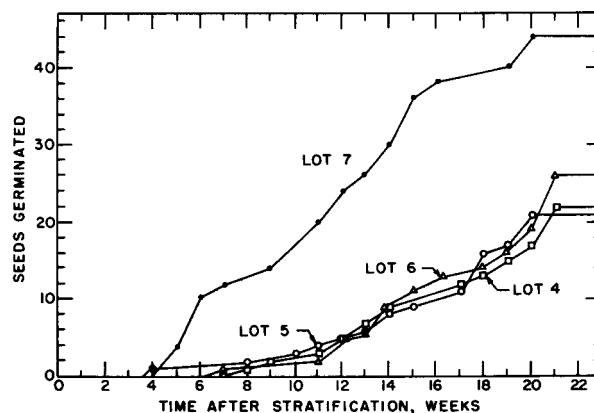


Figure 1.—Germination of stratified seeds with intact seed-coats (Lots 4-6) and with seedcoats weakened by sanding (Lot 7) .