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## Upgrading germinability of ponderosa pine seeds from Patagonia, Argentina, by adjusting prechilling periods and applying the IDS technique

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**Abstract** Ponderosa pine (*Pinus ponderosa* Dougl. ex. Laws.) is the most planted conifer species in the forest-steppe ecotone of Patagonia, Argentina, because of its adaptability and excellent growth rates. In spite of this, and the increasing demand for this species, local commercial seed lots showed low quality, making hazardous seedling production. Aiming to upgrade germinability of a local seed lot, we set an experiment to determine the duration of the prechilling period (0, 10, 20, 30, 40 and 60 days) that promoted the highest seed germination speed (GE) and percentage (GP). Moreover, part of that lot was IDS treated, in an attempt to separate empty and dead filled seeds from viable seeds. Results showed that after 40 days prechilling, GE reached 62%, and GP 70%, both higher than the values obtained under customary conditions. The application of the IDS technique, after 40 days prechilling, 8 h drying at ambient conditions ( $16 \pm 2^\circ\text{C}$  and 50% HR), and 25% seed moisture content (mc), increased GE and GP to 68% and 89%, respectively. Optimal prechilling periods and the application of the IDS technique successfully improved germinability of ponderosa pine seeds from Patagonian stands.

**Résumé** Le pin à bois lourd (*Pinus ponderosa* Dougl. ex. Laws.) c'est l'espèce de conifère la plus plantée dans l'écotone forêt-steppe en Patagonie, Argentine, dû à son adaptabilité et ses excellents taux de croissance. Par cette cause, et aussi par la demande croissante pour cette espèce, l'approvisionnement local de semences manque encore de qualité ce qui fait incertaine la production en pépinière. Afin d'améliorer le taux de

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