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**17. © Boiling water scarification plus stratification improves germination of *Iliamna rivularis* (Malvaceae) seeds.** Himanen, K., Nygren, M., and Dumroese, R. K. Native Plants Journal 13(3):244-254. 2012.







# Boiling water scarification plus stratification improves germination of *Iliamna rivularis* (Malvaceae) seeds

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## ABSTRACT

Scarification with boiling water plus stratification was most effective in improving germination of *Iliamna rivularis* (Douglas ex Hook.) Greene (Malvaceae) in an experiment that compared 3 treatments. Seeds from 15 sites representing 5 western US states were used in the experiment. Initial response of the seedlots to the treatments was similar, apart from one seedlot. The control treatment (intact seeds) yielded poor germination (1.8%). Mechanical scarification (part of the seedcoat removed) improved germination (average germination 49%), but not as much as the combination of boiling the seeds for 120 s plus stratifying them 28 d at 4 °C (average germination 70%). Germinants from the boiling plus stratification treatment appeared to be more vigorous. Impermeability of the seedcoat is the main factor preventing germination, but the response of embryos to stratification may suggest some physiological dormancy. These treatments can be adapted to nursery production of this species, which has ornamental potential and ecological importance.

Himanen K, Nygren M, Dumroese RK. 2012. Boiling water scarification plus stratification improves germination of *Iliamna rivularis* (Malvaceae) seeds. *Native Plants Journal* 13(3):244–254.

## KEY WORDS

streambank wild hollyhock, fire adapted, physical dormancy, seedbank

## NOMENCLATURE

USDA NRCS (2012)

## CONVERSIONS

1 m = 3.3 ft  
 1 cm = 0.4 in  
 1 mm = 0.04 in  
 1 ml = 0.034 oz  
 °F = (°C x (9/5)) + 32

*Iliamna rivularis* dominating a site in northwestern Montana 2 y after the 2006 Red Eagle Fire in Glacier National Park. Photo by LK Vance