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**213. © The Pop Test: a quick aid to estimate seed quality.** Tilley, D. J., Ogle, D., and Cornforth, B. *Native Plants Journal* 12(3):227-232. 2011.

# The Pop Test

A QUICK AID TO ESTIMATE SEED QUALITY



Figure 1. Hot plate mounted on a propane heater used for conducting “pop” tests at the Aberdeen Plant Materials Center.

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## ABSTRACT

The seed cleaning and certification process can be shortened by making relatively accurate in-house measurements of seed quality. The USDA Natural Resources Conservation Service Aberdeen Plant Materials Center (PMC) uses a simple procedure known as the Pop Test to estimate seed quality prior to sending seedlots to a laboratory for testing. Pop Tests are conducted simply by heating seeds on a hot plate until they pop. The accuracy of the Pop Test was evaluated by comparing test results with germination and tetrazolium results obtained from a certified laboratory on 14 native species. Results indicate that the Pop Test is a good predictor of seed fill in newer lots of seed. Combined pop and movement responses were well aligned with laboratory results indicating that seed with any movement should be counted as viable. Accuracy of the Pop Test decreases with seed age, because seed embryos die at a quicker rate than seeds lose moisture, retaining the ability to pop even after the seed becomes unviable.

Tilley DJ, Ogle D, Cornforth B. 2011. The Pop Test: a quick aid to estimate seed quality. *Native Plants Journal* 12(3):227–232.

## KEY WORDS

germination, seed cleaning, seed processing

## NOMENCLATURE

USDA NRCS (2010)

Photos by Derek J Tilley