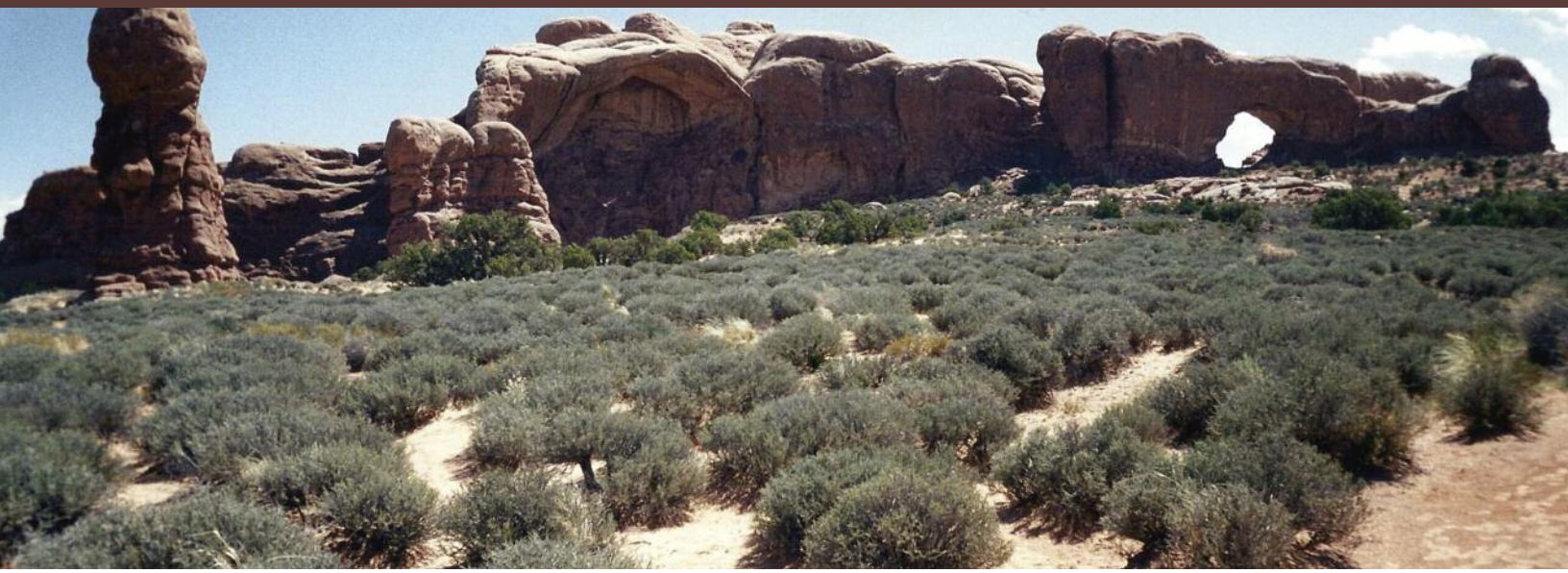
From Forest Nursery Notes Winter 2013

70. © Viability of blackbrush seed (*Coleogyne ramosissima* Torr. [Rosaceae]).
Pendleton, R. L., Pendleton, B. K., Meyer, S. E., Carlson, S., and Morrison, E. Native Plants Journal 13(1):5-13. 2012.



VIABILITY OF

Blackbrush seed

(*Coleogyne ramosissima* Torr. [Rosaceae])

FOLLOWING LONG-TERM STORAGE

Rosemary L Pendleton, Burton K Pendleton, Susan E Meyer, Stephanie Carlson, and Elizabeth Morrison

ABSTRACT

Blackbrush (*Coleogyne ramosissima* Torr. [Rosaceae]) is a landscape-dominant shrub that occurs in an ecotonal band between warm and cold deserts of the western US. This vegetation type is at considerable risk from stand-replacing wildfires due to the introduction of exotic annual grasses. Because blackbrush does not form a persistent seedbank, restoration following fire requires that seed produced in mast years be collected and stored for future use. This study examined germination of 32 collections of blackbrush seed following 12 to 27 y of storage at room temperature. Germination and emergence of multiple seed collections taken from across the geographic and elevational range of this species revealed that blackbrush seed can be maintained in storage for long periods of time. Average germination remained high (> 80%) for the first 10 to 12 y of storage. Emergence was low, however, when germination percentage fell below 50%, indicating that production from older seed may require that germinants be planted in a greenhouse to produce plants for later outplanting to the field. Based on current climate predictions, blackbrush will likely migrate upward in elevation and (or) latitude as conditions become warmer and drier. Seed for restoration would best be used at the blackbrush upper elevational range or higher.

Pendleton RL, Pendleton BK, Meyer SE, Carlson S, Morrison E. 2012. Viability of blackbrush seed (*Coleogyne ramosissima* Torr. [Rosaceae]) following long-term storage. Native Plants Journal 13(1):5–13.

KEY WORDS
emergence, germination, seed longevity, Mojave Desert, Colorado Plateau, restoration

NOMENCLATURE
USDA NRCS (2011)

Figure 1. Blackbrush community in Arches National Monument, Utah, on the Colorado Plateau. Photo by Rhean Pendleton