



Long Term Storage of Mojave Seed Species

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The increased occurrence of wildfires throughout the west is an extremely serious challenge for resource managers and researchers. In recent years the invasion of the exotic annual grass, red brome (*Bromus rubens*), has increased the chance of ignition as well as the rate, spread and frequency of wildfires throughout the Mojave Desert. Burgess Kay, a retired Wildland Seeding Specialist from the University California Davis, pointed out 30 years ago about the importance seed collecting and proper storage of desert plant seed and then reported on the germination of desert plant seed under different storage conditions. The collection of these desert plant seeds is even more important where erratic seed production is the norm. If any restoration/revegetation attempts are going to have a chance to be successful in post-wildfire events, the collection of these desert plant seeds is going to have to be very aggressive when seed production occurs, otherwise there will not be enough seed quantity for these restoration efforts. Burgess pointed out more than two decades ago that in his study of 115 desert plants, mostly from the Mojave Desert, that dry seed in a sealed condition appeared to be the most important factor for increasing storage life. We tested the viability of 104 of these same seed species that were held at the USDA, Agricultural Research Service, Wildland Seed Laboratory for long term viability. Some of these seeds have been stored for 36 years at -15°C and 4°C. Surprisingly, some seed species [yellow yarrow (*Eriophyllum confertifolium*)] increased in germination compared to Kay data, while other seed species [spiny hopsage (*Grayia spinosa*)] maintained the germination levels or even decreased significantly [Palo Verde (*Cercidium floridum*)] in germination over the time period. Long term storage of seed of desert plants can be a very important part in the equation as researchers and resource managers attempt to restore plant communities devastated by wildfires as is currently being experienced in the Mojave Desert.

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