

Seed Storage Media Effects on Persimmon Germination

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INTRODUCTION

Common persimmon, *Diospyros virginiana*, is a medium to large narrow tree that produces edible fruit. Tripp and Raulston (1995) state "*Diospyros virginiana* has a lot to offer American landscapes". Persimmon is an attractive native tree that may be a valuable landscape tree because it is tolerant of diverse environmental conditions (Bir, 1992; Dirr, 1990; Whitcomb 1983).

Persimmon seeds were collected from native trees in Caldwell County, Kentucky on 7 Dec. 1995. The seeds were prepared for storage by two methods: (1) Moist seed — cleaned (cap, skin and the easily removed pulp removed), and (2) Dry seed — cleaned, dried for 3 days, and the remaining pulp removed. The following treatments were replicated three times: (1) moist seeds; (2) dry seeds; (3) moist seeds in dry perlite; (4) moist seeds in moist perlite; (5) dry seeds in dry perlite; (6) dry seeds in moist perlite; (7) moist seeds in dry peat moss; (8) moist seeds in moist peat moss; (9) dry seeds in dry peat moss; (10) dry seeds in moist peat moss. Plastic 1-gal storage bags containing 25 seeds per replicate with three replicates per treatment were placed in the refrigerated storage (40F) immediately after treatment.

The seeds were removed from refrigerated storage and planted into a commercially prepared media (Pro-Mix BX) in 10 inch³, 8.25-inch-long tubes (SC-10 Super Cells, Stuewe and Sons, 2290 S.E. Kiger Island Drive, Corvallis, OR 97333-9461) on 27 April 1996. Germination data was collected weekly through 10 June 1996 when maximum germination for the best treatments was repeated.

Table 1. Percent germination for stored persimmon seed.

Storage media/seed preparation	Percent germination
Moist perlite/moist seed	93.3a ¹
Moist perlite/dry seed	89.3a
Moist peat/dry seed	86.7a
Moist peat/moist seed	84.0a
Dry perlite/moist seed	82.7a
Dry peat/dry seed	20.0b
No media/dry seed	16.0b
Dry perlite/dry seed	14.7b
Dry peat/moist seed	12.0bc
No media/moist seed	4.0c

¹Means with the same letter are not statistically different at the 0.05 probability level using Fishers protected LSD.

RESULTS AND DISCUSSION

Percent germination data (Table 1) suggest that storage in moist medium is beneficial regardless of the seed preparation. As moisture and cool temperatures are required for stratification of many plants this would be expected. Dry perlite as a storage media for moist seeds was not significantly different from using moist perlite or peat moss as a storage media for moist seeds. It is speculated that dry peat moss removed moisture from the remaining pulp on the moist seeds to the point that their germination percent was the equivalent of the dry peat moss/dry seed. Therefore, stratification could not be completed in the seed stored in dried peat moss until moisture was provided at planting.

SIGNIFICANCE TO THE INDUSTRY

Persimmon seed that is to be collected in the fall, refrigerated over the winter, and directly seeded in the spring should be stored in moist perlite or moist peat moss and placed in a sealed container in order to optimize germination. If a dry media is to be used as a storage medium, perlite is the preferred medium when moist seeds are used. For convenience of handling, the seed can be cleaned or cleaned and dried before storage in moist perlite or peat.

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