

WISLIZENIA REFRACTA ENGLM.

COMMON NAME: SPECTACLE FRUIT, JACKASS CLOVER

FAMILY: BRASSICACEAE (FORMERLY CAPPARACEAE)

GROWTH FORM: ANNUAL OR PERENNIAL HERB



PLANTING

Ideally, seeds of this species would be planted by the beginning of January, to maximize the likelihood that they will receive sufficient precipitation to germinate in the spring. However, we have planted the species as early as November. Seeds were hand-sown onto mounded planting beds, and a thin layer of soil was then raked over them. The seeds germinate readily without any form of pre-treatment.

PHENOLOGY

During two growing seasons with below average precipitation, we observed the species germinating at the beginning of April. In a growing season with above average precipitation, we observed that the species had germinated by the end of February. The species has a long flowering window; peak flowering time is from July through September. However, we have observed the species in flower as early as June and as late as October.

SEED HARVESTING

Fruits are nutlets with two segments and are borne on thin stalks that are attached to the plant stems. Fruits are ready for collection when they are dry and brown; they are retained fairly well on plants as they senesce. We either strip fruits from plants by hand or clip fruit-bearing stems off of plants.

SEED PROCESSING METHODS

Using a hammer mill, raw plant material is reduced into a coarse but uniform mixture of seeds and associated chaff (e.g., pieces of stems, leaves, floral structures). In the

absence of a hammer mill, plant material can be broken up by rubbing it over a screen or sieve. Some of the fruits will break apart into single segments whereas some will remain as two attached segments; this makes it somewhat difficult to separate fruits from chaff using a screen or sieve. However, we have still had reasonable success with using sieves of different mesh size or a Clipper Office Tester or Clipper Eclipse (both made by the A.T. Ferrell Company) to separate fruits from chaff.

CULTIVATION OVERVIEW

W. refracta was sown in the nursery for seven consecutive years, and we were able to harvest seed during five of the years. We observed that the placement of floating row cover over a bed of planted seed substantially improved germination. The species grows vigorously and has good competitive ability against non-native weedy species. The species frequently germinates from the soil seed bank at the nursery without being replanted. The species does not seem to be susceptible to wildlife herbivory. The false chinch bug (*Nysius raphanus*), an insect pest, has caused significant damage to *W. refracta* plants in some years.

ADDITIONAL INFORMATION ABOUT WISLIZENIA REFRACTA:

Internet Resources

Species profile from the Ladybird Johnson Wildflower Center at the University of Texas:
http://www.wildflower.org/plants/result.php?id_plant=WIRE

Literature

Keller, S. 1979. A revision of the genus *Wislizenia* (Capparidaceae) based on population studies. *Brittonia* 31: 333-351.

PREPARED BY

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PHOTOS





W. refracta seedling at the native plant nursery during April 2007.



W. refracta at the Kerman Ecological Reserve (managed by the California Department of Fish and Game)



W. refracta seeds. Scale shown is millimeters.