

***GUILLENIA LASIOPHYLLA* (HOOK. & ARN.)**  
GREENE

**COMMON NAME: CALIFORNIA MUSTARD**

**FAMILY: BRASSICACEAE**

**GROWTH FORM: ANNUAL HERB**



**PLANTING**

Ideally, seeds of this species would be planted during October, before the winter monsoonal period of November through March. However, we have planted the species as late as December. 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**

When growing in the San Joaquin Valley, *G. lasiophylla* germinates with winter rains and will typically begin flowering in April. The peak time for seed collection is from mid-April through May. Fruits are retained fairly well on plants as they senesce, and a small amount of seed could potentially still be available for collection several months after senescence. During one year, we collected seeds as late as September. However, a decrease in seed viability may occur over time.

**SEED HARVESTING**

We typically wait for all the fruits on a given plant to mature and then collect the entire plant. With this approach, it is possible that some of the early-maturing seed will already have been dispersed. Plants are ready for collection when the fruits are dry and brown, with no green color remaining. It is ideal to minimize the amount of soil that is collected along with the plants; soil particles that are of a similar size and weight as the seeds can be very difficult to remove during seed processing. We would transport harvested plant material to a warehouse for seed processing.

**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). Seeds can then be separated from chaff using either a Clipper Office Tester or Clipper Eclipse (both made by the A.T. Ferrell Company). An air separator (Seed Tech Systems, LLC.) can be used to remove additional lightweight chaff. For relatively small seed lots or in the absence of the equipment mentioned, plant material can be broken up by rubbing it over a screen or sieve. Wire mesh sieves with various screen sizes can then be used to separate seeds from chaff.

**CULTIVATION OVERVIEW**

*G. lasiophylla* was sown in the nursery for two years and we were able to collect seed during both years. In consecutive years, the species germinated from the soil seed bank without being replanted.

The false chinch bug (*Nysius raphanus*), an insect pest, has caused significant damage to *G. lasiophylla* plants in some years. This is not surprising given that non-native mustard plants, which are preferred host plants of the insect, are in the same plant family as *G. lasiophylla*.

*G. lasiophylla* performed well at the nursery; it germinated readily, grew vigorously, and reliably produced seed. However, weed control was an important factor in our success with cultivating *G. lasiophylla*. The dominant weed species at the nursery germinate so densely and grow so aggressively that in the absence of weed control, they would have significantly hindered the growth of the planted natives. The use of irrigation in response to seasonally low rainfall was also a contributing factor in our success with cultivating *G. lasiophylla*.

**ADDITIONAL INFORMATION ABOUT *GUILLENIA LASIOPHYLLA*:**

*Internet Resources*

Seed photos from the Rancho Santa Ana Botanic Garden:  
<http://www.hazmac.biz/080109/080109GuilleniaLasiophyllus.lushtml>

## Literature

Keeley, J.E. and C. J. Fotheringham. 1998. Smoke-induced seed germination in California chaparral. *Ecology* 79: 2320-2336.

Brooks, M.L. 2000. Competition between alien annual grasses and native annual plants in the Mojave Desert. *American Midland Naturalist* 144: 92-108.

## PREPARED BY

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## PHOTOS



*G. lasiophylla* seeds. Scale shown is millimeters.