Cultivation Efforts Aid Recovery for Gentner's Fritillary (*Fritillaria gentneri*: Liliaceae)

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Fritillaria gentneri (Gentner's fritillary), one of Oregon's most beautiful wildflowers, is listed as endangered by the Oregon Department of Agriculture (ODA) and the United States Fish and Wildlife Service (USFWS). A federal Recovery Plan for this species, including recommendations for population augmentation and reintroduction, was released in 2003. To initiate implementation of the Plan, the Native Plant Conservation Program (NPCP - Oregon Department of Agriculture) - in cooperation with the Bureau of Land Management (BLM), USFWS, and the City of Jacksonville, Oregon - documented sexual and asexual reproduction in this species, and developed protocols for producing transplants.

In determining the potential for using wild-collected seed in recovery projects, we evaluated the seed production capability of native populations of *F. gentneri.* Intermittent seed production has been reported, but doubts were raised as to the parentage of the seed observed. In the first year of our study, no fruits were produced in response to189 conspecific pollination treatments. In a subsequent year, fruits were produced by 52% of *F. gentneri* flowers pollinated with pollen from *F. recurva* (n = 25), 12% of *F. gentneri* x *F. affinis* crosses (n = 25 flowers), and only 2.3 % of conspecific matings (n = 132). Fruits contained an mean of 87.3 (± 6.5) seeds; pollination treatment did not affect the number of seeds produced ($p = 0.699$). Low seed production, combined with the inability to determine the male parent in open-pollinated progeny, limit the value of collecting native seed for recovery projects; development of transplant cultivation protocols focused on asexual bulblet propagation.

In three natural populations, a mean of 49.9 bulblets were produced per 'mature' bulb (SD = 26.6; n = 76); 480 of these dormant bulblets were excavated, transported to Oregon State University and assigned to one of eight cultivation treatments. Vernalization significantly improved bulblet emergence rates ($p < 0.05$), with ambient outdoor conditions providing the best environment for growth. Bulblet cultivation is a practical method for producing large numbers of healthy transplants of known origin - future recovery efforts will focus on outplanting, monitoring, and managing populations of *F. gentneri* created from these propagules.