Legumes

Lathyrus ochroleucus Hook.

creamy peavine **Family: Fabaceae**

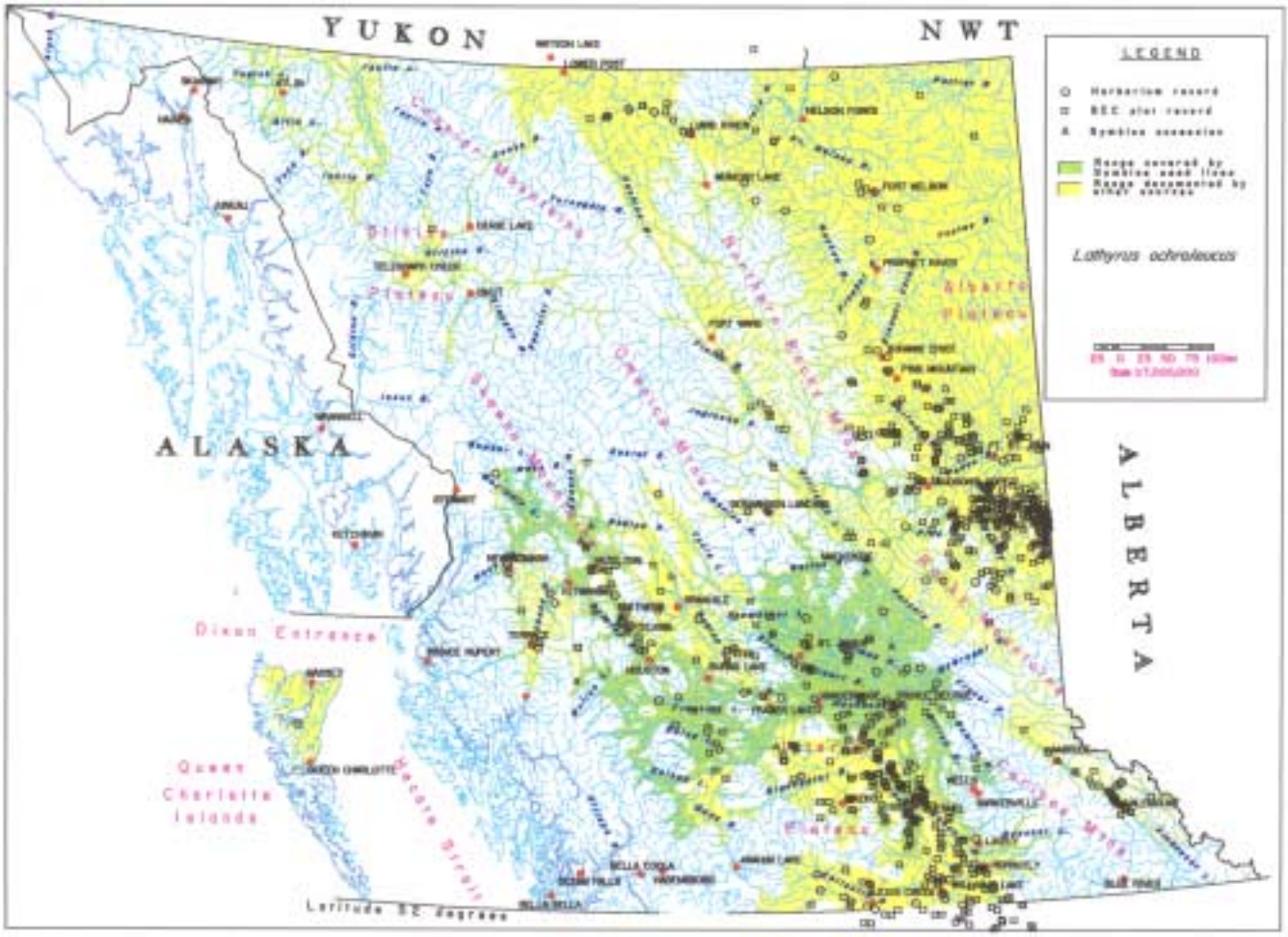

Figure 63. Documented range of *Lathyrus ochroleucus* in northern British Columbia.

Figure 64. Growth habit of *Lathyrus ochroleucus* when grown in the open, under cultivation.

Lathyrus ochroleucus Hook. creamy peavine (continued)

Background Information

Lathyrus ochroleucus is found north to the Northwest Territories, east to Quebec and south to Ohio, Pennsylvania, Vermont, South Dakota, Wyoming, Nebraska and Washington (Douglas et al. 1999a). In B.C. it is found in continental boreal and wet cool temperate climates on moderately dry to fresh nitrogen-rich soils in the Interior. On the Coast, it increases with increasing continentality and decreases with increasing elevation. It is common in semi-open mesic forests on rich water-shedding and water receiving sites in the lowland and montane zones (Klinka et al. 1989).

Growth Form: Nitrogen-fixing rhizomatous herb (forms symbiotic root nodules with *Rhizobium* bacteria), with erect to clambering slightly angled stems; alternate leaves with 6 - 8 leaflets in pairs, grasping broad stipules, one end rounded; loose cluster of 6 - 14 pea-like whitish flowers; mature plant size is 30 - 100 cm tall (MacKinnon et al. 1992, Douglas et al. 1999a).

Site Preferences: Mesic to moist open forests, thickets, glades meadows and rocky ridges, usually at low to middle elevations in the southern half of the region (MacKinnon et al. 1992, Douglas et al. 1999a); characteristic of moder and mull humus forms (Klinka et al. 1989); frequently found under trembling aspen (*Populus tremuloides*). In northern B.C., *Lathyrus ochroleucus* is reported to be shade-tolerant to shade-intolerant, to be abundant in mesic and near mesic deciduous nature seral forests. It is widely distributed in the SBS where SMR <5 and the SNR falls between B and E, though is more narrowly distributed in the SBSmc (SMR 2-5). It is found on wet or very wet fertile sites in the SBPSmk (SMR 2-5), and is less common on fertile dry sites in the SBPS. This species is found on moist, wet and very wet sites in the BWBS (SMR 2-5; Beaudry et al. 1999). *Laythrus ochroleucus* is considered diagnostic of the mw subzone of the BWBS (DeLong et al. 1991).

Seed Information

Seed Size: Length: 3.20 mm (2.66 - 3.72 mm)
Width: 2.77 mm (2.48 - 3.05 mm)

Seeds per gram: 61 (range: 59 - 62)

Volume to Weight Conversion: Unknown

Germination Capacity: At 30°/20° C,
scarified/stratified: 13.8%
At 25°/15° C untreated: 21.0%
stratified: 27.3%

Germination Speed: To first germination: 18 days
To 50% potential: 18 days

Seed Longevity: Reported to remain in the seedbank for many years until dormancy is broken (*Tannas 1997).

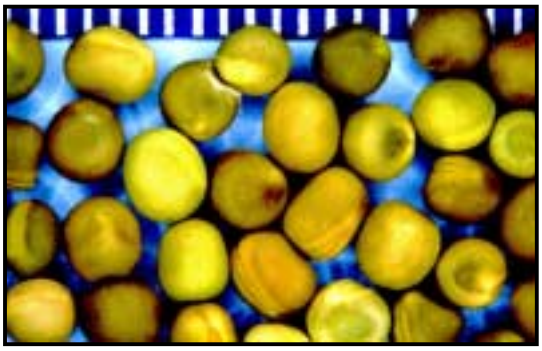

Figure 65. Seeds of *Lathyrus ochroleucus*. Rule divisions are 1.0 mm.

Considerations for Growing

Techniques for Seed Production

Seed treatment: Stratification or scarification (scoring or cracking the seed coat) is slightly beneficial, at least at cooler temperatures.

Soil considerations: Prefers loam to sandy loam (Hardy 1989), with a well-prepared firm seedbed. Germinated better under cool conditions.

Lathyrus ochroleucus Hook. creamy peavine (continued)

(Techniques for Seed Production, continued)

Stand establishment: Fall planting may be preferable to allow winter stratification assist in breaking seed dormancy. Site should be free of all weeds, especially rhizomatous grasses and other persistent species because there are currently no selective herbicides that can be used once plants are growing.
Row spacing: Unknown; suggest 75 to 120 cm under dryland conditions, 30 to 90 cm with good irrigation.
Seeding density: Unknown at present; suggest 60-100 PLS seeds per linear metre (Smith and Smith 2000).
Seeding depth: 1 cm (Pahl and Smreciu 1999).
Stand maintenance: Regularly cultivate rows and spot spray with herbicide to keep plot weed free; annual fertilization with high P, high K, and low N formulations may extend the life of the plot.

Harvesting and Seed Processing
Dates of selective harvesting in the Bulkley Valley of northwestern B.C. range from August 5th to as late as October 1st. Timing of harvest is important as pods dehisce easily when seeds are ripe.
Hand clipping: Use sharp hand clippers. Harvest pods as they turn light brown. Hold the seedpods over bins placed alongside the plants being clipped or place a bag over the seed heads before clipping to minimize seed loss. Plastic between rows is recommended so dehisced seeds can be salvaged.
Vacuum: Not recommended.
Seed stripper: Not recommended.
Combine/thresher settings: Run at 885 rpm with 4 mm gap.
Seed cleaning: Put through vacuum separator with speed set high and suction set to low to remove dust and <5% of seeds. Fanning mill separation can be used instead, and should also work well if needed.
Storage requirements: Cool dry conditions.

Considerations for Use in Revegetation

- *Lathyrus ocrholeucus* occurs naturally on disturbed sites in Alberta (Smreciu 1993), though it is reported to be a poor colonizer of disturbed sites, and a poor competitor (*Ritchie and Tilman 1995).
- In Alberta, this species is reported to grow on medium textured wet to mesic soils (Gerling et al. 1996).
- *Lathyrus ochroleucus* can tolerate mild soil salinity and low nitrogen soils, but appears to be restricted to soils with near-neutral pH ranges (Hardy 1989).
- *Lathyrus ochroleucus* fixes nitrogen, so may be beneficial as a soil builder in a seed mixture used for reclamation (Hardy 1989).
- It is reported to have moderate to excellent forage value for livestock (particularly sheep) and mule deer (Gerling et al. 1996, Smreciu 1993, Pahl and Smreciu 1999). The leaves are rich in protein and are commonly sought by horses, cattle and sheep during early growth (*Johnson et al. 1995).

**fide* Silzer 2000.

Lathyrus ochroleucus Hook. creamy peavine (continued)

Other considerations

- *Lathyrus ochroleucus* is the same genus as the cultivated annual garden sweet pea, and this perennial species may also have potential as a native ornamental vine; it may be especially suitable as a vine for covering chain link fences.

Notes