# LAMB'S-QUARTERS

## *Chenopodium album L.*

**Family:** *Chenopodiaceae* (Goosefoot).

**Other Scientific Names:** Chenopodium strictum spp. glaucophyllum.

**Other Common Names:** Pigweed.

**Legal Status:** Not categorized.

DISTRIBUTION


## Identification

**Growth form:** Annual forb.

**Flower:** The inflorescences are dense clusters found at the stem tips or in the leaf axils. The inconspicuous flowers are small and greenish and lack petals. Flowering time is May through September.

**Seeds/Fruit:** Black, shiny, flattened seeds are surrounded by a papery envelope, 1.0–1.5 mm broad (Douglas et al. 1998).

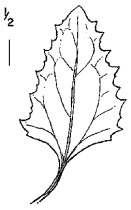
**Leaves:** Leaves can vary from narrow with entire margins to wedge-shaped with toothed or lobed margins (BC Ministry of Agriculture and Fisheries 1987). The somewhat succulent leaves are alternate, stalked, and 3–10 cm long. The leaf undersides are pale or purplish in colour with fine, greyish mealy particles that can be rubbed off.

**Stems:** Each plant has a single, much-branched stem that can grow 0.2–2.0 m tall. The grooved stems are bluish and become blotched with red or purple with age.

**Roots:** Short, much-branched taproot.

**Seedling:** The cotyledons are up to 15 mm long and are rounded and fleshy and have pinkish undersides. The first leaves are opposite and egg-shaped, but later leaves are alternate (Royer and Dickinson 1999).


### Similar Species




**Exotics:** Oak-leaved goosefoot (*Chenopodium glaucum*) has a prostrate or spreading growth form and has smaller leaves (1–3 cm long).

**Natives:** Leaves of maple-leaved goosefoot (*Chenopodium hybridum*) are thinner and resemble maple leaves. Various species of orache (*Atriplex* sp.) resemble the *Chenopodiums* but can be distinguished by having at least some pairs of opposite leaves.

## Impacts

**Agricultural:** One of the most abundant weeds of agronomic, horticultural, and vegetable crops. Its tall stature and high water consumption allow it to out-compete crops and seriously reduce yield. It is palatable to livestock when young, but, under very fertile conditions, it can cause nitrate poisoning to sheep and swine.

**Ecological:** This weed invades disturbed habitats such as roadsides and abandoned fields and is common on logged-over lands, especially on burned slash-piles. It does not usually invade native plant communities.

**Human:** Airborne pollen causes hay fever. Leaves, shoots, and seeds are consumed by humans. An extract of the leaves is used to treat internal parasites.

## Habitat and Ecology

**General requirements:** The plant tolerates a wide range of environmental conditions but requires sunlight and well-drained soils. It is often associated with sandy or gravelly soils, such as a gravel pit. It is most abundant on cultivated, calcareous soils. In BC, it is found in cultivated crops, gardens, fields, roadsides, and disturbed places.

**Distribution:** Common in all agricultural reporting regions of the province and found throughout Canada and the US.

**Historical:** Introduced from Eurasia.

**Life cycle:** Lamb's-quarters is a summer annual. Seeds overwinter under the soil, then germinate, flower, and set seed before killing frost in the autumn. Seedlings can emerge from May until September, and flowering can occur from May to October. Both dormant and non-dormant seeds are produced and more dormant seeds are produced early in the season when the days are long. Seeds are more likely to remain dormant under drought or shaded conditions (Bassett and Crompton 1978).

**Mode of reproduction**: By seed.

**Seed production:** About 72,000 seeds are produced on an average-sized plant.

**Seed bank:** Seeds can remain viable in the seed bank for nearly 40 years,

**Dispersal:** Most seeds drop beside the parent plants. Birds and livestock consume and spread the seeds. Agricultural practices, road building, and moving gravels and ballast also disperse seeds.

**Hybridization:** No evidence of hybridization.

## Management

**Biocontrol:** None, although many insects, microorganisms, and viruses attack lamb's-quarters.

**Mechanical:** This weed is highly susceptible to cutting or trampling, especially during early stages of growth (Bassett and Crompton 1978). Mowing can be effective if applied before plants flower. Emergence is not reduced by initial tillage in the spring because this species germinates throughout the growing season. Repeated tillage is required to destroy seedlings, prevent seed-set, and deplete the seed bank.

**Fire:** Fire does not affect the large seed bank.

**Herbicides:** Lamb's-quarters is susceptible to many commonly used herbicides. Some populations of the weed are resistant to the triazine group of herbicides (e.g., atrazine). Herbicides are most effective during early growth stages. Consult the most recent edition of BC Ministry of Agriculture, Food and Fisheries Crop Production Guides for specific recommendations. **Before applying herbicides, read the label for full use and precautionary instructions.**

**Cultural/Preventive:** In natural areas, minimize disturbance, graze native plants moderately, and seed disturbed areas to perennial grasses to maintain competitive forage growth. Grazing the weed, especially early in the season, will prevent seed production and crop-yield losses (note caution re: potential for nitrate toxicity of young, fertile plants).

### Integrated Management Summary

Lamb's-quarters requires disturbed, open habitats to grow. Maintaining vigorous perennial stands will prevent establishment. The plant can be managed with mowing, grazing, or herbicides.

## References

Bassett, I. J., and C. W. Crompton. 1978. The biology of Canadian weeds. 32. *Chenopodium album* L. *Canadian Journal of Plant Science* 58: 1061–1072.

BC Ministry of Agriculture and Fisheries. 1987. Weed Series Fact Sheet—Lamb's-quarters.

Douglas, G. W., G. B. Straley, D. Meidinger, and J. Pojar. 1998. *Illustrated Flora of British Columbia.* Vol. 2: *Gymnosperms and Dicotyledons (Balsaminaceae through Cuscutaceae)*. Province of British Columbia.

Royer, F., and R. Dickinson. 1999. *Weeds of Canada and the Northern United States.* Edmonton: University of Alberta Press.