

Baby's breath

Gypsophila paniculata

Family: Caryophyllaceae (Pink Family).

Other Scientific Names: None.

Other Common Names: Bristol fairy, Maiden's breath, Tall gypsophyll.

Legal status: Provincial Noxious (Forest and Range Practices Act).

Identification

Growth Form: Perennial herb.

Flower: Each small flower has white-edged green sepals containing five petals in shades of white or pink. Flowers are arranged in diffusely branched clusters.

Seeds/fruit: The rounded or oval capsule contains several small, brown or black seeds, 1.5-2 mm long, which are often shaped like a kidney (Y. Barkoudah, 1962)

Leaves: Basal leaves are lacking however the blue-green stem leaves are 2-10 cm long and 2-9mm wide, are opposite, hairless and linear with a prominent white mid-vein and are covered with powdery, white film.

Stems: Stems and branches are bluish-green, smooth, erect and sprawling (give an overall bushy appearance), particularly near the crown. Stems can grow up to 1 m in height.

Roots: Baby's breath has a woody taproot that can penetrate the soil to 4m. The tap root has sufficient reserves to survive two years of adverse growing conditions.

Seedling: No information available.

Similar Species

Exotics: None known.

Natives: Baby's breath can be confused with Pearly everlasting (*Anaphalis margaritacea*). The key features that distinguish Pearly everlasting from Baby's breath are its soft hairy alternating leaves.

Impacts

Agricultural: Baby's Breath is invasive on agricultural lands. It is able to out-compete native and introduced perennial grasses (Ministry of Agriculture).

Ecological: Baby's-breath can invade natural habitats and out-compete native perennial plants by reducing the nutrients available to co-occurring grass species (Robson 2004).

Human: Baby's breath is considered unsightly on vacant land and along fence lines.

Habitat and Ecology

General requirements: Baby's breath is typically found in the Bunchgrass zone where upper elevations range from 700-1000 m, the climate consists of dry, hot summers with a water deficit and cold winters. This plant flourishes in areas that have well drained sandy or gravelly soil, slightly alkaline soils and disturbed areas like roadsides, fields and waste places.

Distribution: Currently this species is present in the southeast portion of BC. There are no reported infestations north of Prince George.

Historical: Baby's breath was introduced from Europe and Asia as a garden ornamental in the late 1800's. Since then it has been used extensively as a crop plant and in floral arrangements. Baby's breath also contains saponins which are used in detergents and emulsives.

Life cycle: Baby's breath germinates in the spring. Plants do not flower until the third year when flower buds develop. Flowers are produced in white clusters about early June. Fruits begin forming in mid-July and split open when mature in late July.

Mode of reproduction: The primary mechanism for reproduction is by seed. Vegetative reproduction occurs by an increase in shoot production in mature plants.

Seed production: Baby's breath can produce over 13,000 seeds per parent plant.

Seed bank: Seeds show little dormancy and may survive in the soil for 1-2 years.

Dispersal: Wind is the most significant agent for seed dispersal. Most seeds will fall near the parent plant, but mature plants often break off at the ground level and travel like tumbleweed over the landscape thus dispersing seeds great distances.

Hybridization: None known.

Management

Biocontrol: None.

Mechanical: Small and/or young infestations can be hand-pulled with the goal of removing the root crown. The root system must be severed below the thickened crown and rhizomes- this may require one to dig up to 30 cm into the ground. Hand pulling is not generally recommended for larger and older populations due to the size and depth of the taproot. Heavy grazing and mowing prior to flowering reduces seed production; however will not control existing plants. Cultivation has proven to reduce baby's breath populations as long as the crown roots are severed several inches below the soil surface.

Fire: Burning is not recommended for controlling baby's breath as new plants can still grow from the thick root crown.

Herbicides: Herbicides (picloram, dicamba, glyphosate, metsulfuron and 2,4-D) that have been previously tested are limited in their effectiveness except at high rates. Spot treatments of glyphosate can provide some control and should prevent seed production; however several treatments may be required.

Cultural/preventative: Alternate cropping and summer fallow provides some control by reducing soil disturbance and allowing native plants to regenerate and flourish.

Integrated Management Summary

Integrated management should focus on reducing seed production and removing the crown root. Use mechanical or chemical methods to reduce seed production and cultivation to destroy the root. Land management practices should be revised to ensure the establishment and maintenance of a vigorous perennial plant community.

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