

# Broad-fruited Cornsalad

## *Valerianella rimosa*



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### Lifecycle

Broad-fruited Cornsalad is an annual herb, flowering from June to August. It mainly germinates in autumn, but can also germinate after spring cultivation.

It is unknown how long Broad-fruited Cornsalad seeds can remain dormant within the soil profile. Other cornsalad species are said to have long-lived seeds (over 30 years) therefore Broad-fruited Cornsalad might do too. Suitable management at sites where there were historical populations could allow growth of this species once more.

### Habitat

An arable species, typically found in the margins of fields sown with winter or spring cereals. It also occurs in disturbed sites adjacent to arable land and previously cultivated sites. Regular disturbance, low soil nutrient levels and open vegetation are important requirements for this species.

A small, hairless, slender plant up to 30 cm tall. It is often much branched with opposite, narrow, spear-shaped stem leaves. Basal leaves form a rosette close to the ground. The tiny white to pink-tinged flowers form clusters at the end of branched stems and have five petals. Usually there are additional single flowers in the forks of the stem branches. These single flowers form the first seeds.

There are five species of cornsalad in the UK and the best way to distinguish them is by their seed. Broad-fruited Cornsalad seeds are grape-pip like and swollen (2 mm long by 1.5 mm wide); the teeth at the top of the seed are equal in length. It is most similar to Narrow-fruited Cornsalad, which has much narrower seeds (0.75 mm wide) with a single tooth on top. Whilst Hairy-fruited Cornsalad also has narrow seeds (0.75 mm wide) with small hairs and a crown on top with six distinctive teeth.

Broad-fruited Cornsalad is currently found on free-draining acidic shales and sand, and heavy clay soils that may be slightly calcareous. Historically, it also occurred on light calcareous soils.

Broad-fruited Cornsalad is normally associated with species-rich arable plant communities supporting other rare species such as Spreading Hedge-parsley, Corn Buttercup, Small-flowered Catchfly and Narrow-fruited Cornsalad.

### GB status and rarity

Endangered



Broad-fruited Cornsalad distribution across Britain and Ireland. The data used to create this map has been provided under license from the Botanical Society of Britain and Ireland (BSBI) and accessed from the Society's online database.

**Protection under the law**

This plant is included as a species “of principal importance for the purpose of conserving biodiversity” under Section 41 (England) of the Natural Environment and Rural Communities Act 2006.

**Survey method**

Individual plants should be counted, but in larger populations, an estimate can be made.

**Distribution**

The heart of the population lies in south-west England. Populations are scattered, ranging from Cornwall to north Lincolnshire. There is just a single population in Wales on the Gower peninsula.

**Reasons for decline**

Broad-fruited Cornsalad is a poor competitor preferring open vegetation and regular cultivation of soil. Threats include intensive farming, particularly the development of competitive cereal crop varieties that can grow quickly, closing the cereal sward and preventing light reaching seedlings. It is also probably susceptible to most broad-spectrum herbicides. A more recent threat is the loss of arable habitat to grassland.

**Habitat management**

Ideal management on arable land involves annual cultivation in either spring (between February and early April) or autumn (between October and early December) followed by minimal disturbance until the following autumn by which time the plants have set seed. Autumn cultivation is more suitable for heavier clays where there may be difficulties cultivating in the spring due to sodden ground.

Broad-fruited Cornsalad readily germinates from seed. It requires soil disturbance, such as ploughing, to bring buried seed to the surface and trigger germination. In a cultivation depth trial, ploughing was found to increase densities of Broad-fruited Cornsalad when compared to minimum tillage. It will grow within a crop, such as an autumn or spring sown cereal, oil-seed rape or field beans, or within an uncropped cultivated area or plot.

It is susceptible to broad-spectrum herbicides and their use will reduce population sizes. However, if required, treatment of problematic weed species could be undertaken by using targeted herbicides. Fertiliser can encourage problem weeds and is not usually applied to uncropped areas for arable plants, and is limited on cereal headlands and wildlife cover crops.

Using a reduced seed rate and/or a crop variety that has fewer tillers on conservation headlands will benefit Broad-fruited Cornsalad as it is not very competitive. If Broad-fruited Cornsalad is growing within a crop, the crop should be harvested after the plant has set seed usually late July onwards. In non-arable situations open ground should be restored and maintained annually through rotovation in autumn or spring.