

# Corn Buttercup

## *Ranunculus arvensis*



© Cath Shellswell

Corn Buttercup is a branched plant up to 50 cm. The leaves are stalked and deeply divided with 3-5 lobes. The leaves are more elongated and linear than the leaves of common buttercups. The flowers are typical of buttercups, but are smaller, up to 12 mm in diameter, and pale lemon-yellow in colour. The large seeds are distinctive being up to 8 mm in length, oval and covered in spines that are up to 2 mm in length. Each flower produces up to eight seeds.

The prickly seeds distinguish this species from most other buttercups. Corn Buttercup seeds are prickly all over including the 'spine' of the seed, unlike Rough-fruited Buttercup which has a spine-free edge. Small-flowered Buttercup seeds have small, relatively inconspicuous hooked spines on the edge of the seeds and the seeds are usually much smaller, between 2.5-3 mm long.

### Lifecycle

Corn Buttercup is an annual herb, flowering from May to mid-June. Its seeds mature from June to August and germinate during autumn and winter. Seeds are underdeveloped when shed and ripen on the soil surface in warm dry conditions. The hard seed coat splits or decays through repeated cycles of warm-dry and cool-wet conditions across the seasons, and possibly years if the seed has been buried, allowing germination to occur. The seed dormancy for Corn Buttercup is thought to be less than five years but it could be longer when seeds are deeply buried.

### Habitat

An arable species typically found in winter-sown crops. It has been known to occur on road verges alongside arable fields and on disturbed soils in grasslands that were once arable. Corn Buttercup is

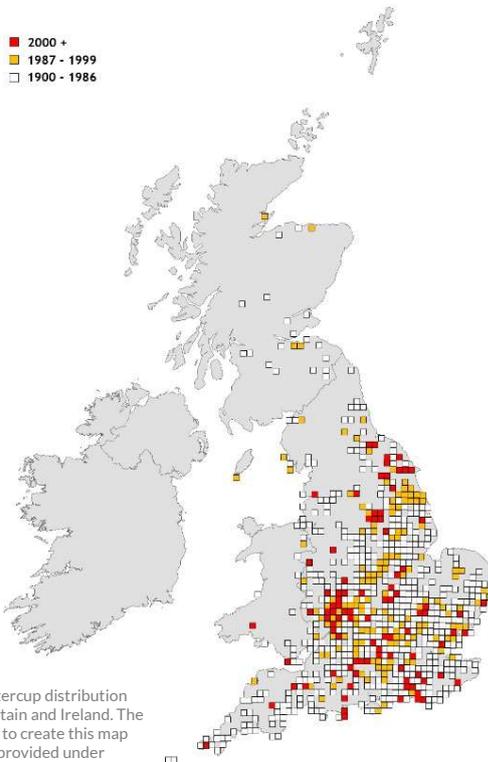
most often found on heavy clay soils. This species can occur with a number of other uncommon arable plants including Shepherd's-needle, Spreading Hedge-parsley, Broad-leaved Spurge and Broad-fruited Cornsalad. It may also be found growing within a crop well away from the field margin.

### GB status and rarity

Critically Endangered

### 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, and listed as a priority species under Section 7 of the Environment (Wales) Act 2016.



Corn Buttercup distribution across Britain and Ireland. The data used to create this map has been provided under licence from the Botanical Society of Britain and Ireland (BSBI) and accessed from the Society's online database.

### Survey method

Individual plants should be counted in smaller populations and larger populations should be estimated.

### Distribution

In the UK, Corn Buttercup was formally widespread throughout the south and east of England. The population has declined rapidly during the last 60 years. There are scattered recent records from Cornwall in the south-west to Newcastle in the north-east and Glamorganshire in the west to Suffolk in the east.

### Reasons for decline

The main causes of decline are a direct result of the intensification of arable farming. Key factors include improved seed cleaning of arable crops, the widespread use of broad-spectrum herbicides and the density of modern crops as Corn Buttercup competes poorly with a fertilised crop. Fertilised crops tiller vigorously reducing light availability to this lower growing arable plant.

### Habitat management

Ideal management on arable land involves annual cultivation in autumn (between September and early October), without subsequent disturbance until Corn Buttercup plants have flowered and set seed. Corn Buttercup will grow within a crop, such as autumn sown cereal or within an uncropped cultivated area or plot.

Corn Buttercup has complex seed dormancy. In autumn cultivated crops, removing the previous year's straw immediately after harvesting and allowing a short fallow period before cultivation in September-early October will enable seeds to mature and promote autumn germination.

Where Corn Buttercup grows alongside spring-germinating rare arable plants, it will withstand periodic spring cultivation (e.g. 1 in 4 years) and this may even help with the control of pernicious weeds such as Black Grass.

It is susceptible to broad-spectrum herbicides. However, if required, treatment of problematic weed species, particularly grasses, could be undertaken through targeted herbicide use. Fertiliser can encourage problem weeds that prefer higher nutrient soils. Fertiliser is not usually applied to uncropped areas, and application should be limited on cereal headlands, wildlife cover mixes or low-input cereals where Corn Buttercup is present.



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