

# FLAXLEAF FLEABANE



Flaxleaf fleabane

## DESCRIPTION

Fleabane is a cosmopolitan, erect, annual herb, native of America. There are three main species of fleabane in Australia;

- flaxleaf fleabane (*Conyza bonariensis*),
- tall fleabane (*Conyza sumatrensis*),
- Canadian fleabane (*Conyza canadensis*).

Flaxleaf fleabane is the species most prevalent in dryland cropping systems in Australia. Following a rosette stage, a mature flaxleaf fleabane plant can reach up to 1 m in height. Leaves are toothed and hairy, with later leaves smaller than rosette leaves. The width of fleabane can be greater than its height and it is common for several branches to arise from the base of the plant; these can grow higher than the main stem. Flower heads are numerous, around 10 mm in width when pressed and white-pink in colour, surrounded by hairy bracts. Seeds are light brown in colour, around 2 mm long, with a group of fine hairs attached (known as the pappus), measuring 3–5 mm which assists in wind dispersal.

## WHAT IS THE PROBLEM?

- Fleabane is an increasing problem in summer fallows and crops in minimal tillage farming systems.
- Fleabane produces up to 375,000 seeds per plant.
- Fallow weed control costs have doubled due to fleabane in some cropping areas.
- Fleabane is relatively tolerant to Roundup (glyphosate) with some populations being resistant to common field rates.



Flaxleaf fleabane growing on crop edge



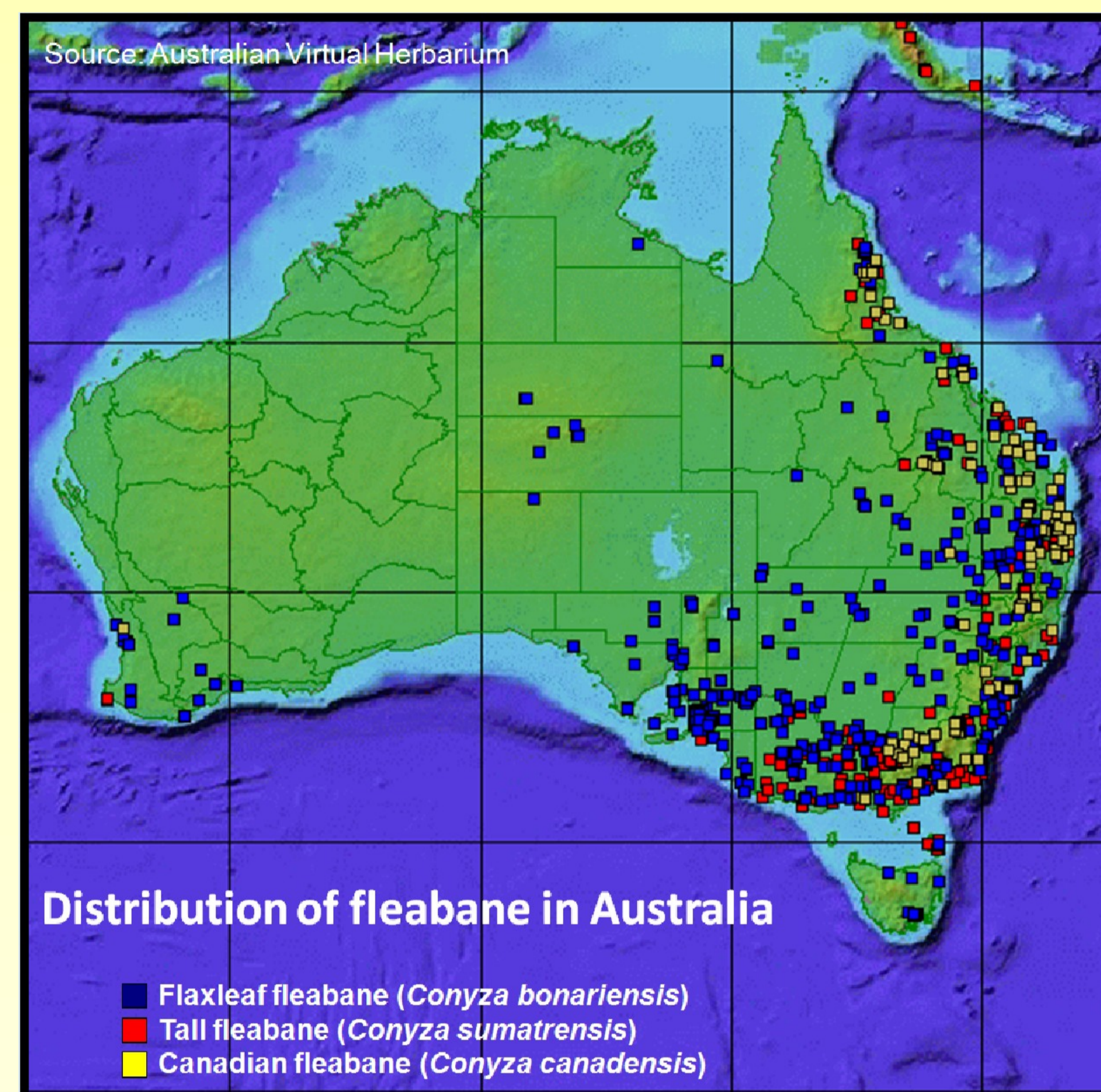
Flaxleaf fleabane growing on roadside

## WHERE DOES FLEABANE GROW?

Fleabane is widespread throughout temperate and subtropical climatic zones in all continents except Antarctica. In Australia, distribution is predominately on the east coast and includes subtropical, tropical and temperate zones. Flaxleaf fleabane has the widest geographic distribution in Australia, tolerating a wide range of climates and habitats including roadsides, wastelands and crop edges.

## GERMINATION AND REPRODUCTION

- Optimal temperature for germination is 25°C, with no germination occurring below 5°C or above 35°C.
- Light is a requirement for germination. An increase in shading levels decreases germination rates.
- Fleabane is capable of germinating at an osmotic potential of  $-0.8\text{MPa}$ , which is the permanent wilting point for plants requiring a moist habitat.
- Sustained flooding (14 days or more), will reduce the survival of fleabane by up to 50%.
- The main emergence of fleabane is in spring and summer, extending into autumn. Early winter seedlings may occur, although the majority of growth is in the roots, making them more difficult to control.
- Fleabane emerges best at depths of less than 2 cm, with no emergence at depths of 5 cm or more.
- Emergence is favoured by the micro-climate created with stubble retention.
- Fleabane flowers sequentially within an individual plant, spanning 1 to 4 months. Flowering is favoured by long days and reproduction is through self-fertilisation.
- Large fleabane plants produce up to 375,000 seeds per plant.



## SEED DISPERSAL AND LONGEVITY

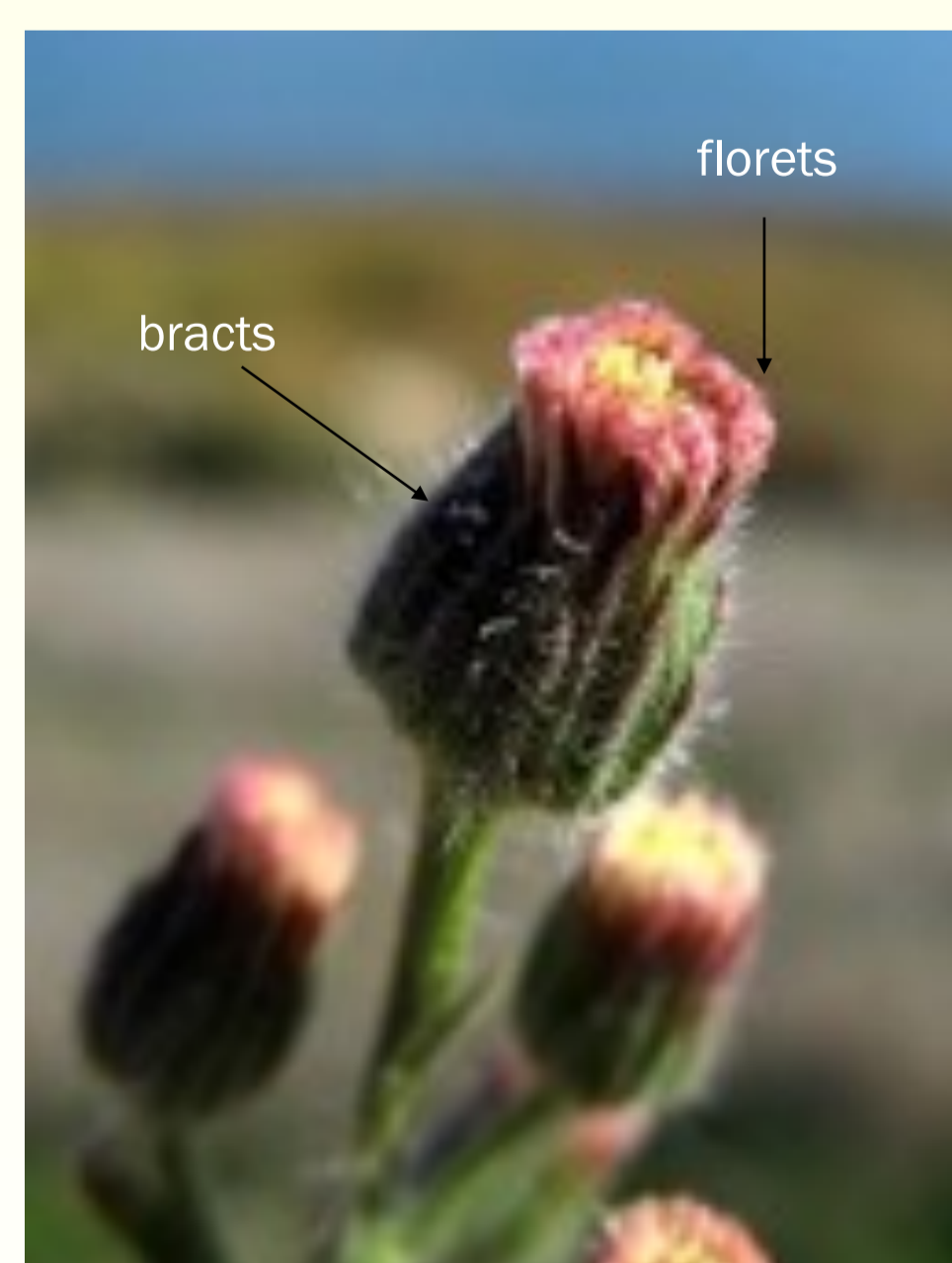
Seeds are dispersed within one or two days of maturing, dependent on climate.

Around 80% of seeds are viable with wind the primary dispersal mechanism. The pappus attached to the seed aids in dispersal. The release height and the wind speed will contribute to the distance the seed travels. It is common for fleabane seeds to travel 500 m from the source. Water also transports fleabane seeds.

Seeds have no dormancy and survive for 1-2 years in the field.



Flaxleaf fleabane early seedling



Flaxleaf fleabane flower heads showing hairy bracts and white-pink florets.



Flaxleaf fleabane flower



Flaxleaf fleabane seed and pappus

## CURRENT RESEARCH

A PhD project on the ecology of fleabane, funded by the Cotton Research and Development Corporation and the Cotton Catchment Communities Cooperative Research Centre. This project is supervised by;

- Brian Sindel (UNE)
- Graham Charles (NSW DPI)
- Jeff Werth (QLD DPI&F)

