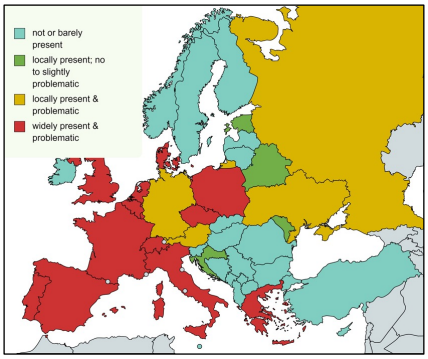
Weed Fact Sheet
Erigeron canadensis

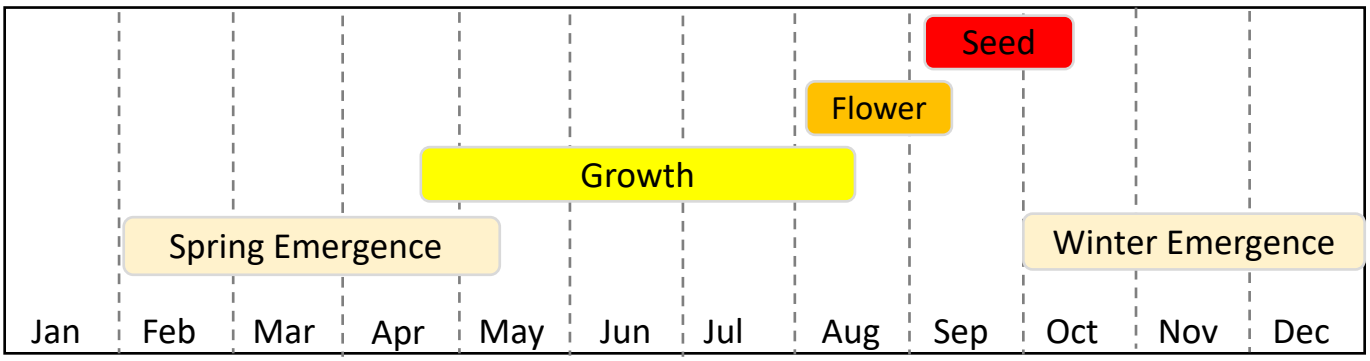
Erigeron (Conyza) canadensis L., originally native to North America, has now become widely distributed across Europe, with a notable presence in Northwestern Europe, France, Spain, and the United Kingdom. This plant can cause significant issues in vine-yards, orchards, and various crops that employ no-tillage management. Additionally, it is commonly observed along canal banks, railways and roadsides.



Weed Biology

EPPO-codes (Latin and common names)	ERICA - *Erigeron canadensis L. (horseweed)*
Life cycle	Biannual
Ploidy	Diploid (2n=18)
Max. generation/year	1
Preferred environmental conditions	Non-cropped land, non-tillage or reduced-tillage systems

Pollination	Self and insects
Fecundity *(seeds/plant)*	200,000
Seed dispersal	By wind
Distance of seed dispersal	up to 500 Km
Dormancy	None
Seed bank longevity	< 1 year
Seed decline per year	> 90%



Impact of Agronomic measures on Occurrence and Spread

Germination & dormancy

1. The optimal temperature for germination ranges from 18 to 23°C, and under moderate water stress (-0.4 MPa)
2. Seedling emergence is primarily from the soil surface, and no seedlings emerge from depths greater than 0.5 cm.
3. Seed do not have dormancy requirements.

Soil management & Crop rotation

1. This species is adapted to lesser disturbed soil environments.
2. Minimal soil disturbance, whether conducted in the spring or fall, obtain a high efficacy.
3. Crop rotation have a reduced impact .
4. Utilizing cover crops can effectively suppress the establishment of this weed.

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Observed Resistance in Europe

1. Countries where resistance biotypes have been described: Belgium, Czech Republic, France, Greece, Hungary, Italy, Poland, Portugal, Spain, Switzerland and United Kingdom
2. Glyphosate resistance in *E. canadensis* primarily occurs through reduced translocation, as a result of rapid sequestration of glyphosate into the vacuole.
3. After stem elongation (BBCH 21) or in suspected glyphosate-resistant populations, it is recommended to apply herbicide mixtures. The doses should be increased in accordance with the growth stage.

Mode of Action	HRAC	Active ingredient
ALS	2 (B)	Imazapyr
PSII	5 (C1, C2)	Atrazine, linuron, simazine
EPSPS	9 (G)	Glyphosate
PSI	22 (D)	Paraquat

Best Management Practices

- To prevent and mitigate resistance development, follow the Guideline to the Management of Herbicide Resistance published by GHRAC
- To enhance weed management effectiveness, it is advisable to employ a rotation of herbicides with different modes of action.
- Glyphosate susceptibility in *E. canadensis* is influenced by its growth stage. As the weed progresses in growth, higher glyphosate rates are required to achieve effective control. Thus, applying glyphosate at the right application time during the seedling stages (1-4 leaves) is crucial for optimal control.
- Integrate sequential application of soil residual and post-emergence herbicides to reduce selection pressure on post-emergence herbicides
- *E. canadensis* becomes harder to control in challenging environmental conditions (such as drought) or management practices (like mowing).
- Integrate non-chemical methods:
  - **Mowing is NOT** generally a viable option because it stimulates additional branching from the crown and only delays seed production
  - Crop rotation seems to have a negligible effect on the occurrence of this weed.
  - Seedlings are unable to emerge from depths greater than 1 cm
  - The utilization of **cover crops** before planting at the beginning of the crop season or the implementation of minimum **tillage** practices in spring can effectively suppress the growth of this weed as *E. canadensis* seeds can only germinate if those seeds are in the first 2 cm of the soil.

References:

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