

Genista anglica L. Petty Whin

GB Red List Status: Near Threatened

Genista anglica (family Fabaceae) is a perennial shrub native to Europe and North Africa. In the UK, it grows in lowland heath and unimproved pasture, but the increased fertility and poor management of heathlands have contributed to the Red Listing status of Near Threatened. Ecologically, this species is an important food plant for the micromoth *Coleophora genistae* (Petty whin case-bearer).

Seed harvest

G. anglica flowers May to June and seeds develop and disperse July and August. Seed pods are swollen, pointed and hairless. Seeds are around 2-2.5mm in size and hard, black and shiny. The approximate dry weight of 1000 seed is 2.383g. Collections of this species conserved at the Millennium Seed Bank were collected in July or early August.

Propagation

Unlike many other physically dormant seeds which germinate readily following scarification, the majority of the *G. anglica* seeds tested both in laboratory and nursery conditions took several months to germinate suggesting a secondary form of dormancy. Germination peaked around five months after sowing as the weather turned milder and the majority had germinated after six months. Sowing in the spring resulted in lower germination levels of just over 50% (as opposed to 88% in the autumn sow).

It is recommended to scarify the seed coats prior to sowing as they will germinate faster and more reliably than if the seed coat is left intact. Over two years, approximately one third of the un-scarified seed sown in autumn had germinated.

Ex situ conservation

As of November 2023, the Millennium Seed Bank conserves three UK collections of *Genista anglica* from two hectads: one in Cornwall and one in East Sussex. These collections combined contain almost 1,300 seed. Seeds are maintaining viability in conventional seed bank conditions (15%RH/-20°C) achieving 96% germination after 22 years.

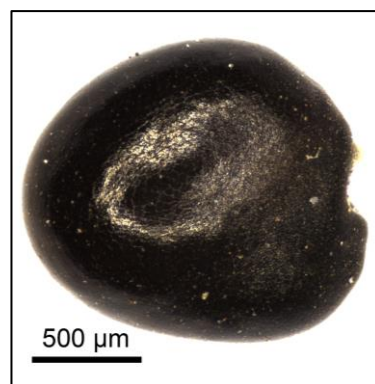
The map (right) shows the distribution of *G. anglica* records since 2000 (BSBI) in yellow and MSB conserved wild collections in black.

Propagation trials for G. anglica took place at Wakehurst, West Sussex in spring 2023 as part of the UK Threatened Flora Project (2020-2023) to assess the requirement for seed scarification and the benefits of an autumn or spring sow. A maximum conversion rate of 69% (seed sown to adult plant) was achieved with a scarified autumn sow in a cold frame. See reverse for methodology and results of best laboratory and nursery trials.

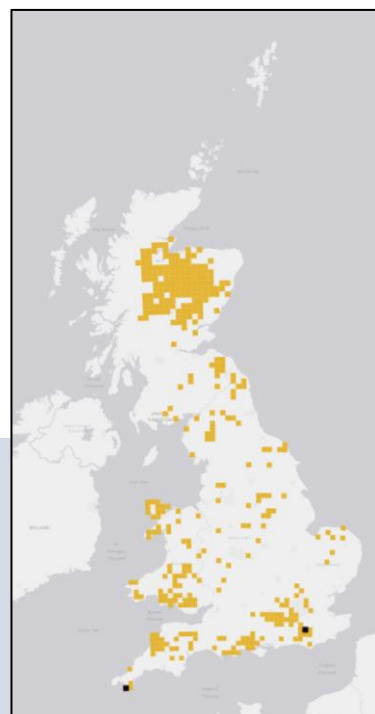


Photo: J. Peach

G. anglica in flower



G. anglica seed



Germination and Propagation: best tests in laboratory and nursery

The seeds tested were stored in the Millennium Seed Bank since collection in Cornwall in July 1999

	Laboratory method	Nursery method
Date sown:	May 2021	October 2020
Pre-treatments:	Chip; 15°C stratification (7weeks)	Seed coat chipped with scalpel
Germination media:	1% Agar	Petersfield Peat-Free Supreme compost and Sinclair Standard perlite (50:50) with vermiculite layer over seeds
Germination conditions:	25°C	Best results and quickest germination in glasshouse with grow lights to 25 °C (max 32 °C).
Days until germination:	28 days (peak 56 days)	28 days (peak after 5 months)
Germination duration:	56 days	6 months
Germination percentage:	96%	88%
Growing conditions:	N/A	Cold frame (-6-15 °C over winter of 2020-2021)
Growing media:	N/A	Pricked out into plug trays around 2 months after germination into Petersfield Peat-Free Supreme compost and Sinclair Standard perlite (3:1). Care taken not to overwater in the winter months. Kept in a cold frame for the first winter and protected from strong sunlight in summer.
Seedling survival:	N/A	78% of total germinated (69% of total sown)
Propagation notes:	N/A	Cotyledons prone to slug damage.
Replicates:	1 x 50 seed	3 x 30 seed in each trial



Images l-r: *G. anglica* cotyledons approximately first week after germination with toothpick marker for scale; seedling 2 months after germination and and plants in 1st winter (second winter after sowing).

References and Resources

- The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116. Joint Nature Conservation Committee, Peterborough (Revised 2021)
- *Genista anglica* L. in BSBI Online Plant Atlas 2020, eds P.A. Stroh, T. A. Humphrey, R.J. Burkmar, O.L. Pescott, D.B. Roy, & K.J. Walker. <https://plantatlas2020.org/atlas/2cd4p9h.8n8> [Accessed 12/12/2023]

Please note: Anyone collecting seeds must do so legally and sustainably. Site conditions and management should be suitable for the sustainability of the population prior to any (re)introduction of seed or plants.

For more information on data, protocols and standards at the Millennium Seed Bank, see our website: www.brahmsonline.kew.org/msbp

Follow the UK Team on Twitter: @Kew_MSBUK