

Turritis glabra L. Tower Mustard

GB Red List Status: Endangered

Turritis glabra (family Brassicaceae) is an annual/biennial herb native in the UK to East Anglia and southern England. Many populations have become small and isolated due to habitat loss and intensive agriculture resulting in a GB Red List status of Endangered.



Photo: Igor Sheremetev

T. glabra in flower

Seed harvest

T. glabra flowers May to July and seeds develop and disperse July to September. Seeds are approximately 1mm x 0.5mm and orange-brown in colour. The approximate dry weight of 1000 seed is 0.121g. Collections conserved at the Millennium Seed Bank were harvested between the end of July and mid- October.

Seed quality of conserved collections after processing is generally good with >90% viable seed. Seeds have been found to be long lived in the soil seed bank and depend on disturbance for germination.



T. glabra seed

Propagation

In the propagation trials, seeds were sown in March in a 2:1 mix of Petersfield Peat-Free Supreme compost and Sinclair Special Seed perlite. Seeds show no dormancy and germinated quickly.

Higher germination was achieved when the seed trays were placed in a glasshouse rather than outside (88% in the glasshouse / 61% outside). In the glasshouse, germination peaked within a week and almost all the seed that germinated did so within two weeks in temperatures of around 22 ° C. Seedlings could be pricked out within a month and grown on outside.

Plants overwinter in their first year as a rosette (see picture overleaf) and flower in the following year.

Ex situ conservation

As of December 2023, the Millennium Seed Bank conserves over 200,000 seeds across seven wild collections from seven different hectads. Seeds are surviving well in conventional seed bank conditions (15%RH/ -20°C) with one collection maintaining 96% viability after 46 years of storage.

The map shows the distribution of *T. glabra* records since 2000 (BSBI) in yellow and MSB conserved collections in black.

Propagation trials for *T. glabra* took place at Wakehurst, West Sussex in spring 2022 as part of the UK Threatened Flora Project (2020-2023) to investigate the effects of sowing outdoors and in a glasshouse.

A maximum conversion rate of 86% (seed sown to adult plant) was achieved with a spring sow in a glasshouse. See reverse for methodology and results of the best tests in the laboratory and nursery.



Germination and Propagation: best tests in laboratory and nursery

The seeds tested were stored in the Millennium Seed Bank since collection in Hertfordshire in 2015

	Laboratory method	Nursery method
Date sown:	July 2013	March 2022
Pre-treatments:	None	None
Germination media:	1% agar	Petersfield Peat-Free Supreme compost and Sinclair Special Seed perlite (2:1)
Germination conditions:	15°C (12 hrs light / 12 hrs dark)	Germinated in glasshouse with grow lights (average temp. 22°C)
Days until germination:	9 days	7 days
Germination duration:	9 days	14 days (peak 7 days)
Germination percentage:	90% (94% viable)	88%
Growing conditions:	N/A	Pricked out approx. 1 month after germination and grown outside on west-facing balcony
Growing media:	N/A	Petersfield Peat-Free Supreme compost and Sinclair Standard perlite (2:1)
Seedling survival:	N/A	86% of seeds sown (98% of seeds germinated)
Replicates:	1 x 50 seed	3 x 50 seed



Images from l-r: *T. glabra* seedlings (7 days after sow with toothpick markers for scale); *T. glabra* rosette – this species will overwinter in the first year as a rosette and flower in the second year.

References and Resources

- The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116. Joint Nature Conservation Committee, Peterborough (Revised 2021)
- Botanical Society of Britain and Ireland. *BSBI Distribution Database*. Available at: <https://database.bsbi.org/> [Accessed April 12, 2022].

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