

## Clinopodium acinos (L.) Kuntze Basil Thyme

GB Red List Status: Vulnerable

*Clinopodium acinos* (family Lamiaceae) is an annual, occasionally short-lived perennial, herb native to Europe and Asia. In the UK it grows on dry grassland and arable fields and is particularly important ecologically as the rare micro-moth *Coleophora tricolor* (Basil Thyme Case-bearer) is dependent on the flower heads as a food source and for protection.

### Seed harvest

*C. acinos* flowers May to September and seeds ripen and disperse September and October. Seeds are approximately 1mm long and encased in a persistent calyx. Flowers and seeds mature sequentially up the plant, so it is preferable to harvest only the ripe seed rather than the entire flowering stem. The approximate dry weight of 1000 seed is 0.535g. Collections conserved at the Millennium Seed Bank were harvested in September and early October.



*C. acinos* in flower

### Propagation

In the nursery trials, the species' natural habitat was replicated in the potting mix by incorporating a small amount of sand and chalk into the compost however a multipurpose peat-free compost may give the same results. Seed trays were placed outdoors into a cold frame in March 2021 and germination was observed within three weeks. The seed has no dormancy and so germinated easily, and seedlings were vigorous.



*C. acinos* seed and calyx

Seedlings can be pricked out into plug trays when several pairs of true leaves have grown (around two months after germination). Plant into a free-draining peat-free compost. Ensure that seedlings don't dry out and keep in a bright, sheltered position for the first summer.

Plants have remained healthy over the first winter suggesting a perennial life cycle in cultivation.

### Ex situ conservation

As of December 2023, the Millennium Seed Bank conserves over 20,500 seeds across six collections from six different hectads. Seeds are maintaining viability in conventional seed bank conditions (15% RH/ -20°C) with laboratory tests confirming 100% viability after 23 years of storage.

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

Propagation trials for *C. acinos* took place at Wakehurst, West Sussex in 2020 as part of the UK Threatened Flora Project (2020-2023). A conversion rate of 62% (seed sown to adult plant) was achieved with a spring sow. 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 Norfolk in September 1997

	Laboratory method	Nursery method
Date sown:	March 2020	March 2021
Pre-treatments:	N/A	None
Germination media:	1% agar gel	Petersfield Peat-Free Supreme compost and Sinclair Special Seed perlite (50:50) with small amounts of added sand and crushed chalk. Light covering of compost only.
Germination conditions:	20 °C (12 hours light/12 hours dark)	Seed trays placed in outdoor cold frame (to 18 °C). Seedlings pricked out into plug trays/5cm individual pots when several true leaves present.
Days until germination:	4 days	18 days (peak germination: 18 days)
Germination duration:	7 days	2.5 months
Germination percentage:	100%	79%
Growing conditions:	N/A	Outdoor in a cold frame.
Growing media:	N/A	As germination media but with Sinclair Standard perlite
Seedling survival:	N/A	78% of total germinated (62% of total sown)
Replicates:	1 x 50 seed	3 x 40 seed



Images from l-r: *C. acinos* seedling (approx. 1 month after germination); *C. acinos* seedling (approx. 2 months after sow); flowering plants (1<sup>st</sup> summer, 5 months after sowing).

## References and Resources

- Stroh, P.A. 2015. *Clinopodium acinos* (L.) Kuntze. *Basil Thyme*. Species Account. Botanical Society of Britain and Ireland
- 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](http://www.brahmsonline.kew.org/msbp)

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