

Seed increase manual for Beta

**Genetic Resources Unit
Horticulture Research International
Wellesbourne, Warwick CV35 9EF
United Kingdom**

Phone: +44 (0)24 7657 5014

Fax: +44 (0)24 7657 4500

Email: dave.astley@warwick.ac.uk

Site characteristics

Longitude: 001 35 58W

Latitude: 52 12 25N

Altitude: 49 masl

Soil type: sandy loam

Mean annual temperature: 10.39°C

Mean annual rainfall: 689.9mm

	Measure
Seed preparation	None
Sowing	mid to late September, heated glasshouse
Transplanting	Into 9 cm pots, in heated glasshouse with min temp 12°C, no supplementary light
Fertilisation	use NPK fertiliser once potted into 15cm pots, weekly application
Vernalisation	At 6 leaf stage transferred to an unheated glasshouse through to March.
Cultivation of seed mother plants	In 15cm pots, 2 plants per pot, isolated in glasshouse compartments from April.
Effective population size	70-80 plants
Pollination control	Isolation in glasshouse compartments or glasshouses, i.e. 1 population per compartment or glasshouse
Pollination method	Air movement and physical agitation
Conditions during seed ripening	Kept in glasshouses therefore temperatures may be >30°C.
Seed harvest procedure	Plants are bulk harvested into trays when the seedballs turn brown. If seed shattering of green fruits is observed the harvest starts earlier.
Pre-processing of seeds	Harvested plant material is placed in open trays in a drying room at 15°C & 15% RH.
Threshing	Threshing machine or by hand using coarse sieve and large rubber bung (10cm)
Final processing	Sieving and cleaning by hand & aspirator air separator.
Drying before storage	Returned in paper bags to drying room at 15°C & 15% RH.
Storage	Hermetic seal in foil laminate pouches and stored at -20°C.
Germination test	sown in module trays in heated glasshouse, counted up to 25 days
Problems/Remarks	GBRHRIGRU - All Beta taxa are treated the same. All seed production in glasshouse. No major problems. Regeneration is limited to 5 populations per annum because we have 3 glasshouses, one of which has 3 compartments. So the populations are isolated eit