Leafy Vegetable Genetic Resources in the UK

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Summary of UK Collections

- 2654 accessions
- National Rhubarb Collection

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<th>Institute</th>
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RHS Rhubarb Collections

Held at two Royal Horticultural Society gardens

- Wisley (100 cultivars)
- Harlow Carr (130 taxa)
Taxonomic composition of the UK Collections

Major collection is *Lactuca* (1591), followed by *Chenopodium* (177), *Rumex* (145), *Lepidum* (136) and *Spinacia* (124)
Leafy Veg at Warwick GRU

- UK vegetable genebank
- Part of University of Warwick
- ~14,000 accessions in long-term storage
  - 5% moisture content, -20°C
- Safety duplication: currently 46%
  - On-going process in parallel with regeneration
- Used as resource for active research programmes
VeGIN: The Vegetable Genetic Improvement Network

The aims of VeGIN:

- To develop the genetic resources and tools to accelerate breeding for “sustainability traits” in field vegetables

- To establish an effective network with industry, for knowledge transfer to promote market delivery of R&D
The Lettuce Diversity Set

- 96 lines capturing natural genetic and morphological variation
- Sources from CGN and WGRU
- Used in several trait screening experiments

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Evaluation of Lettuce Diversity Set

• Genotyped using 682 SNP markers
• Trait screening:
  – Resistance to *Nasanovia ribis-nigri*
  – Nitrate accumulation
  – Post-harvest discoloration
Other Leafy Veg Research at Warwick

• Chicory
  – Diversity set selection (both *C. intybus* and *endiva*)
  – Evaluation of resistance to *N. ribis-nigri*

• Rocket
  – Genetic control of flowering time
Delayed bolting in rocket for improved quality and greater sustainability

Jemma Taylor

Introduction
Wild rocket (*Diplotaxis tenuifolia*) is a member of the Brassicaceae family. Early bolting in rocket is an undesirable trait so slowing or stopping bolting could be hugely advantageous.

Aim
To produce robust late bolting lines which:
- Can be used to cross into a commercial line where leaf shape, size and taste are uniform across the crop creating a potential market leading variety.