Berry Genetic Resources Conservation and Utilisation in the UK

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NIAB EMR
UK berries
UK berry market

- Home grown: > £530M
- Imported: > £590M

- Strawberry is largest segment of this market £455 but growth in volume and value is slowing down

- Imports, primarily during the ‘off-season’ (Nov-May) have been shown to maintain ‘customer loyalty’ to berry sales driving sales up in the UK season
Conservation of Berry PGR in the UK

- National Fruit Collections (http://www.nationalfruitcollection.org.uk/search.php)

Currants: 208 accessions
Gooseberries: 159 accessions

These collections are old and have proven very difficult to propagate (plant health issues) and maintain – in the process to be ‘transferred’ to other institutions
Conservation of Berry PGR in the UK

- Research Institutes:
  - NIAB EMR (formerly EMR) in Kent:
    - Breeder’s collections:
      - Not fixed; not (fully) open; mainly characterised for agronomic/breeding performance; variable health status
    - Fragaria, Rubus, Vaccinium and Lonicera
NIAB EMR

• Part of the NIAB group since Feb 2016
• Private non-for profit research organisation
• Cover the space from fundamental to applied research in horticultural (mainly fruit) crops
• Going through a period of financial stability and consistent growth
• Much of this growth in generated from commercial breeding and industry funded projects
NIAB EMR

Horticultural Research Departments

Genetics, Genomics and Breeding
Pest and Pathogen Ecology
Crop Science and Production Systems
NIAB EMR – current breeding programmes
Conservation of Berry PGR in the UK

- **Research Institutes:**
  - **NIAB EMR (formerly EMR) in Kent:**
    - Breeder’s collections:
      - Not fixed; not (fully) open; mainly characterised for agronomic/breeding performance; variable health status
    - Fragaria, Rubus, Vaccinium and Lonicera
  - **JHI (formerly SCRI) in Scotland:**
    - Breeder’s collections
    - Raspberry, blackcurrant, blackberry, redcurrant and gooseberry
    - [https://www.hutton.ac.uk/research/facilities/rubus-and-ribes-germplasm-collections](https://www.hutton.ac.uk/research/facilities/rubus-and-ribes-germplasm-collections)
Conservation of Berry PGR in the UK

- Other (private) collections: https://www.plantheritage.org.uk/national-plant-collections/
Conservation of Berry PGR in the UK

- Other (private) collections:
  - RHS (Wisley):
    - Currants and Gooseberries
  - Cambridge University Botanic Garden:
    - Ribes and hybrids
  - Kew Botanic Garden
  - ...
Main challenges for conservation and utilization

- **Funding**
- **Lack of coordination in approach:**
  - Commercial breeding vs volunteer/charitable objectives
  - Botanical (ornamental) vs breeding value
  - Lack of coordinated documentation and access
- **Technical challenges:**
  - Need for (frequent) re-propagation
  - Field / Potted / TC collections (none are perfect!)
  - Plant health
  - Trueness to type
ECPGR Berry Working Group

- Maintain and expand European links for R&D
- Increase NIAB EMR collections (following 1990 – 2015 cuts)
- Concerns about germplasm UK-EU movement post-Brexit