Improvement of raspberry cultivars in Scotland

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History

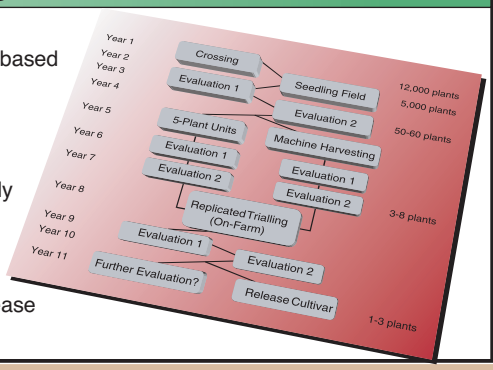
The *Rubus* breeding programme, implemented by MRS, is renowned for the Glen cultivars of raspberry which account for at least 70% of the UK certified stocks. These are now grown throughout the world.

The most recent varieties, Glen Magna, Glen Ample, Glen Rosa and Glen Shee, known as the 'MARS' series, were released in 1996.

The most successful cultivar, Glen Ample, currently accounts for one third of the total Scottish acreage and can be described as the industry standard.

The Breeding Programme

- This highly targeted and accelerated programme is based on recurrent selection.
- The MRS breeding programme focuses on producing varieties primarily for the processing market, through improving fruit quality, yield and resistance to pest and disease



Mechanical Harvesting

Many Scottish growers have adapted current cultivars and management practices to machine harvesting. This is primarily a result of;

- A loss in labour force due to a breakdown in the tradition of local fruit picking.
- Fierce competition from Eastern European countries forcing growers to keep prices low.

Promising selections are harvested at SCRI using a Korvan machine harvester.)

Machine harvested plots are assessed for yield and fruit quality.

The selection of cultivars specifically intended for machine harvesting is a key objective of the breeding programme.

New Cultivars

Under commercial funding from SSFG Ltd, nineteen breeding lines, with various characteristics were selected as potential new cultivars. After extensive field trialling at SCRI, four selections have been identified as most promising, with excellent fruit quality, flavour and yields competitive with current commercial cultivars. These four will be released as cultivars in the near

Pest and Disease

Key pests and pathogens of raspberries in Scotland:

Raspberry root rot,
Phytophthora fragariae var. *rubi.*
Large raspberry aphid,
Amphoraphora idaei.
Raspberry beetle,
Byturus tomentosus.
Raspberry cane midge,
Resseliella theobaldi

Phytophthora accounts for ~20% of tonnage lost in Scotland).

- ~25% of the crossing programme is dedicated to breeding for resistance/tolerance to *Phytophthora.*
- Genotypes with putative resistance are currently undergoing further evaluation for fruit quality.

Future of Raspberry Breeding in Scotland

Commercial funding between 1993 and 2000 saw the breeding programme focus upon the development of machine-harvestable varieties for processing. The fresh market sector represents an area of potential growth in both field and 'out of season' contexts. SCRI possesses a broad base of *Rubus* germplasm and selection for these and many other traits is possible.

Funding

MRS

Scottish Soft Fruit Growers Ltd - funded the programme 1993-2000

Horticultural Development Council

Scottish Society for Crop Research

SEERAD - funds the science underpinning the breeding work as part of SCRI'S core research programme.