



The Progress of Raspberry & Blackberry Breeding in Scotland



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Raspberry Breeding at James Hutton



- Raspberry breeding since 1954
 - 22 cultivars released
- Underpinning science to support breeding
 - Genetics, genomics, metabolomics, hyperspectral imaging, bioinformatics, pathology
- Commercial breeding programmes managed by JHL
- Income from new varieties feeds back into programmes & research



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Current breeding objectives



Raspberry Breeding Consortium 2019 - 2024

Scottish Government, AHDB and 16 industry partners (UK & EU)

- Select high quality fresh market cultivars suitable for low input systems with reduced labour costs
- Develop robust hybrids with improved P&D resistance, especially to *Phytophthora* root rot
- Active deployment of marker assisted selection strategies to speed up breeding process
- Objectives reviewed annually

Good picking efficiency & yield now high priority



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Phytophthora-resistant florican Glen Mor



- Cropping from mid-June
- Pickers' favourite
- Good performance and quality in coir and soil



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Early Primocane Lewis

- Begins late summer
- Large & glossy
- Sweet & floral
- Quick and easy to pick/plug

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Star Inn Farm, Scotland

Double-cropping Primocane Skye



- Late autumn season
- Long-cane crop with high yield potential
- Excellent picking efficiency
- Sweet with vanilla notes

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New for commercialisation: Floricane 0658C5

- Selected for **high productivity & large size**
- Consistent & reliable cropping over 10 years at JHI in root propagated trials (soil & coir)
- Popular in blind tastings and top in Innovate flavour project 2019 (vs. 11 commercial cvs.)
- Fresh plants fruiting in several trials in UK and Europe in 2022.

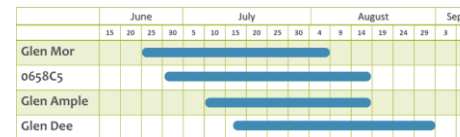
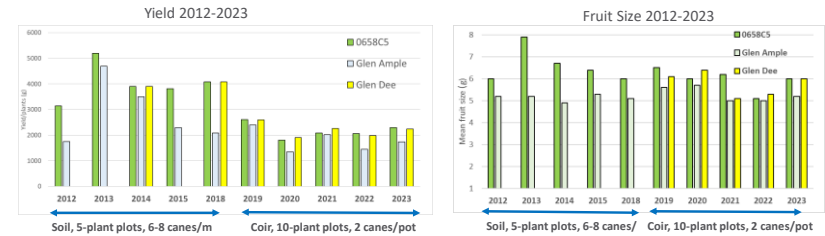
Triallist feedback:

- **Good picking efficiency** and fruit quality
- Plants available to order from Genson



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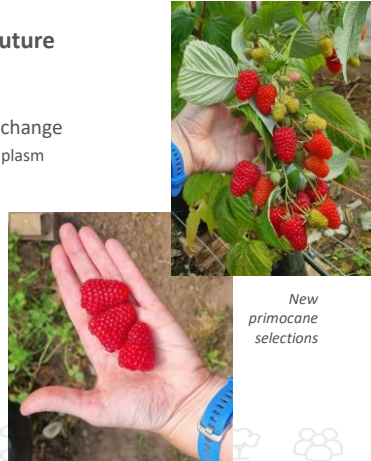
0658C5: >10 Years data at James Hutton



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Breeding resilient cultivars for the future

- Select genotypes with resilience to environmental change
 - Assess and compare chill requirement of advanced germplasm
- Increased breeding effort on pathogen tolerance
 - Powdery mildew, Botrytis, two spot spider mite
- New marker development and validation
 - Economical production
- Advanced Plant Growth Centre (APGC) in 2024
 - Next-generation controlled environment facility
 - Mimic a range of climates & environmental conditions



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Blackberry Breeding at James Hutton



Blackberry Breeding Consortium



- Ten year programme (2018 - 2027)
- Focus on fruit quality; flavour and size
- Yield, colour stability/reversion



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Bramble 18-5

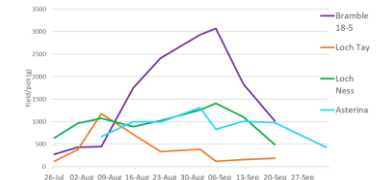
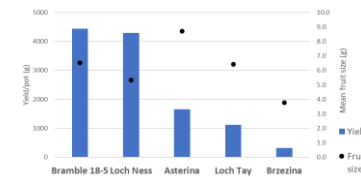
Outstanding in breeding and on-farm trials

- Thornfree plant, easy to manage
- Picks easily with consistent shape, size and appearance
- Top in blind tasting & shelf-life, best eating quality in 2020-2023
- Trials: Good flavour & size on all trial sites
- Shows little reversion after cold storage
- Plants available for trials in 2024

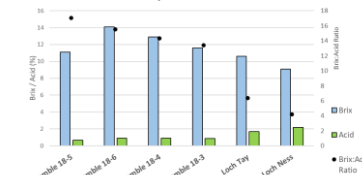


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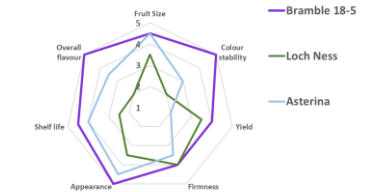
Bramble 18-5: Yield & Fruit Size



Fruit Quality



Higher brix:acid ratio correlates with higher tasting score



Radar graph show arbitrary scores on a 1-5 scale, where 1=poor/low intensity and 5=excellent/high intensity

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Contact JHL for Trial Material



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Variety info & results: huttonltd.com