



Welcome to everyone



Department
for Environment
Food & Rural Affairs



**Harper Adams
University**

Headaches?

- Energy/Production Costs
 - Peat
 - Protection against pests
 - Staff availability
 - Transportation
-
- Where does that leave us?

UK eating more fruit and veg during pandemic

By Jerome Smail

15-Dec-2020 - Last updated on 15-Dec-2020 at 15:30 GMT



on the pre-breeding research pulse. ”

AHDB

from theory to field

Vegetable GIN solutions

While the problems facing growers may make it tempting to reach for the gin, plant breeders are finding that GINs are actually providing the answers. *CPM* takes the top off VeGIN and gets a taster of what's inside.

By Lucy de la Pasture

The 'Genetic Improvement Networks (GINs)' bridge a gap by bringing together industry and academics to drive forward R&D on genetics while also focusing on longer-term issues, such as resource efficiency, sustainability and resilience, which complement and augment commercial breeding programmes, explains AHDB's Dhan Bhandari.

bring them together to improve collaboration and communication between researchers and industry."

The last, but not least, of the GINs to be featured in *CPM* is VeGIN, which follows on from OREGIN and PCGIN (featured in July 2020) and WGIN (July 2017). Part of AHDB's role is to communicate the progress of the networks to the industry, adds Dhan.

The VeGIN team is led by Guy Barker at the University of Warwick. He explains that

Public good

"The key rationale to Defra funding the GINs is to address issues of public good that are not necessarily captured in commercial breeding programmes but can deliver significant benefits for UK crop production."

AHDB doesn't contribute to funding the networks but has a role as a stakeholder which helps influence the direction of research to meet industry needs, he explains.

"Being involved also helps us to keep our finger on the pre-breeding research pulse — and be at the start of the variety pipeline that ends with the AHDB Recommended Lists."

Since 2003, four GINs — WGIN (wheat), OREGIN (OSR) VeGIN (brassicac. leafy



Nature never stands still. As well as pathogen evolution, keeping up with changing weather patterns and the pest and disease pressures that result is no easy task for plant breeders, particularly a finding genetic solutions to introgress conventional breeding programmes in a speedy process.

- <https://www.cpm-magazine.co.uk/2021/10/07/theory-to-field-vegetable-gin-solutions/>

MOLECULAR BIOLOGY AND EVOLUTION

academic.oup.com/mbe

The Evolutionary History of Wild, Domesticated,
and Feral *Brassica oleracea* (Brassicaceae)
Makenzie E Mabry, et al.,
Molecular Biology and Evolution, Volume 38,
Issue 10, October 2021, Pages 4419–
4434, <https://doi.org/10.1093/molbev/msab183>



- Modulation of seasonal weasel camouflage
- Local adaptation in African chickens
- Domestication of date palm
- From phalanges to flight
- Anemone immune response

Society for Molecular Biology and Evolution

Online ISSN 1537-1719



Our Aim: to build and sustain a stakeholder network for UK vegetable crops (**brassica, lettuce, onion and carrot**)

- Maintain and improve existing experimental populations and diversity sets of carrot, onion, brassica and lettuce.
- Where necessary, produce new mapping populations for important commercial traits (i.e. disease resistance, yield, crop establishment and rooting traits)
- Employ new technologies to analyse existing germplasm and develop new molecular markers for traits predicted to expand these crops' market potential, thereby ensuring the UK's uptake of modern breeding methods, including those based on transcriptome and next generation genome sequencing techniques
- Carry out field and glasshouse trials of selected lines to facilitate the incorporation of beneficial genes into breeding programs.



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Interactions with Others:

Natural Light Growing Centre launched



Phillip Lee, Managing Director of RIPE Building Services, said: “We’re incredibly excited to be partnering with CHAP and officially launching our new prototype greenhouse at Warwick’s Wellesbourne Campus. The location is ideal for the facility, being part of Warwick’s innovation community as well as a major growing area in horticulture.”

Recent news.

- Midlands Integrated Bioscience Training Partnership PhD, Brassica stress resilience Jim Monaghan & Guy Barker and Syngenta
- A. Beacham; HortQFLNet: Tipburn in selected DFFS lines based on the VeGIN study
- Best wishes to Dion Garrett Waitrose CTP PhD studentship who is now in the final stage of writing up.

The current VeGIN Team



Guy Barker

Graham Teakle

Rosemary Collier

John Clarkson

Charlotte Allender

John Walsh

Eric Holub

Lauren Chappell

Nicole Pereira

Maz Elliot



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Jim Monaghan

Andrew Beacham

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