

Dr Nicholas Doddrell

Qualifications / Affiliations

NIAB EMR, East Malling, and University of Reading, Reading – PhD Food and Nutritional Sciences
October 2018 - May 2023

University of Cambridge, Cambridge – MA (Cantab) Natural Sciences, specialising in Plant Sciences
October 2015 - June 2018

Year of Birth

1996

Nationality

British

Languages

English

Contact

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Current Position at CWA

Nicholas Doddrell joined the Food & Agricultural Commodities Department as a Food Scientist in 2023.

Nicholas has a broad background in plant biological sciences and agriculture from his PhD, including plant physiology, plant tissue culture, plant genetics, molecular biology, plant biotechnology and agronomy, and a wider scientific education in biological science, chemistry, and mathematics earned from his Natural Sciences degree. He is particularly familiar with handling of GM crops and fruit produce, having studied both extensively in his PhD work.

Nicholas has handled live and historical cases on a broad range of food and agricultural commodities, including physical inspections and desk-based advice on grains, feedstuffs, oilseeds, sugar, and fresh and frozen produce. He also regularly advises on appropriate sampling of bulk and bagged cargoes and on infestation and fumigation.

Summary of Previous Work Experience

October 2018 –
May 2023

**NIAB EMR, East Malling, and University of Reading,
Reading**
PhD Researcher

Examined how strawberry photosynthesis varies across a polytunnel to identify limiting factors on photosynthetic rate and fruit yield. Genetically manipulated strawberry to overcome these limitations and enhance photosynthetic characteristics.

July 2017 –
September 2017

Millennium Seed Bank, East Sussex
Intern

Performed germination tests on seeds in long term storage, researched invasive UK species for a database, and carried out a literature review into hardseededness of legumes.

Selected International Attendances

Argentina

- Shipboard investigation of sprouting and mouldy yellow maize in bulk.

Belgium

- Shipboard and warehouse investigation of mixed-ripe, full-ripe, and over-ripe bananas.

Benin

- Shipboard and warehouse investigation of wetted parboiled rice in bulk.

Cameroon

- Warehouse investigation of allegedly wetted bagged sugar.

France

- Expert representative at commercial court proceedings regarding contamination of bulk wheat by an animal carcass.
- Warehouse investigation of green-ripe bananas.

Italy

- Multiple shipboard investigations of bulk soya bean cargoes with allegations of heating and caking.

Liberia

- Multiple shipboard and warehouse investigations of bagged rice cargoes with mould growth, caking, and infestations.

Page 2 of 3
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Morocco

- Shipboard and warehouse investigation of alleged heated and discoloured soya bean meal (SBM) and dried distillers' grains with solubles (DDGS).

Senegal

- Shipboard, warehouse, and silo investigation of rice in bulk with alleged mould growth and malodour.

Vietnam

- Shipboard and warehouse investigation of blackened, sprouting and mouldy yellow maize in bulk.

United Kingdom

- Shipboard investigation of suspected contamination of wheat grains in bulk with standard derived fuel.
- Warehouse investigation of palletised ice cream bars with alleged temperature abuse.
- Container investigation of palletised yams with alleged temperature abuse.

United States of America

- Shipboard and warehouse investigation of bagged cocoa beans alleged as wetted and mouldy.

Publications

- Varghese R, Cherukuri AK, **Doddrell NH**, Doss CGP, Simkin AJ, Ramamoorthy S. (2023). **Review Machine Learning in Photosynthesis: Prospects on Sustainable Crop Development.** *Plant Science*, 111795, <https://doi.org/10.1016/j.plantsci.2023.111795>.
- **Doddrell NH**, Lawson T, Raines CA, Wagstaff C, and Simkin AJ. (2023). **Feeding the World: Impacts of Elevated [CO₂] on Nutrient Content of Greenhouse Grown Fruit Crops and Options for Future Yield Gains.** *Horticulture Research*, 10 (4), uhad026, <https://doi.org/10.1093/hr/uhad026>.
- Matthus E, **Doddrell NH**, Guillaume G, Mohammad-Sidik AB, Wilkins KA, Swarbreck SM, and Davies JM. (2020). **Phosphate Deprivation Can Impair Mechano-Stimulated Cytosolic Free Calcium Elevation in Arabidopsis Roots.** *Plants*, 9 (9), 1205, <https://doi.org/10.3390/plants9091205>.
- Matthus E, Wilkins KA, Swarbreck SM, **Doddrell NH**, Doccula FG, Costa A, and Davies JM. (2019). **Phosphate Starvation Alters Abiotic-Stress-Induced Cytosolic Free Calcium Increases in Roots.** *Plant Physiology*, 179 (4), 1754 – 1767, <https://doi.org/10.1104/pp.18.01469>.
- **Doddrell NH** (2023). **Realising Increased Photosynthetic Efficiency to Increase Strawberry Yields.** *University of Reading*.