

Dr Stephanie Heard

Qualifications	PhD Field and Molecular Plant Pathology (Rothamsted Research / registered at the University of Manchester)
	BSc (Hons) Biology (Imperial College London)
Memberships	Royal Society of Biology, WISTA
Date of Birth	1986
Nationality	British
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Current Position at CWA

Dr Heard joined the CWA Food and Agricultural Commodities Department as a Food Scientist in 2013. She is involved in the forensic investigation of damage causation and mitigation of claims made against food, feed and other dry commodities. She regularly attends on-site to undertake such investigation. She has been involved numerous expert meetings and preparing for arbitrations. Dr Heard has acted as an Expert Witness in Chinese court.

Specific Expertise and Experience

Dr Heard provides advice for the care of agricultural cargoes during storage and carriage. She has extensive experience gathering evidence during on-site attendance, as well as applying scientific principles to determine the underlying cause of damage and the implementation of mitigation and salvage steps.

Dr Heard has specific expertise in understanding the deterioration of crops, grains and feed ingredients as well as associated problems regarding mould growth and mycotoxin contamination. She also has extensive onsite experience of sampling bulk grain cargoes in accordance with the relevant food and feed sampling guidelines.

She regularly provides advice for the safe marine transport and storage of a range of bulk grains, oilseeds and softs with regards to appropriate ventilation, dunnaging and fumigation practises as well as providing recommendations on the relevant sampling and laboratory methods in accordance with the appropriate national guidelines and standards.

She provides guidance regarding the specific disinfestation of organic cargoes to ensure the premiums for such high values goods can be retained throughout complex transport chains.

Attendances

Bangladesh

- Investigation into the causation of heating to bulk Canadian soya beans at Chittagong.
- Investigation into the alleged heat damage of bulk Brazilian soya bean meal.
- Investigation into the contamination of bulk wheat with foreign matter and sand.

Belgium

Multiple inspections of West African banana reefer cargoes during discharge at Antwerp.

China

- Sampling and monitoring of cargo condition during the discharge of Brazilian soya beans at Beihai.
- Investigation into alleged foreign matter contamination of soya beans and inspection of sieving operations.
- Expert witness in court. Cross examined with regards to the quality DDGS discharged in China.

Côte d'Ivoire

Inspection and survey of bagged Chinese rice reportedly damaged by cargo sweat at Abidjan.

Germany

Sampling and investigation into the contamination of a cargo of maize with pigeon cadavers.

Ghana

Investigation into the condition of alleged wetted rice bags upon discharge.

Egypt

- On board investigation into the alleged contamination Argentinian soya beans with the field fungus *Sclerotinia sclerotiorum*.
- Investigation into heat damaged soya beans. Organised sampling at anchorage as well as coordinating sampling during discharge.
- Inspection and condition profiling of a cargo of barley at Suez Canal.
- Investigation into contamination of wheat cargo at Alexandria.

Israel

On board investigation into the cargo condition of a bulk shipment of wheat bran pellets.

Indonesia

- Sampling of alleged wetted wheat at a milling plant.
- Investigation into the methyl bromide fumigation practises undertaken onboard a wood chip carrier.

Italy

- Attendance at a power plant to investigate the alleged wetting of Palm Kernel Shells (PKS) and possible decrease to Net Calorific Value of the cargo.
- Audit of a food processing factory and on-site laboratory.

Jordan

Investigation into alleged seawater damage to a shipment of Argentinian corn.

Kenya

Investigation into the deterioration of multiple shipments of bagged corn soya blend. Undertaken inspections of the product on multiple occasions.

Mauritania

Various investigations into the alleged wetting of different shipments of bagged white sugar including warehouse surveys. Assisted with litigation process at the local tribunal.

Mexico

Sampling and investigation into the alleged damage to a consignment of US milling wheat.

Myanmar

Attendance during the loading of bagged rice during rain for shipment to West Africa. Assisted in assessing rain wetted bags as well as providing advice of dunnaging.

Poland

- Warehouse attendance to investigate alleged ripening Ecuadorian banana reefer cargo at Gdansk.
- Monitoring discharge and sampling of soya bean meal in Gdynia.

South Africa

Implementation and supervision of sampling of soya beans during transshipment operation. Assessing cargo quality during operations.

South Korea

Investigation into a fumigation-related fire at Incheon in a cargo of distillers dried grains with solubles (DDGS). Implemented sampling and smoke taint testing.

Spain

- Attendance investigating the alleged contamination of Argentinian soya beans with the field fungus *Sclerotinia sclerotiorum*.
- Attendance during the discharge of a cargo of salvaged wheat.
- Investigation into the alleged damage of shea kernel in bulk.

Togo

On board inspection and multiple warehouse survey of damaged parboiled and broken rice from South East Asia.

Turkey

- Attendance on board to investigate the alleged damage to a bulk shipment of DDGS at multiple disports.
- Investigation into the production of bagged corn soya blend contamination with foreign matter.

UAE

Investigation into self-heating of maize. Implementation and monitoring of joint sampling procedures during discharge and transfer of grain from silo to silo.

Uganda

Investigation into the deterioration of multiple shipments of bagged corn soya blend.

UK

- Warehouse inspections and sampling of wetted and mouldy bagged basmati rice.
- Attendance and sampling at the discharge of a raw sugar cargo. The investigation focused on mitigating any damage due to water ingress.

USA

Investigation into the alleged mould damage to flue-cured tobacco.

Vietnam

Investigation into the alleged wetting of Argentinian maize at Ha Long Bay.

Industrial Publications

- Organically Grown Food Cargoes Carried in bulk, Gard Article, June 2014
- Carriage of Bulk Grain Cargoes & Carriage of Organic Bulk Grain Cargoes Skuld, Loss Prevention, July 2015
- The Carriage of Soya Beans in Bulk (Assisted in the preparation) West of England, Loss Prevention Bulletins, September 2015
- Safe transportation of Soya Beans, UK P&I Club Carefully to Carry, 24 March 2017
- Carriage of Bagged Agricultural Cargoes, North of England P&I, Loss Prevention Briefing, February 2018 (Assisted in the preparation)
- Carriage of Soya Beans, The Standard Club, April 2019
- An Expert's view on the carriage of soya bean cargoes from Brazil to China, Gard Insight, July 2020
- Assisted in the preparation of articles describing changes to IMSBC Code 2020 changes to Seedcake schedule (pending publication).

Scientific Publications

Heard S, West JS (2014). New developments in identification and quantification of airborne inoculum. Pp 3-19 in: Gullino ML & Bonants PJM (Eds) Detection and Diagnosis of Plant Pathogens, Plant Pathology in the 21st Century 5. Springer, Dordrecht, The Netherlands.

Heard, S., Brown, N. A and Hammond-Kosack, K. E. (2015) An interspecies comparative analysis of the predicted secretomes of the necrotrophic plant pathogens *Sclerotinia sclerotiorum* and *Botrytis cinerea*. PloS One Volume: 10 (6)

Derbyshire, M. et al (2017). The complete genome sequence of the phytopathogenic fungus *Sclerotinia sclerotiorum* reveals insights into the genome architecture of broad host range pathogens. Genome Biology and Evolution, 9(3): 593–618.