

# CELEBRATING 100 YEARS OF PLANT HEALTH AND AGRI-FOOD SOLUTIONS



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**June 2014 marked the centenary of what is known today as The Food and Environment Research Agency (Fera). Over the last 100 years Fera has been the leading voice for scientific evidence, advice and solutions across plant health and the agri-food production and supply chain. Only recently, Fera science was critical in developing early responses to detecting ash dieback and identifying horsemeat and associated chemical residues in food. As the pressures on natural resources grow in the future, Fera's role will be ever more critical.**

I joined Fera as the Director of Science in April 2014, and am responsible for growing the quality of our scientific outputs and reputation, and translating research into solutions, both nationally and internationally. I

*... Fera's scientific capability maintains its leading edge ...*

need to ensure that Fera's scientific capability maintains its leading edge, and sustains the integrity and quality of all its scientific activity, so as to enable us to solve tomorrow's challenges in plant health and agri-food.

In doing this, each year Fera publishes over 150 scientific papers, analyses over 50,000 plant and food samples, and provides expert advice and input to governments, numerous national and international committees and industry. But as we look to the future, it is fascinating to look where we have come from – and to celebrate Fera's success over a

century of evolving to meet the needs of our customers.

Fera's roots can be traced back to 1914. At this time, there was a growing problem of new pests and diseases brought into Britain

following international expeditions. This led to the setting up of the Institute for Plant Pathology at the Royal Botanic Gardens, Kew. In 1916, during World War I, the need to improve food storage was brought into focus. Wastage of imported perishable foods was becoming so severe that



Gumley and Chestnut cottages at Kew Gardens – the original home of the Institute for Plant Pathology

research into food preservation was urgently needed and the Food Investigation Board was formed.

The Kew Institute's work proved invaluable, and in 1918 it was re-organised into the Plant Pathology Laboratory, and shortly after was moved to Harpenden, Hertfordshire, where it remained for over 70 years. 1988 saw the now named Harpenden Laboratory merge with the Pest Infestation Control Laboratory – which had arisen largely from the need to protect Britain's World War II grain and flour stocks from pests and disease, and from the growth of ecotoxicology – forming the nucleus of what would become the UK's Central Science Laboratory.

The Cold War led the Government to set up the Strategic Food Stockpile, designed to feed Britain following a nuclear strike. A secret network of giant warehouses held thousands of tonnes of food ready to enter the nation's food chain. Ensuring this food wouldn't spoil became a fundamental responsibility for the Food Science Laboratory and

the Pest Infestation Laboratory. Their work was so successful that, even in 1995, well over 200,000 tonnes of food were still in storage.

By 1994, both plant and food roots had come together as the Central Science Laboratory (CSL), along with a world-leading honeybee protection laboratory, the National Bee Unit, which remains central to tackling today's bee-health problems.



### ... Strategic Food Stockpile, designed to feed Britain ...

CSL has played a vital role in solving critical challenges over the years. In 2001, staff helped to control the foot and mouth outbreak. In 2003 CSL faced another challenge, but it had prepared for this one since the 1980s. Potato ring rot was discovered in seed potatoes, and as the devastating disease favours cooler climates, it could have spread across the UK. Decisive action based on CSL's scientific evidence and advice eradicated the disease, and with continual monitoring, outbreaks are, thankfully, rare. In 2003/04 CSL became the sole laboratory for detecting nitrofurans – banned because of concerns

about the safety of their chemical residues – in imported seafood and honey.

In 2009, CSL became Fera, and this included welcoming a number of other organisations including the Plant Health & Seeds Inspectorate, the Plant Varieties Rights Office & Seeds Division and the UK Government Decontamination Service, each of which has a long history. Fera has since provided solutions to some



Fera scientists using the very latest portable plant health diagnostic equipment at ash dieback sites

high-profile problems. These include controlling the fungus-like pathogens *Phytophthora ramorum* and *Phytophthora*

*kernoviae*, which saw the first wide scale use of field-based diagnostics, and rapidly developing an early-detection technology for ash dieback. Fera was also on hand to tackle a wide range of food fraud and food safety cases.

Responding to crises catches the eye, but more importantly the identification of emerging threats, their early detection, and advice on intervention is the routine business of Fera and

results in the avoidance of economic costs as much as successfully tackling a crisis. We are now developing protein-based approaches to determine the animal species in processed foods (in which DNA techniques don't work well), and using advanced analytical technologies to work out how to 'fingerprint' food biologically and chemically. We are also collaborating with

the Met Office and industry to improve crop-disease risk forecasting and early intervention advice to farmers. Our broader ambitions include innovation in agricultural technologies to improve the sustainability of food production and consumption.

Fera is evolving, and the next year will see us move from Defra ownership to a joint ownership between Defra and a non-Government partner. Whatever the details, Fera will discover new ways of using science to solve our customers' problems, by providing scientific evidence, advice and solutions across the complexity of the agri-food chain. These problems will become more challenging as drivers such as environmental change, and a rising population with higher living standards, increase the pressure on natural resources, and demand that nations achieve sustainable approaches. Fera's scientists understand the complexity of these challenges, and the evolving regulatory context in which they sit, and will be a critical force providing those elusive, but essential, sustainable solutions.

### ... provided solutions to some high-profile problems ...