

NERC and M&S

the science of sustainable retail



Both images: M&S

Dr Claire Quinn's job is to help ensure UK food and clothing retailer Marks and Spencer gets access to the scientific knowledge it needs. Tom Marshall finds out how her knowledge exchange Fellowship has been an enlightening experience on both sides.

M&S has gained important insights into how better use of environmental research can improve its business, while Quinn has a new appreciation of what companies, and retailers in particular, need from scientists – and of some of the reasons they don't always get it.

An associate professor in Natural Resource Management at the University of Leeds, Quinn's background is in interdisciplinary research around the future of farming and the countryside. Since February 2013 she's spent half her time at the M&S headquarters in London, focusing on sustainable agriculture. She's worked primarily with technical managers in fresh food, and with the team responsible for Plan A, the company's long-term sustainability strategy.

This commits M&S to become the world's most sustainable retailer, with sustainability built into every product by 2020. Helping it get there are initiatives like its Farming

for the Future programme, under which it engages with the farmers who provide its raw materials.

Part of Quinn's role is to help extremely busy M&S executives understand the state of knowledge in a particular field – providing accessible summaries of the big picture across whole areas of research. To let her do that, she's been reading lots of papers and attending lots of meetings.

She has built relationships with numerous active initiatives around sustainable agriculture – everything from the government's agricultural technologies strategy and Defra's Sustainable Intensification Research Programme to research council projects like the Sustainable Agriculture Research and Innovation Club (SARIC), run by NERC and BBSRC.

It's a complex and fast-moving research landscape, and Carmel McQuaid, Head of Sustainable Business at M&S, says it's difficult for executives in the hectic retail sector to

keep track of everything that's going on and how it could help them.

'We've already had great benefit from the NERC fellowship,' she says. 'Having Claire around lets us stay close to a lot of activity that we wouldn't have had the capacity for otherwise; it means we don't miss out on things we should be involved with but can't physically participate in as we're out in the supply chain a lot. We've also learned a lot about how to interact with research and how we need to formulate our questions to get the most out of it.'

One early project contributed to M&S's efforts to help its suppliers use fertiliser more sustainably. Quinn has also worked on anaerobic digestion – a technology that turns farm waste into biogas that can then be burned for energy. She produced briefing notes focusing on the state of current legislation and best practice in areas like which feedstocks to use and how best to use the nutrient-rich solid material that's left over at the end of the process. These helped M&S technical managers to develop guidelines for M&S suppliers, as well as to understand what their position on anaerobic digestion should be and what support they should offer to suppliers considering taking it up.

Quinn has also been helping M&S develop its Pollinator Action Plan, intended to counteract the decline of the pollinating insects on which much of our food depends. The company is exploring the possibility of producing guidelines to help farmers protect pollinators, covering areas like pesticide use and how to create and sustain suitable habitats. It is also working with suppliers and the RSPB to explore the impact of different farming practices on pollinators.

Often it turns out that the knowledge the company needs already exists – it just isn't very well distributed. 'It's not always new science we need – often it's someone to take the existing research, join up the dots and present it in solution format,' says McQuaid.

Another example is the Cool Farm Tool, designed by another NERC Knowledge Exchange Fellow, Jon Hillier of the University of Aberdeen to provide a farmer-friendly way of estimating the greenhouse-gas emissions of particular farms. The software is now being used by farmers selling to companies including M&S, Unilever, PepsiCo, Tesco and Heineken,



helping them cut greenhouse-gas emissions by showing them where the biggest gains can be had for the least money. The group formed around a desire to reduce 'farmer bothering', as well as a desire to future proof such models as the science continues to emerge. A goal is to create an industry standard model – a simple front end that doesn't change, so that farmers don't have to learn a new interface whenever the science behind the tool is updated.

Quinn held a series of events in 2014 introducing NERC-funded researchers to M&S staff to discuss how science can help the company reach its goals. But her objective goes beyond producing research summaries and making the odd introduction; she wants to help change the way M&S works, so everything it does is more firmly based on science. She's now investigating the way information has moved between her and the company over the last two years, with the aim of shedding light on which ways of sharing knowledge work and which don't, and what M&S can do to embed knowledge exchange in how it does business.

If Quinn has already helped M&S gain a better understanding of how to use environmental research, she's also learned a lot herself about working with the private sector. 'Our industry is changing incredibly fast,' says McQuaid. 'The way we do research and how we traditionally have done knowledge exchange need to change along with it.'

'We're still finding out how valuable this material is, who it's useful to and how we should communicate it to them,' adds

Quinn. 'There's no point doing this if it doesn't make a difference, and already I've learned that this can depend on very basic things that we don't usually consider as scientists. For instance, timing over the year is very important; if your plan will involve investing in a new farm trial, it's no good proposing it just after the annual budget has been finalised or the farmers' planting season has ended.'

That's not the only seasonal constraint on the retailer's susceptibility to scientific input. 'In retail we have this little thing called Christmas every year,' McQuaid notes. 'No matter how great your idea is, there's no point trying to come in and pitch it in late November because nobody has time to listen!'

Once scientists have its attention, though, M&S's fast-moving culture means it can quickly test new ideas in the field, and provide feedback on what works and what doesn't that could otherwise take years to get. With 35,000 product lines, 20,000 farms, 2,000,000 workers and millions of customers, even small changes to what the company and its suppliers do can make an enormous impact. And companies' influence goes even further – part of the reason for the CFT's wide uptake was that Unilever championed it and persuaded other firms to take a look.

The fellowship has other benefits too; Quinn says it's opened doors for her. 'Being associated with the M&S brand helps enormously – people in the research community suddenly become much more eager to talk to me!'