

Chris O'Toole, Oxford Bee Company

'The man in the street can understand it'

"We're the only spin-out company of any British University with products which the man in the street can buy over the counter, in garden centres or through various mail order catalogues, says Chris O'Toole.

The products for sale from Oxford Bees are mason bee nests – bundles of tubes housed in a weatherproof canister - bumble bee nests, bat boxes, ladybird houses, and associated literature. There are books on all these creatures as well as on beetles and worms. They are available at many outlets and websites, and there are links with national and international stockists and distributors.

"It's very much the popular end of the wildlife gardening market," Chris continues. "But what's not so obvious, on the website, or in shops and catalogues, is that the company now comprises two divisions: the trading division, and one devoted to managed pollination. I'm the founder member and Science Director of the company, and my main effort now is to develop the managed pollination side."

Chris O'Toole has now retired from his role in the Hope Entomological Collections of the Oxford University Museum of Natural History. His Oxford Bee Company was incorporated in November 2000. "But I had been working on the Red Mason bee, on and off, for maybe twenty or thirty years.

Isis innovation, the technology transfer company for Oxford University, found my ideas interesting and said the Red Mason bee has been shown by various independent academic studies to be an excellent pollinator – a much more efficient pollinator of a variety of crops than the honey bee, for a range of anatomical and behavioural reasons. But this work had never been taken that one step further into the commercial field, where mass reared bees are made available to growers. And it is mass rearing where my own research was relevant. I had been interested in the biology of their parasites, and in order to get enough material to play with, I needed to develop a system of mass rearing. This was the prototype of our nests.

"So, I'd got the techniques for mass rearing, and for manipulating the bees, and we knew from the academic research that they were good pollinators. I gave a presentation to Isis. They liked it, and said, come back and do it for some investors."

Chris O'Toole remembers that his low-tech presentation was a great success with the potential investors gathered together by Isis. "There were several other spin-out companies presenting – their spokesmen were physicists and chemists and cosmologists. They tried hard to make their ideas accessible, but there was an awful lot of algebra and chemical formulae involved. I just stood up and talked about the natural history of this thing. This is applied natural history. The man in the street can understand it. We had plenty of interest after that."

Growth and diversification

Oxford Bee Company was set up with start-up funds from private investors and £48,000 from the University. Since then, a SMART award of £45,000, and investment by a venture capitalist has facilitated further growth and diversification. The private investors include some who are particularly interested in "green" or organic companies.

The board now comprises Richard Organ (Chair), Larry Snell (MD), Chris O'Toole (Science Director), Rose O'Toole (Company Secretary), Dr Peter Hotton of Oxford Gene Technology (University Representative), David Mosley, non-executive director.

The original part of the Oxford Bee Company, and the part most apparent to Chris O'Toole's 'man in the street' (or garden) is the trading division. Initially, this provided nests for the Red Mason bee, *Osmia rufa*, together with a book and information leaflets. People buy these nests for the fun of watching bees at work and for the pollination benefits they bring. Further diversification means that

nests for other bee species, together with a ladybird house and an improved design of bat box, are now available, as well as associated books.

"Further investment enabled additional research and design work. All our products are manufactured in Thailand, where computerised manufacturing techniques are advanced and everything is cheaper.

"The business side of the Oxford Bee Company is run from Loughborough, under Managing Director Larry Snell and Rose O'Toole, Company Secretary. The trading side is doing well. and a whole load of exciting things that are actually in the pipeline will contribute to the further success of the company. For example, we now have an agreement with the company which supplies to schools. They make two education packs for teachers, one is based on mason bees and one on Ladybirds, with teaching materials on a CD, and a Power Point presentation.

"We've had a lot of interest from a potential US distributor" Already, we have income from the mail order catalogues of the RSPB and CJ Wildbird Foods, and a number of European catalogues. We've modified our nests for sale in Australia, where they have a different range of bees, and the information literature to go with them, and we hope to be doing the same for Japan, where English-style gardening is very fashionable – even if you have to do it on the roof of your apartment block."

'Managed pollination'

As Science Director, Chris O'Toole explains how he now puts more of his own efforts into developing the other half of the Oxford Bee Company's work: managed pollination.

"The idea is to make Mason bees available for managed pollination. This is through licensing the mass rearing techniques we've developed, which will make bees available on a lease-back basis to farmers and growers, both for indoor crops, like tomatoes, in polytunnels and greenhouses, and in orchards. I work with our Propagation Manager, Matt Allen, and we are researching improved management techniques, which, for example, modify the emergence times of bees so as to coincide with the flowering of target crops.

This year (2004) we staged pollination studies in blueberry and apple orchards, strawberry tunnels and with a commercial seed producer in the UK. On the mainland our studies included sweet cherries and apples in Belgium, Apples in Poland and Almonds in Spain. The results have been very encouraging."

There are other species of wild bee that Chris O'Toole would like to work with, such as another mason bee which is an excellent pollinator of forage crops for cattle, and he has ongoing pollination trials on almonds in Spain with *Osmia cornuta*, a species not found in Britain. He takes great care not to introduce foreign *Osmia* species to Britain, or the endemic British subspecies of *Osmia rufa* into Europe, despite the fact that they can use the same nests. "If they're sub-species, I don't want them genetically mixed up."

Chris O'Toole retired at the end of 2004 and now works for Oxford Bee Company. How far into the future does he look? "I like seeing the results of my research being applied practically and there is still plenty more to do on mason bees."

And when he sells the company, what will he do?

"Some consultancy, and get back to taxonomic work on bees. I could do the research I've always wanted to get on with!"

Christine Holmes, November 2004