

# David Stuart Jenkinson (1928–2011)

Interviewed by Paul Merchant, 2010

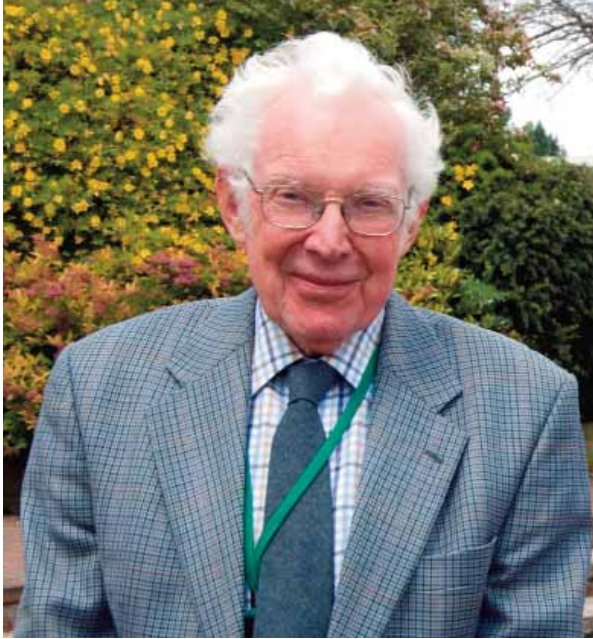


Photo: Rothamsted Research

*Professor David Jenkinson FRS was a soil scientist at Rothamsted Experimental Station, Hertfordshire between 1957 and 1988, where he conducted pioneering research on carbon and nitrogen cycling in soils (including development of one of the first computer models of soil carbon called 'Roth-C') and developed a revolutionary technique for measuring the amount of carbon in cells of soil micro-organisms (soil microbial biomass).*

*David's account of his childhood on a farm in County Armagh, Northern Ireland mixes stories of flower pressing, chasing hens, checking the hindquarters of sheep for maggots, being cold and stooking hay. He felt that experiences of farm work proofed him against a sentimental view of 'natural' farming:*

"I was aware, even as quite a young boy, that...these things could be improved. I mean I was very well aware that... one of my uncles, for example...was introducing...quite a lot of fertilisers, inorganic fertilisers. ...and I still feel that, that this is something that is important; science and engineering should be used in agriculture, both to raise productivity and also to eliminate at least some of the awful heavy hard work that was normal in those days."

*In the late 1970s, while others panicked about nitrate pollution of rivers and aquifers by 'leaching' of nitrogen fertilisers, David conducted careful experiments to determine what happened to labelled (radioactive) nitrogen after it was applied to plots of various crops:*

"And the main finding, and probably the most important, was that when we harvested in August or so, this is winter wheat, we found ...most of it was in the plant. ...We did maize...we did beans, we did barley, spring barley, and oilseed rape. And with all those...if you use nitrogen fertiliser at the right time and not use too much, you don't get a large residue of unused fertiliser sitting in the soil at harvest ready to be leached out into the watercourses."

*Sensibly applied at the right time of year, nitrogen fertilisers could continue to benefit farming. A similar practical, down-to-earthness set him apart from more recent valuing of organic farming:*

"I was walking over, yesterday, the farm owned by the Prince of Wales...and he'd got, he was growing an organic crop of wheat there, and it was miserable. Full of weeds. Obviously yellow, suffering from extreme nitrogen deficiency, and they'll get a tiny little yield. But on the other hand, they'll sell it as organic flour at a colossal price. ...But as a way of feeding huge populations, it's, it's not on."

*In retirement, David found time to apply his understanding of the cycling of carbon between the atmosphere, soil, plants and micro-organisms to contribute to predictions of climate change:*

"I realised... by the time I retired, that if the Earth warmed, and there was a lot of talk then about warming at that time... the rate of decomposition of...soil organic matter, would increase. ... If you get even quite a modest warming of the soil, you could release quite a lot of carbon dioxide by accelerating decomposition. And, I wanted to look at this."

*With colleagues, he confirmed the role of soil organic material as a 'positive feedback', and improved the global climate models in use at the Met Office's Hadley Centre for Climate Prediction and Research. As he put it, retirement wasn't 'entirely devoted to gardening'.*

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