



# The simple answer is SOIL – with Dr. Maarten Stapper

Dr Maarten Stapper at a field day at wheat biological trials at Nyngam, west Dubbo NSW.

By Jaime Newborn

**A**S A PASSIONATE biological farming advocate, a former senior scientist with CSIRO, an expert in wheat, information technology in agriculture, and on-farm participatory research, who's worked everywhere from Syria to Texas – Dr. Maarten Stapper certainly knows how to attract attention.

"Sometimes I think – I want to give it away and have a quiet time. But I've found I can't do it," says the man who left the CSIRO following strong objections to his continued public acknowledgement of the benefits of biological farm methods; and his questioning of GMOs.

"I went into agricultural science 40 years ago because I wanted to help feed the world.

"I branched into studying improved efficiencies of inputs and resources – rain, water, and soil - for best returns to the farmers. Slowly, I was drawn towards soil biology, because I found it was the life in the soil that drove the whole system.

"And what was happening under our current farming practises was we were killing what could help us most – limiting the potential of biology and nature with every application of synthetic fertilisers and chemicals on crops and pastures."

Originally studying catchment management and specialising in weed production systems, Dr. Stapper says his holistic, 'whole picture' thinking did not sit well in the realms of modern science.

"Problems were being reduced to details so tiny [that] they became irrelevant. We were studying symptoms, not the real problem, or its cause

"So to me, biological farming was the equivalent of saying – 'let's step back and look at what's really going on here.'"

But he says even organic farmers lacked a proper understanding of soil health at the start.

"There was originally no excavation of soil biology, as such – more a focus on what was excluded in terms of inputs.

"Now it's a different story – leading organic and biological farmers are working hard at actively stimulating their soil biology – and they're achieving the same yields as their neighbours!

"For so long, the old doctrine was organic will give you half the yield. Now properties under organic management return the same yield, with the same stocking rate using methods that are genuinely sustainable.

"Organic systems also encourage rural employment because they are more labour intensive."

Describing farmers as "the real innovators that drive change" Dr. Stapper says he is now enjoying working at the grass roots to help growers find ways their soil can help them.

He is travelling Australia with colleague David Hardwick to disseminate biological information at the invitation of various farm groups, individual properties, and associations.

"As chemical prices skyrocket, there has been an absolute hunger among farmers to find out more about alternatives," he says.

"Farmers want a basic introduction on what they can do on their properties to increase productivity in a sustainable and realistic way.

"We talk with them in small groups where they can ask questions and bring soil samples to be analysed. On properties we help farmers evaluate their own paddocks and look specifically at the surrounding landscape and the soil in front of them, learning how to see the whole eco-system.

"It's very important people know they have options. By introducing soil biology slowly, farmers can wean their land off chemical inputs.

"They don't need to go 'cold turkey' organic – but they will probably find themselves in a position five or six years down the track to certify if they wish.

Dr. Stapper says his aim is to demonstrate how to utilise the fact that everything in nature is connected – "there are no single issues," and notes that a focus on microbial life in the soil – "which is connected to soil organic carbon" - will be especially valuable for Australian producers.

"Australia has many areas of what we call 'dead soil' – soil where carbon levels have dropped to below 1%," he says.

"By focusing on creating a big biological 'sponge in the top soil below the ground that holds more air, more water, and more plant available minerals, soil biology will put us on track to lift soil carbon levels to 2% to 3%."

He says 'living soil' will be a boon for growers in an unpredictable future. "All organisms can change to suit their environment. Living biologically active soil is significantly more resilient in times of climatic variation because it can adapt where dead soil can't."

Dr. Maarten Stapper will be available to talk with farmers on how to tie in soil health concepts with practical farm problems in South Australia in December 2008, and the Western districts of Victoria in January 2009.

To contact him about speaking to a group, or visiting a property in your region phone (02) 6253 3967 or email <maartenstapper@ozemail.com.au>.