

# Organic and vegetarian? *By Iain Tolhurst*

## *Iain explains his practical motivation and methods*

**B**efore I explore the practicalities of how a stock-free organic system can be made to work I should tell you a little about my own history in agriculture.

I started work on a large commercial dairy farm back in the early seventies. I had always liked the idea of farming although there was nobody in my distant family past that we knew of that had indulged in this noble profession. I suppose I had a picture book idealist image of what made up a farm, cows in the meadow, sheep in the corn, lazy summer days, that sort of thing. The reality was somewhat different; the land was under intense pressure to produce and was looking rather sick. Not to mention the unhealthy animals that rarely managed to last more than 5 lactations before being sent off to slaughter riddled with disease so this led me to explore the organic alternative. In those days there wasn't much to find out about, most people thought we were crazy to try and grow without chemicals, indeed some people thought it was reckless.

Eventually we found a scrubby piece of land in Cornwall and started to carve a living from it, supplemented by odd jobs to bring in some cash. In part we were an example of the back to the land movement that Chas Griffin writes so eloquently about in the Organic Gardening magazine. I wanted to prove that it was commercially viable to grow organically to serve as an example to others. By this time we'd been together with 1-1 first had been vegetarian for several years; it was an inevitable result of the large dairy unit that brought about this radical lifestyle change.

So the problem was how would we be able to grow organically without animals? It was an accepted philosophy of Lady Eve Balfour and the Soil Association that animals were an integral part of the whole system; you needed the muck to grow the food to feed the animals to grow the food. But I was only interested in growing food to feed people not animals. I didn't have room for them on my miserable windswept 5 acres. We had a few goats for a while; you need to be a masochist to keep goats, (they pull your arms out of their sockets) just to provide a means of getting manure. But then we had to buy

expensive cereal to feed them and use valuable land for hay. Sure enough they kept the hedges tidy, ate all the brambles too but they forever wanted to get into our vegetable fields to eat our best crops, so in the end they were despatched off to another masochist.

We toyed with bringing in manure from off the holding, but this was hard work to handle we had no tractor and it used to make our van smell a bit whiffy which didn't go down too well when we dropped the kids off at school. It needed composting and then there was the problem of a reliable source without chemical contamination plus the fact that we would need in excess of 70 tonnes a year to support our vegetable unit. So in time we developed another system based almost exclusively on green manures. I had heard a vague mention that the Chinese had managed to feed their people on a mostly a vegetarian diet with the extensive use of green manures so thinking that this ought to be achievable in our climate too. It was a clear fact that you could certainly feed a lot more people this way, as much as three to five times more, so why wasn't everybody doing this?

For the same reason that most farmers were not organic, vested interest from the global conglomerate boys selling all those expensive goodies to support the system. Farms that run on green manures don't have to buy much in at all apart from seeds and even those could be home produced. And farmers are locked into believing that to produce you have to be plugging in massive inputs. And then of course everybody tells you that this concept is impossible to operate in the real world, but then that is what they told me about organics 28 years ago. But at the back of my mind was this nagging fear that a huge swath of my valuable and now slightly improved land would be sitting around doing nothing except growing pretty clover and Lucerne. Not going to be easy persuading the bank manager that this was the way forward to prosperity.

A change of farm, in 1988 with a longer tenancy slightly better land and much better climate in South Oxfordshire was the catalyst that brought around a radical change in the farming system. In time I

designed a rotation that was completely stock-free, in fact there are three separate rotations, one for field vegetables (7hectares) one for garden crops (0.5 hectares) and one for the poly-tunnels (1700 metres) The longest rotation is in the garden with 9 years, the field is 7 years and the tunnels are just 4-5 years. Extensive use is made of a whole range of green manures; especially important are legumes such as clover, trefoil and Lucerne. These are primary fertility builders and the outdoor rotations have a period of at least 30 months when they are present. The problems of having too much land tied up in green manures and not producing a saleable crop have been much reduced by under-sowing growing crops with legumes to follow on after the crop is harvested. I am also able to plant some crops direct into fertility builders and produce a good result.

So the area of crops to green manures is now up to 70% cropped land and this is economically viable. Regular soil analysis has shown that we are steadily improving fertility especially phosphate and potash, due to the deep rooting foraging of the legumes. The soil fauna has improved dramatically with better health of the seventy odd crops that we grow for our 300 per week box scheme. We still make vegetable compost for the tunnel crops and a bit for the garden area from our own waste materials and we would consider more composted waste from our customers if we were able to source it locally through council operated systems.

Its not just small intensive production units such as ours that can make this system work, the big boys can play this game too. Trials at Elm Farm Research Centre over many years have shown that large-scale stockless systems for cereals work both in terms of sustainability and economic viability. This has been endorsed by similar trials at ADAS Turrington growing potatoes and cereals using red clover.

But hang on a minute I hear you say, what about feeding the green manures to livestock, that way you get the best of both worlds, earning from the animals as well as fertility for crops. Well actually no it is not so simple. Firstly animal production unless done on a huge scale will lose you money, we would need fences, buildings, water supply and a market for small amounts too much bureaucracy too with hundreds of forms to fill in. Secondly you don't get anything for nothing, animals use energy, and they produce heat, methane and lots of waste products. You can not expect to get more fertility than you started with, you will inevitably need to buy in food to

feed your animals, so you are buying in acres from elsewhere, somebody else's fertility being lost. Look around the countryside, what do you see, lots of grass and maize in the West, lots of cereals and maize in the Midlands and East. More than 65% of these cereal crops go to feed animals, and then there is the huge amounts imported from all over the world at great cost to the environment. Organic farmers are no exception here; they are also importing feed cereals to support their stock farms. Some of this manure is going to support vegetable and more cereal production. So the organic movement is far from sustainable in its present form and if there were a ban on imported cereal then even more of our countryside would end up looking like a cereal prairie. An increase in organic conversions in UK would compound this problem even more as stocking levels would be lower and more land would be needed to feed animals.

So then you are now getting to see the picture, clearly there has to be a reduction in livestock farming if we are to even contemplate being able to feed the growing global population. Much good land is going to livestock production; it could be growing primary food products for feeding direct to people. But then there is much land in poorer hilly parts where it is not possible to grow crops, but how about planting trees? They will grow on the worst soils provide fruits, nuts and timber for fuel and enhance the landscape as well as providing real rural jobs for local people. Sure enough people love to eat meat, but they use up too much land in the process, they will have to reduce or remove this from their diet. And of course they love to see animals wandering in the countryside, well if it is that important then there could be herds of semi-wild beasts wandering around on common type land. We just need a bit of land reform to bring about some sensible sustainable land use. Given that the EU is committed to funding agriculture to such a high level then it's just a question of shovelling the money around a bit differently.

Now that organics is regular mainstream the time is ready to move forward to stockless systems that truly respect the land and our fellow animals.

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