

Down on the FarmWhat is EM? *Thailand Experience*

Ding ding. Its time to wake up out here. Time to stir ourselves out of our rural lethargy. Time to see what is really going on in the wider world. See what the planet needs and what sort of product our markets really want. And above all see how our tiny population has let us get the idea our normal farming practices are good ones, or even the best in the world and that we can carry on this way forever. Get over it.

I had a real wake up recently when I visited Thailand for a workshop on EM technology and its use in natural farming systems. Thailand, the “kitchen of the world” with 68 million of its own people to feed and it still has plenty to export.

There were nine countries represented at the workshop. In my ignorance, I would have believed many of them inferior to New Zealand in agricultural expertise. But I soon realised we have no room and no reason for our smugness. In fact when it comes to natural farming systems, and giving markets the naturally grown and balanced food they seek, well...we are dragging our heels and still stuck in systems that are polluting our waterways and degrading our soils. The only reason we have got away with it so long, is our low population. These heavily populated nations have had to wake up sooner.

EM workshops are held every six months with about 40 delegates from around the world. This time people came from Sri Lanka, India, Nepal, Malaysia, Singapore, Phillipines, Myanmar, Laos, Thailand, Japan and three of us were kiwis. Most of the other country representatives were from industry, government departments, agricultural consultants, township “managers” and the like. We kiwis were just there under our own steam as curious individuals. I couldn’t help but wonder when officials from New Zealand might wake up to the changing world. They just might have to run to catch the boat.

Because it’s a trip not to be missed...city and home waste management, water and soil pollution control, animal health and disease management, improving agricultural yields and food value, sustainable farming systems and so on.

Admittedly some of these countries have way bigger problems than we have to deal with, but that is by good luck and virtue of our small population rather than good management. These other countries have had the alarm bells ringing about soil and water health for a while now, and certainly some of them have some big messes to clean up. Now they are doing their homework.

But if we in New Zealand want to boast of our green, clean farming industry then we should be leading the way in natural sustainable agriculture. With trumpets blaring. Afterall that is what our markets want. No one is asking us for nutritionally challenged produce grown in unbalanced soils. No one is even asking for genetically modified produce. The purchasing public wants healthy and healthily grown crops and animals.

We have unique advantages: a highly professional and competent rural sector, world leading research organisations and splendid physical isolation. We should be leading the world in this field, not ignoring it.

But the reality is, organic farmers here are still considered greenies and fringe farmers. Our government farm advisors are educated in a system where research is funded by industry with more interest in what it can sell than in promoting sustainable systems.

Wake up guys. We are getting left behind. The land of the sheep is looking pretty sheepish to the sharp and critical world outside. We are not the agricultural gurus and heroes that I imagined us to be.

My time in Thailand was a mix of being heartened by the great work going on around the world and growing unease about our place in the race. Problems we are only just coming to realise, like our polluted lakes and overburdened rubbish tips are old news to these nations with big populations. And already they are working out how to deal with them, while we are just waking up to the fact that we might have a problem. Heck, I live in deep rural Far North. Pristine countryside, yet our Lake Omapere contains such high levels of cyanobacteria that it is not only unsafe for human and animal consumption but in fact we are advised to not even come in contact with the water. That water flows down the Utakura River into Hokianga Harbour. My harbour! Where my kids like to fish and swim. But now we are advised not to. Yet within living memory the lake was once crystal clear and an ideal source of water for Kaikohe township. There is no human sewage to be blamed, it is only the farmland that feeds into the lake catchment...

And what of our rubbish tips. We struggle to deal effectively with the refuse of four million people. Imagine the mess we would have with a population like Thailand, 68 million. There is no room for complacency.

Wake up time people.

Overseas, work has been underway for years cleaning up rivers, lakes and canals, and toxic soils using EM technology. The people behind it are not “greenies” but are microbiologists, soil scientists, biochemists and the like. Many of them have government or local body funding. They are not part of a system trying to show returns for shareholders. They are just trying to clean up the messes.

Over the next couple of months I hope to share with you the practical lessons I learned in Thailand. Some can be applied in small home scale operations, some have application at industry and government levels.

The workshop was essentially practical, hands dirty sort of stuff. While at times I felt I had been dropped into the script for a Peter Sellers type movie with the varieties of English as she is spoke, over the days I came to respect the knowledge, professionalism and dedication of the organisers and other delegates.

I have spoken of EM before but just to recap...EM stands for Effective Microorganisms. It is a mixed culture of naturally occurring microorganisms; phototropic bacteria (these ones can fix the sun's energy into useful acids, sugars and metabolites), lactic acid bacteria (which help suppress some disease inducing microorganisms and soil pest populations) and yeasts (which promote cell and root division). The three each have a separate role to play in soil health but help each other and have a mutually beneficial relationship with plant roots.

So is EM just the latest buzzword? Are the proponents just zealots who think their way is the only way? Possibly yes, to both questions. But a couple of factors make this technology worth a lasting look.

Firstly, the scientific basis behind the work is straightforward. The presence of a vibrant soil microbiology does affect soil fertility and the health of plants and animals growing on it. Any soil scientist will tell you that, and any organic farmer knows his livelihood depends on it. The organisms that eventually got selected for EM and are now cultured in different forms around the world, are ones that have proven to be the best combinations.

Secondly, the infrastructure behind the EM “barrow” if you like to call it that is unusual in a competitive modern world. There are three sides to it. The first is the Sekai Kyusei Kyo organisation. This is a spiritual and religious group. Hah! You thought there was a catch? But nothing to fear here. Kyusei literally means to “Save the World” and the group sees nature farming as a practical way to do it. They encourage production of nutritious food to enhance human health and well being, sufficient production to feed the increasing population in a sustainable way, and conservation of the environment. No sermons. They are just getting on with the work.

Secondly is APNAN (the Asia Pacific Natural Agriculture Network), which promotes this nature farming and EM technology to the world through practical demonstrations and workshops like the one I attended.

And thirdly, there are the research arms; the EMRO (Effective Microorganism Research Organisation) and INFRC (International Nature Farming Research Centre) which both research nature farming systems and EM applications for everything from agriculture to water treatment, waste management and aquaculture.

The three organisations work “symbiotically” all with ideals based on sustainable societies, preserving the environment and uplifting welfare of both farmers and consumers. They are basically non-profit groups, with any monies made ploughed back into the network for more research or more education.

Where EM is cultured in different countries out of local organisms, it is grown and sold at cost to make it as affordable as possible. These people sincerely want to heal the world and convert degraded soils into productive ones rich in useful microorganisms.

That’s cute sure, but the yields being attained, the animal health statistics and just the feel of the huge and impressive operation being run at the Saraburi Centre in Thailand really made me take note. Healthy fatter pigs. No smell! Broiler chickens, ready for market in eight to ten weeks, no smell! Prawns and catfish farmed intensively in ponds. No need for a water change until harvest, no smell. Kitchen waste from the centre hostel, converted to fermented pulp and ready to apply to the gardens within a week. That is even faster than composting. Impressive rice yields, a commercial orchard that has used only EM for over a decade producing fruit with flavours the way it should be and yields above the neighbouring properties where chemical fertilizers are used. And the taste! You think you like mango...well an organic mango grown with EM is worth a trip to Thailand all on its own!

Over the next couple of months I’ll look at how to get EM in New Zealand, how to extend it and how to use it.