GOLD NUGGET

Are You Farming Biologically? Part 2

Professor Carlo Leifert, director of the new Centre for Organic Research at Southern Cross University provided statistics on the health benefits of consuming organic products, based on an analysis of the hundreds of studies that have been conducted. Antioxidant levels are higher, omega-3 fatty acids are much greater in organic meat and milk, and cadmium and pesticide residues are much lower. Consumers of organic foods experience less eczema in children, less allergy problem, less obesity and less cancer. He concluded that it would be cheaper for governments to subsidize organic food than cover the health care costs caused by chemically-produced food.

Michael Phillips, orchardist from New Hampshire in the US and author of The Apple Grower: A Guide for the Organic Orchardist, which the OAA bookshop has for sale, spoke at length on mycorrhiza. He said the most important role of the farmer is not to screw up the magnificent mycorrhizal system that nature has devised to keep plants and soil healthy. Mycorrhizae are easily destroyed by most modern farming practices: herbicides, fungicides, soluble fertilisers, bare soil and soil disturbance.

About 95% of plant species require a mycorrhizal association; some have lost it: the beet and brassica families, and many weeds. Plants give out up to two thirds of all the carbohydrates they produce through their roots to support mycorrhiza. In return the mycorrhiza expands the root system by 10-100 times, enabling better water and nutrient searching. Glomalin is a by-product, a soil binder that is responsible for most of the carbon sequestration in soil.

Michael Phillips said some damaged soils take a long time to recover. The arbuscular mycorrhizae that are associated with most crops are not very mobile, in contrast with the mycorrhizae associated with forest trees, which form mushrooms and toadstools that disperse their spores into the air. The arbuscular mycorrhizae produce their spores underground and can only spread slowly by earthworms and other soil life. Therefore, help is often needed to bring soils back to life: inoculation with mycorrhiza and other microbes, aeration, compost, and lime and other fertilisers.

The conference also featured several successful biological farmers talking about the transition to their current management systems. Nick Kelly, WA cropper, found the no-till system he was using, very dependent on herbicides, was failing and weeds were getting worse. Now he uses summer cover crops, lupins and millet, which grow well in the hot dry summer. While other farmers want nothing growing in the summer, not a single weed, believing that weeds take moisture out of the soil, Nick Kelly has found the extra water-holding capacity of all-year growth more than compensates for any loss of soil moisture during the summer. Dan Falkenberg is a grape grower in the Barossa Valley. He uses straw mulch under the vines and perennial native grass between the rows, which has greatly increased grape production and wine quality. Two hundred tonnes of compost are made annually, using barley straw, chicken manure, mushroom compost and grape marc. The native grass attracts seed and insect eating birds which do not eat fruit, and beneficial insects. The grass suppresses the fescue that used to grow there, a major soil moisture robber. Sheep are grazed in the vineyards after harvest until early spring.

The biological farming conference was very valuable and inspiring. I can recommend attending the next one. There is no doubt that chemical agriculture is obsolete and is gradually fading from the scene.

Soil Lovers say: Understand The Function Of Mycorrhizae In Your Soil

Ref: Report by Alan Broughton