

Organic Farming is not commonsense

Organic food has been promoted as more nutritious, pesticide free and produced by more soil-friendly farming practices.

Close scrutiny of each of these ideas finds them wanting. The organic farming industry continues to make unsubstantiated claims designed to market their product and to discredit mainstream agriculture.

Most Australian and international studies have found no difference in the mineral or vitamin content, or the flavour of foods produced using organic or other farming methods. Rosemary Stanton's book on 'Food and Nutrition', says there is virtually no difference in the nutritional value of organically grown produce.

There may be differences at times, but these are likely to be more to do with the soil type or when the food is picked rather than how it is grown. If you compare vine-ripened tomatoes with those picked green for supermarkets, there will most likely be a difference in taste and vitamin A content.

Promoters of organic food say it has a higher mineral value, yet organic farmers say the problem with mineral fertilisers is that they produce a concentration of minerals in the soils which is too high for plants. These propositions are in conflict. Plants will have a high mineral content, only if minerals are in good supply in the soil. We know for example, that if there is a good supply of nitrogen in the soil, grains will have a high protein content. The mineral content of food will largely depend upon how well soil fertility is managed in both types of farming.

The absence of pesticide residues is the main attribute of organic food, yet this too is not as simple as it sounds. Each of the certifying agencies for organic food (and there are seven of them in Australia) have a long list of natural products and pesticides which can be used by organic farmers. The problem is that there is no guarantee that these pesticides are 'safe' just because they are natural. There are plenty of natural compounds on this planet, which are quite toxic to humans. They have not been subjected to the same testing as artificial pesticides and there is not the same rigour with stipulated rates and timing of application to avoid harmful residues.

In some cases mainstream farming has safer products. For example, there is a problem with the presence of the heavy metal cadmium in rock phosphate, which is used as a phosphate fertiliser. But because rock phosphate is less soluble than processed fertiliser, a lot more is applied to the soil on organic farms, along with a lot more cadmium. Phosphate fertiliser with cadmium in it is no longer used on conventional farms in Queensland, only the more processed forms, which have the heavy metal contaminants removed.

Organic farming has an ongoing problem with replacing nutrients removed by crops. Quite often crop yields are less on organic farms because soil fertility is low. Some nutrients are supplied from organic sources, such as cattle and poultry manure. But manure is not just used on organic farms - there is around half a million tonnes of it used on conventional farms in Queensland each year, with some farmers using it as their main source of nutrient resupply.

Organic farmers work hard at making their farming sustainable. But this can fall short in some instances. It is almost impossible to maintain soil organic matter in sub-tropical climates while cultivation is used for weed control. Zero-tillage has been labeled by some organic farmers as 'chemical farming', but in practice it been shown to be more soil friendly, with the potential to build soil organic matter, better control of soil erosion and better quality of runoff water.

The herbicides used for controlling weeds in Zero-till programs have been shown to be extremely safe and despite their use, soil biological life is enhanced, with larger earthworm populations, than where tillage is used.

Conditions for soil biota are better with zero tillage because there is less soil compaction and the high levels of crop residue on the soil surface retains moisture for longer.

Organic farming has contributed to better farming systems over the years, with many clever practices incorporated into 'Integrated Pest Management' programs on conventional farms. Until recently, the world's farmers have produced food surpluses and lower yields from organic farming did not matter. But the world food supply is now at a critical level and with population still growing, food production needs to increase rapidly, beyond where organic farming can take us.