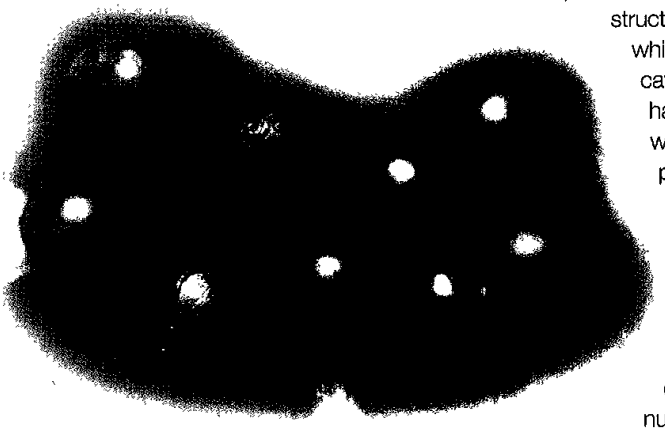
Organic farming: the African view

Ronald Watts, a member of the Soil Association with experience in a number of African countries, looks at the growing organic movement elsewhere and its relevance here. One of the biggest problems is how to meet the acute nutrient deficiencies found in many sub-Saharan soils.

ONE OF THE results of the increasing affluence of countries like the UK and USA is that people are more conscious of what they eat. An offshoot of this is that more are demanding that their food is humanely produced with a minimum use of chemicals, either as preservatives or in growing crops and rearing animals. In 1998/99 organic food sales in the UK were worth £390 million. Demand is growing so rapidly that the UK food retail company Sainsbury has proposed to make an island in the West Indies entirely organic.

Seventy per cent of UK organic sales are of imported products, nearly all of which consist of fresh produce such as fruit and vegetables. While some of this comes from countries like Austria and Germany, which have swung even faster towards organic production, a significant amount now comes from the tropics and sub-tropics.



In one sense the whole organic story is a nonsense for most African farmers. If you don't buy artificial fertilisers, such as ammonium sulphate, nor use insecticides or fungicides, then you are an organic farmer. On this basis virtually everything grown in a country like DR Congo is organic. The snag is that, to market it internationally as organic, the farms have to be inspected so that buyers can be confident that the rules are being followed.

Commercial organic production applies almost entirely to those African commercial farmers that are interested in exporting. To obtain the premium organic prices for their produce, they must meet certain standards and be registered so that their farms can be regularly inspected. The position of the Soil Association – the UK's biggest register of organic food standards – is that "fertility is generally provided by animal manure and leguminous nitrogen", obtained by rotating annual crops with legumes such as soya beans or clovers. "No synthetic products can be used in organic farming although, where direct intervention is required, non-synthetic substances like sulphur...may be used".

African farmers are likely to have the greatest problem with the soil fertility aspects of organic standards. Throughout much of tropical Africa there are acute deficiencies of nutrients such as phosphorous. On the North Kinangop in Kenya, I have seen a crop of rape which completely failed when no phosphorous was applied. Organic regulations would allow the use of ground rock phosphate, but in most situations this would considerably raise the costs of correcting the deficiency.

The company Law Fertilisers of Wisbech, UK, has built up an export market in organic fertilisers with farmers in South America. Since sea freight is charged by volume rather than weight it claims to have reduced costs considerably by compressing the material into pellets. According to Mark Law, the company produces "the only granular organic phosphate in the world". So far it has not exported to Africa, although Law admits that tropical zones on all the continents suffer a lot from leaching.

Organic fertilisers

Another UK company, Tamar Organics, provides a range of organic fertilisers for its customers, most of whom are non-commercial gardeners. These fertilisers range from cocoa shell mulch to calcified seaweed and worm casts. Almost certainly the cocoa shell mulch has an African connection, and is reported to control weeds, improve soil structure, and provide nutrients while deterring both slugs and cats. Pelleted poultry manure has Soil Association approval, which guarantees that the poultry were not kept in battery cages or fed antibiotics, and were allowed to range free.

The outbreak of BSE affecting cattle in the UK is still having massive repercussions. Recycling of nutrients, which was a major part of the organic platform, has taken a knock. Many animal waste products are now being incinerated. Tamar lists a range of these in its organic fertilisers in addition to poultry manure. These include blood, fish and bone meal plus hoof and horn meal.

The most products for switching to organic are those that fetch a high price on the world market. Cocoa, coffee, tea, plus a range of fruits and vegetables, particularly those that are air freighted, would seem to be the most likely. The International Coffee Organisation (ICO) has been urged by the German Coffee Association to take account of the growing demand for organic coffee. Hans Petzold told the ICO that "the market would indeed pay the necessary premiums provided that a high quality level was maintained".

A problem that was raised was the high cost of certification by overseas bodies such as the Soil Association. Ideally each country should have its own certification body. Presumably if the entire West Indian island of Grenada was made exclusively organic, it would have its own body. Leading UK retailer J Sainsbury is proposing the deal where they would market

Grenada's organically-grown bananas and other fruits on a worldwide basis.

The finding of sources of nutrients for coffee may be not difficult as for tea, which requires a great deal of nitrogen if high yields are to be obtained. Coffee can be mulched with elephant grass or manure from a cattle shed. There are many local sources of nutrients which are often wasted. One is wood ash from the stove. Once, when on a visit to farms south of Kinshasa, I was challenged about their poor results with groundnuts, as they were getting a lot of pops – groundnut shells with nothing inside. This is a problem caused by acid soil and a lack of nutrients. A priest told me he corrected the problem with ashes. so I recommended the use of the mountains of wood ash left around all the palm oil mills in the area.

Muck and magic

When I studied agriculture at Reading University the lecturers taught that organic farming was in the "muck and magic" category - and not to be taken seriously. Nowadays the UK government actually helps farmers financially to become organic producers. John Archer, who worked as a soil scientist for the government when he wrote the book ***Crop Nutrition and Fertiliser Use*** (published by Farming Press Ltd, Ipswich, UK), seems to accept organic farming as competitive with conventional methods. "As far as crop nutrition is concerned," he writes, "there is no reason why yield levels on medium or heavy soils should not be similar to those achieved with inorganic nutrient sources.

"Low soil-potassium levels are commonly the main limitation when attempting organic farming on light soils." He points out that animal manure is essential for organic farming, and states "legume-only rotations are unlikely to be practicable" under UK conditions. The main limitations on organic producers are rates of cost, and this is why a premium price is essential.

People tend to think of organic farming as having been developed under temperate climatic conditions. In fact many of the origins of the movement go back to India where the founder of the "organic movement", Sir Albert Howard, arrived in 1905. He had the impressive title of Imperial Chemical Botanist but spent most of his time studying plant growth. He found that humus or organic matter was critical, and went on to develop the Indore method of making compost, using a mixture of plant and animal waste material. It was only in 1946 that the Soil Association was formed.

Compost is still an important part of organic farming, although on a commercial scale a major effort will be made to enhance nutrients such as nitrogen through rotating legumes with other crops. For many people the problem with compost is the amount of work involved, particularly if it has to be turned at three-week intervals. A recent survey in the UK has found that no-one turns their compost at all, let alone as regularly as this. It found that most compost was far too rich in nitrogen when it was made from household waste, and recommended that to add more carbon all that was necessary was to add chopped-up newspapers or fibrous material such as straw. They recommend a carbon: nitrogen ratio of 30:1. Archer points out that urine contains appreciable potassium and should be added to compost wherever possible – as in the case of school gardens!

For more information:

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