

How Dr. Ehrenfried Pfeiffer Contributed to Organic Agriculture in Australia

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Who was Ehrenfried Pfeiffer?

Ehrenfried Pfeiffer (1899-1961) was 25 years old when Rudolf Steiner (1861-1925) delivered his eight lectures on agriculture from 7th June to 16th June 1924. In those eight lectures at Koberwitz, Rudolf Steiner laid the basis for biodynamic agriculture.

Steiner advocated an agriculture informed by anthroposophy, and that the ideas he expounded in the eight agriculture lectures should be developed by experiments, practice and observation (Steiner, 1924). Ehrenfried Pfeiffer took on this task and he spent the rest of his life in the pursuit.

Pfeiffer published his book 'Bio-Dynamic Farming and Gardening' in 1938. It was the first popular account of bio-dynamic agriculture. In that book Pfeiffer presented the practical results of more than a decade of farming practice and experimentation.

Visit to Australia

A visit and lecturing tour by Pfeiffer to Australia was advertised by the 'Australian Organic Farming and Gardening Society' for October and

November 1953. Ehrenfried Pfeiffer was then aged 54 years. He was described as the "Director of the Biochemical Research Laboratory, Threemfold Farm, Spring Valley, New York" (FGD, 1953b, p.37).

Pfeiffer's Australian lecture tour was advertised as including visits to New South Wales, Victoria and South Australia. The tour was cancelled "owing to the sudden illness of Dr. E. Pfeiffer" (FGD, 1953a, p.i). A later opportunity did not arise, and Pfeiffer never managed a visit Australia.

Nevertheless, the early advocates of organic agriculture in Australia were familiar with the work of Ehrenfried Pfeiffer. In 1949 and 1950 ten articles by Pfeiffer appeared in the periodical's of Australia's earliest organic agriculture society, the Australian Organic Farming and Gardening Society.

Pfeiffer and Australia

Biodynamic pioneer Ehrenfried Pfeiffer was a major contributor to Australia's first organic farming journal, the *Organic Farming Digest*.

He was the leading contributor from the USA.

Pfeiffer had worked at the Anthroposophy headquarters at Goetheanum at Dornach in Switzerland from before Steiner's 1924 Agriculture Course. The outbreak of WWII influenced Pfeiffer to migrate to the USA. Other than short trips abroad, he subsequently lived out the rest of his life in the USA (Selawry, 1992).

Pfeiffer was living in the USA when his articles appeared in the 'Organic Farming Digest' (later called the 'Farm & Garden Digest'). The Digest was Australia's first organic journal, and the world's first organic journal to be published by an organic association (Paull, 2008).

Pfeiffer's articles published in Australia from 1949 to 1950 served to give Australia's organic pioneers a taste of biodynamic thought and practice, and forged early links in Australia between biodynamic and other organic practices.

Pfeiffer and Australia's 'Organic Farming Digest'

In ten articles in the journals of the Australian Organic Farming and Gardening Society, Pfeiffer presented the science and the practical lessons that can be drawn from the data.

The titles and publication details of Pfeiffer's articles are presented in Table 1.

Where Pfeiffer first uses the term "bio-dynamic", the editor of the Organic Farming Digest, V. H. Kelly, added the following footnote:

*"*Bio-dynamic Farming:- A system embracing the use of herbal preparations in compost heaps to control and direct a balanced bacterial activity"* (Editor's footnote in Pfeiffer, 1949, p.23).

Of Pfeiffer's ten Australian articles, eight were credited to 'Organic Gardening' (USA) and one to 'Bio-Dynamics' (USA). Another, "The Use of Dolomite", was a response to a letter from Eve Balfour (UK). Pfeiffer advised that: "the use of dolomite is preferable to the use of ordinary limestone" (1950f, p.23).

Pfeiffer's first Australian contribution appeared in Volume 1, Number 12, of the Organic Farming Digest, January 1949. It extolled the virtues of toads, and in particular cane toads ("*Bufo marinus*") which had recently (1932) been imported into Hawaii. Pfeiffer related enthusiastically the work of others reported in 'The Hawaiian Planters' Record':

"The toads were famous for their tremendous appetite, devouring insects in the sugar cane cultures in Puerto Tico. One hundred and fifty-four toads were collected of which one hundred and forty-nine arrived in good condition in Hawaii. These have since

multiplied and have become valuable hunters of insects ... At first, for a few years, they remained inconspicuous and then appeared in great numbers, increasing rapidly thereafter" (Pfeiffer, 1949, p.20).

Pfeiffer reported that the presence of toads stimulates plant growth. He reported on his own work that toad saliva "has a growth stimulating effect on plants, even though it might not be beneficial for animals, small animals in particular" (1949, p.23).

In "Mineral Relationships between Soils and Plants" Pfeiffer (1950c, p.8) reported experiments on a "little investigated and understood" phenomenon of "selective and biocatalytic properties" of plant growth and soil interactions. He offered practical advice: "we like to interlayer a compost heap or even a manure heap with thin layers of earth ... we see that humus is the basis of all life, even of the mineral exchanges between soil and plants" (p.11).

| Title | Issue | Pages |
|---|--------------------------|---------|
| The Toad - The Gardener's Assistant | 1949, OFD, Vol.1, No. 12 | 19 - 23 |
| Mineral Relationships between Soils and Plants | 1949, FGD, Vol.2, No.2 | 8 - 11 |
| Trace Elements - Boron, Molybdenum, Cobalt, Iodine | 1949, FGD, Vol.2, No.3 | 25 - 29 |
| More about Trace Elements - Iron, Copper, Zinc, Manganese | 1950, FGD, Vol.2, No.4 | 5 - 9 |
| The Case of the Strawberry | 1950, FGD, Vol.2, No.4 | 26 - 29 |
| Mineral Resources in Plants | 1950, FGD, Vol.2, No.5 | 13 - 18 |
| Know your Vitamins | 1950, FGD, Vol.2, No.5 | 20 - 26 |
| The Use of Dolomite | 1950, FGD, Vol.2, No.6 | 23 |
| Know your Soil | 1950, FGD, Vol.2, No.6 | 23 - 28 |
| Vitamins, Growth Substances, Hormones to the Soil | 1950, FGD, Vol.2, No.7 | 11 - 14 |

Table 1: Ehrenfried Pfeiffer's publications in the Digests of the Australian Organic Farming and Gardening Society (OFD = Organic Farming Digest; FGD = Farm & Garden Digest incorporating Organic Farming Digest).

In “Trace Elements - Boron, Molybdenum, Cobalt, Iodine” Pfeiffer (1950g) considers four trace elements. He stated that cobalt “is a vital element for the health of sheep” and that: “A rapidly progressing disease of sheep, ending fatally, has been observed in New Zealand, Australia and Scotland... It did not occur on newly-broken land but on land that had carried sheep for several years” (p.28). He reported that:

“Cobalt treated soils influence plants to absorb an abnormally large amount of molybdenum ... Such a fact demonstrates how dangerous it can be to cure a deficiency by simply adding what is missing. The organic process is more complicated than that and it is always necessary to consider the whole, the living balance, the selective properties of plants, the buffered state of the soil, the colloidal structure of humus, and many other factors” (Pfeiffer, 1950g, p.28).

In “More about Trace Elements - Iron, Copper, Zinc, Manganese”, Pfeiffer (1950d) reported further on trace elements that:

“Only during the last two decades has it been discovered that these elements may play an important role, mainly as bio-catalysts. Their presence stimulates and also sometimes hinders the living process in the growing plants ...

Organic methods, which mean indeed the refinement of plant growing methods, cannot overlook them ... Certain weeds which we use in our composts, are very rich in trace elements, while cultivated plants growing nearby may be relatively poor. Farmers and gardeners frequently overlook this fact when supplying their soils with all the bulk elements” (Pfeiffer, 1950d, p.5).

Throughout his life, Ehrenfried Pfeiffer acknowledged the wisdom Rudolf Steiner as the first-mover of the bio-dynamic enterprise. “Rudolf Steiner, the founder of the bio-dynamic method, recommended having little ‘gardens’ of mushrooms in the compost yard for their ‘beneficial effect’. For many years we did not understand why, but now it becomes clear that the addition of mushrooms to a compost heap can be very helpful” (Pfeiffer, 1950d, p.7).

In “The Case of the Strawberry”, Pfeiffer (1950e) lamented the developing fast food culture. He wrote that: “City people who are used to the luncheon counter type of eating - just like ‘Fill her up’ at a filling station - don’t know the fine differences in flavour and quality. They eat calories, protein, carbohydrates, vitamins, etc., to get their fill” (p.27). In this article Pfeiffer promised his secrets of growing tasty strawberries: “how you can have big berries and at the same time good ones” (p.27).

In “Mineral Resources in Plants”, Pfeiffer (1950c, p.13) advised that:

“ ... by using all possible organic wastes deriving from plants, animals and bacteria, one can provide all the mineral requirements of the soil ... But all compost is not yet enough to cover the organic requirements of the soil. It needs soil bacteria, fungi and earthworms to build up sufficient humus ... Compost is food for microlife. This in turn produces humus”. Pfeiffer advised that “If we know the mineral contents of plants, then we can counteract deficiencies by adding specific plants to compost” (p.13).

Pfeiffer advised readers that “In Australia, prospectors look out for a handsome tree, *Polycarpacae spirostyles*, as a sure indication of the presence of copper ore” (p.15).

In “Know your Vitamins” Pfeiffer (1950b, p.21) declared that “people just don’t like to eat what is good for them. This accounts for the typical meat eater who shuns fresh fruit, orange and lemon juice”. In considering vitamin supplements, Pfeiffer stated that “One thing is sure, however, that natural and balanced food is still the healthiest and cheapest supply” (p.21). He commented that:

“ ... different soils result in different vitamin contents. Natural healthy soils will produce a better

vitamin content in plants than run-down soils, or those which are forced to production in a one-sided way ... Organic soils with a high humus content produce the highest amounts of vitamins. The best procedure would be to label vegetables, fruit, etc., as to their actual contents if one wishes to know which is the highest quality” (p.21). “Agricultural methods have a measurable influence upon the presence or absence of vitamins in plants” (Pfeiffer, 1950b, pp.21-22).

Pfeiffer advocated for fresh fruits and vegetables. He concluded with this practical advice:

“one thing is sure, taking vitamin capsules may be of little use and the odds are better for your receiving a sufficient amount in your diet by growing your own vegetables with good garden practices. The practices that we favour, of course, are organic ones” (Pfeiffer, 1950b, p.26).

In “Know your Soil”, Pfeiffer (1950a) discusses the issues and challenges of soil sampling and seasonal variations. He advised that “we find more available phosphates ... in November and March” (in the Southern hemisphere) (p.24). He also cautioned that:

“ ... plant tissues may contain different minerals from those which show up in soil tests. Trace

elements found in the plants may not be discovered at all in the soil from which they were grown. Plants have an accumulating and selecting power. For example, oak trees that are normally very high in calcium have shown the highest content of this element when grown on sandy soil very deficient in it. Tobacco is rich in potassium but its highest potassium content has been found in cases where the soil was poor in potassium” (p. 24). “In the proper analysis of a soil other factors besides the chemical findings need to be included, especially the amount of organic matter present ... Any test for organic matter ... should give information as to its humus state” (Pfeiffer, 1950a, p.25).

Pfeiffer noted that “with all the knowledge that science can now provide, we must acknowledge that we are just at the beginning of our understanding of soil as a living dynamic system” (p.28).

Pfeiffer’s final contribution to an Australian Organic Farming and Gardening Society journal was “Vitamins, Growth Substances, Hormones to the Soil” (Pfeiffer, 1950h). He told his readers: “That vitamins are necessary for the growth and health of animals and human beings is common knowledge. That vitamins are active in the soil and in the growth of plants is less known” (p. 11).

Pfeiffer cautioned that “Care must be taken in the use of all these growth-promoting substances, since doses which are too small have no effect and very big doses result in the opposite - inhibition ... In a compost pile and in connection with humus, Nature produces a sound balance” (Pfeiffer, 1950h, p.13).

Pfeiffer looked to a future: “It may be that one day we will go over our fields with the spray-rig applying highly diluted cow urine instead of poisonous sprays” (1950h, p.13). He reported experiments where “in a dilution of 1:100 billion the active force can still be detected, while the optimum effect is at a dilution of 1:2 billion ... we will have to re-learn our agricultural practices to make proper and successful use of this interesting new knowledge” (p.14).

A Biodynamic Legacy

Ehrenfried Pfeiffer served as a bridge in bringing biodynamic concepts to the English-speaking world. His book, ‘Bio-Dynamic Farming and Gardening’ was very much a practical treatise, but it included a strong esoteric element:

“The whole is not the mere sum of its parts, but a harmonic unity of a higher order, which as organic being, as an organism with laws of a higher order, lifts the world of the physico-chemical inorganic to

the world of the organic-living” (Pfeiffer, 1938, p.vi).

Biodynamics was presented and integrated into Australian organic thought from the early days of organics in Australia. In 1949, *Farm and Garden Digest* invited readers “to attend an inspection of research work, accomplished by Bio-Dynamic methods of agriculture” (FGD, 1949, p.i).

Of the total of 378 articles published by the *Australian Organic Farming and Gardening Society* (1944-1955), ten were by Ehrenfried Pfeiffer. Pfeiffer was an articulate and authoritative evangelist. At that time, he was the leading advocate of biodynamics in the Anglo-world. Pfeiffer’s insights and experience traced back directly to his induction with Rudolf Steiner at the Goetheanum in Switzerland.

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