# Artificial pesticides & fertisilers

## Weed & pest control on market gardens

The hoe, or 'oove' as most of the old gardeners called it, was gradually superseded by chemical weed control. During the late 1950s and early 1960s a number of new products for killing off weeds came onto the market, some soil acting, some foliage acting. To give an example, the residual herbicide simazine, applied as a liquid spray to the clean soil of asparagus beds shortly after the spring moulding but before any of the crop emerged, kept the beds free of annual weeds such as chickweed and groundsel for several weeks.

Insecticides and fungicides, too, were produced in ever increasing numbers during the early postwar period. The general idea of chemical pest control was of course no new thing and we think of Paris Green (aceto-arsenite of copper) used to kill winter moth caterpillars on fruit trees in the Vale of Evesham as early as 1890. Bordeaux Mixture to reduce tomato blight was also in use before the end of the nineteenth century. Nicotine dust for destroying aphids on brassica species was a well known treatment in the 1930s and possibly earlier. DDT, or to give its full name, dichlorodiphenyltrichloroethane, was first recognised as an insecticide in 1939 but during the war was reserved for use overseas by the military authorities for the control of mosquitoes. It was not released for agricultural purposes until 1945, when it became the most effective treatment against pests on vegetable crops.

As long as these products did their intended job few seemed to worry unduly about the possible health risks, either to those who applied them to the crops or to the eventual consumer. A person shaking the poisonous nicotine dust over a crop of, say, sprouts, could scarcely avoid breathing in a few particles. Hardly anyone bothered with a face mask. The liquid metasystox, with its distinctive smell, was so potent that harvesting a crop on which it had been sprayed was not recommended until at least three weeks after spraying. This led to a temptation, probably not always resisted, to pick earlier if the crop was ready, particularly if demand was good. But as time went by the harmful effects of some horticultural chemicals were recognised by the authorities and gradually many of them were banned from use. Even DDT, originally hailed as 'the insecticide to end all insecticides', was prohibited in 1974 because of its toxicity and its persistence in the environment. But as one substance was banned so another took its place, usually said to be better, almost always more expensive and, of particular disadvantage to the small grower, often unavailable in small quantities.

*Extract from 'Digging for a Living' by T C Sparrow (2011), pages 91-92*


***Leaflet for 'Rogor E' insecticide (dimethoate) from a market gardener's hovel in Cleeve Prior.***

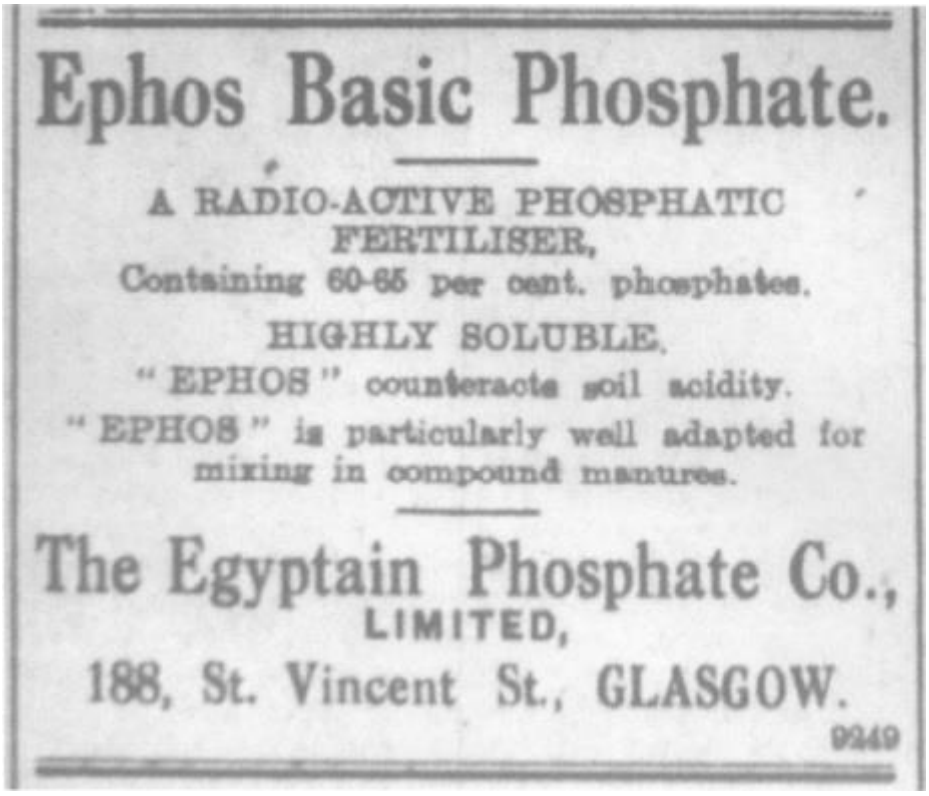
*Dimethoate is highly water soluble and was first used in the 1950s. Long term exposure to the chemical can cause respiratory issues and organ damage in humans. It is toxic to honeybees, birds and many aquatic organisms. It's use it now banned in the EU and other parts of the world.*

## Fertilisers

Until the second quarter of the nineteenth century the principal fertiliser used on arable land was farmyard manure. This was often supplemented with other materials such as ashes, horn shavings, lime, soot and salt, although it is difficult to see what benefit was gained by use of the last named substance. As one eighteenth century writer tells us '… it is neither a manure in itself nor capable of exciting any vegetative principle in the ground… it produces some bad effects on ploughed land by increasing their dryness in hot weather and by making them greasy… when the weather is damp'.

It is true that animal manure supplies the main three nutrients essential for healthy plant growth, namely nitrogen, phosphate… and potash (a potassium compound), but the advent of artificial fertilisers, with their higher concentration of these chemicals, led to much larger crop yields.

*Extract from 'Digging for a Living' by T C Sparrow (2011), page 28*




***Advert from an Evesham newspaper printed in 1920***

*The prominent use of 'radio-active' as a positive selling point shows how scientific knowledge and public awareness changes over time. Phosphate rocks, from which most phosphate fertilisers are produced, contain small amounts of naturally radioactive elements, such as uranium and thorium. Whilst the use of phosphate fertilisers doesn't cause harmful levels of radioactivity, the production and storage of large quantities can have damaging effects on the environment and human health.*

*Radioactivity aside, an overuse of fertiliser can lead to a damaging build-up of nutrients in local water sources (eutrophication), which disrupts aquatic ecosystems by encouraging an excessive growth of algae.*