

## Soil Recycling, the Odering Way

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We grow two crops in soil based mix. The first, freesia, is grown for out-of-season cut flower production. A soil with a silty-loam texture and containing clay particles is best. At Odering's Nursery we feel that the best soil is taken from virgin, clover-grown fields.

In the beginning of November the soil to be used is rotary hoed, heaped up, and transported to our nursery site for processing. The amount of soil required is 150 m<sup>3</sup> and processing takes 3 days. Preparation of the soil for a *Freesia* crop involves the following steps. First the soil is steam sterilised at a temperature of 212F (100C). We use four bins, two at a time, with each holding two-thirds of a cubic meter. It takes 10 min for the steam to reach the top of a bin and then a further 10 min to complete sterilisation. Following sterilization, bins are transported to a concrete pad and emptied. Next, an equivalent volume of mix, consisting of sphagnum peat and sharp sand (3:1, v/v), is added to the sterilised virgin soil. To this mix is added: agricultural grade lime, 5.4 kg; lime, 3.0 kg; P.G. Mix, 5.0 kg (orange bag); sulphate of potash; 3.0 kg; and Terraclor 0.3 kg for fungus disease prevention.

This mix is put through a shredder by two people. They have 20 min to complete the task, before the next two bins arrive. The total process requires five people. One, on a motorbarrow, fills the bins and keeps time, and four are on mixing—these spread the peat, sand, and apply fertilisers. While two are doing the mixing, the other two weigh out the fertilisers and other ingredients.

At the end of November the *Freesia* bags are put down. We use cut down Pb 40's which are sterilised with formalin then filled in place. Rows of 100, four deep occupy a 30,000 ft<sup>2</sup> greenhouse. Ten freesia seedlings (which are sown from late October) are pricked out and planted per bag. The freesias begin production in April and continue until August, then the space is used for bedding plants.

Processing the soil for bedding plants begins by removing the freesia corms from the bags. The foliage is cut off and corms are stored. Soil from two bays, i.e. 16 rows of bags, are put into one bay (this works out to be 20 m<sup>3</sup> of soil). It is then covered with a polythene sheet, sealed with sand, and sterilised with methyl bromide at the rate of 500 g per 100 ft<sup>2</sup> of soil. The plastic cover is removed after 48 h, sand is incorporated, and the soil removed from the greenhouse and stored.

For bedding plants 4 m<sup>3</sup> of soil is processed at a time. The following are added to the soil: agricultural grade lime, P.G. Mix, Azulon, and Ridomil. The mix is then put through the shredder.

From September onwards the majority of bedding plants are transplanted into the reconstituted freesia mix, thus recycling the soil which is returned to the earth.