

## MECHANISATION OF POTTING

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My experience of potting with machines has been gained over the past six years on my own nursery where we use both rigid and polythene bags and also through my contact with other nurserymen who have hired one of the eight machines I have at present available for that use. These are all Javo potting machines.

In the U.K. container production has increased from 19,000,000 plants in 1974 to 31,000,000 in 1977. The number of machines in use is somewhere between 150 and 200.

It is a difficult decision whether to go over to mechanised potting, not least because of the capital outlay (a minimum of £4,000 is required if you are to buy your own machine). This is where the hire service, which I offer, comes in useful as small nurseries, without enough work to justify the high capital outlay, can hire a machine for as little as one day. The big nurseries who have too much work for their existing machinery at peak times can also make use of the machinery over several weeks and sometimes months. The average length of hire is 3 to 4 weeks, sometimes at two or three periods during the season.

There are also the problems which arise from the extra demands the machine makes when in operation. It is not just a matter of switching on and watching potted plants settle into neat rows on standing out ground. A reappraisal of your growing system is necessary if the machine is to be efficiently run and so make real savings in time and work.

I have divided the whole task of potting into five basic operations: 1) Supply of plants; 2) Supply of compost; 3) Potting of plants; 4) Transport of these to container beds; and 5) Standing down.

A potting machine will handle a larger number of plants per day than can be achieved by hand whether using polythene bags or rigid pots. On my nursery we consistently average, over a period of eight weeks, 6,000 — 3½" poly bags and 14,000 — 3½" rigid pots in a 6½ hour working day. These rates are achieved with a total staff of seven people, two skilled and the rest unskilled holiday students. This use of unskilled labour leaves my regular staff free for other, more skilled work on the nursery.

Our operation is set out as follows:

Two people remove the cuttings from the seed trays, grade them into three sizes and trim off any excess roots.

On the machine, using polythene bags, four people are needed when potting bare-rooted cuttings. Two people are needed to plant, one to put the bags on and one to take them off, placing them in a plastic tray holding 40 — 3½" plants on a roller conveyor.

With rigid pots we use an automatic pot dispenser and so only need three people, having done away with the person putting the pots on. Only one person is needed for planting when the plants have been grown in some sort of container. One person is used to transport the plants to the standing out area with a fork lift and pallet and one person to set the plants down in the beds.

This season I have improved the efficiency of our potting by having large quantities of plants ready to be potted at one time. Our soil mixing is done in advance and the compost is stored in a purpose built hopper holding two days compost which is fed into the machines at the touch of a button.

Plastic trays are used to transport the plants on pallets to the standing out ground where the fork lift drives down to the bed and drops the pallet close to where the plants are to be set down.

I have described the set-up at Wardington, where I have used the machine almost to maximum output, with all the labour needed to keep the machine going at a good speed and maintain quality potting.

However, the time and work saved is still considerable with only three people, this being the minimum number with which the machine will operate efficiently. The five basic operations must be tackled individually, the plants and compost prepared, the potting carried out on the machine, and then the trays and setting out done when all available trays have been filled.

Potting machines have only been used extensively in recent years and the demand for the machines is increasing every year both for new machines and for our hire service. It is not surprising that the demand is there if one considers that over the last 5 years the capital outlay has gone up from £2,000 to £4,000, a 100% increase, and the cost of labour has gone up by 200 to 300%. Over the past five years potting machines are becoming more sophisticated with recent developments for handling polythene bags, automatic dispensers for rigid pots, the automatic removal from the pot track to the standing down area, and equipment to handle the filling of seed trays.

However, it is still a relatively basic machine requiring a