

The team has been working together for at least ten years, and are highly skilled. They organize their own work and interchange if necessary. The work is carried out on a piece-work basis at a current rate of 25½p or 28½p per tray — each tray contains 72 cuttings. The differential in rate allows for the relative difficulties encountered among species. Farm labour in East Anglia has a tradition of working on a piecework basis.

Operation:

1. Cutting material is gathered from a stockbed and placed in a cold store where it is held for at least 24 hrs but not more than 48 hrs.

2. Cutting material is taken from cold store and placed on cutting preparation table.

3. Cuttings are sorted, graded, trimmed, and dipped in a hormone solution then placed in trays.

4. Trays of prepared cuttings are passed to person responsible for insertion.

5. Compost is prepared in an Adelphi mixer and conveyed to end of potting bench.

6. Trays are filled and taken to cutting preparation area on a hand trolley.

7. Cuttings are inserted and trays of cuttings replaced on trolley.

8. Trays are labelled with cultivar name and date of insertion. Numbers are recorded in stock book.

9. Finished trays are transported to the propagation house.

HOW CAN IPPS HELP IN FUTURE PROPAGATION TRAINING?

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I will concentrate on two areas: one is in continuation of the immediately preceding sessions on work rates and standards, and the other is on the future relationship of IPPS to the provision of industrial training in the nursery stock and related interest sectors of horticulture.

To ensure that we all have the same understanding, my definition of “work rates” and “standard rates” are:

Work rate — is an assessment of the effective speed over a short time period and takes no account of rest time or other factors,

Standard rate — is the average rate at which qualified workers will naturally work at a job, provided they know and adhere to the specified method, and provided they are motivated to apply themselves to their work.

In the context of our work in the Agricultural Training Board, I prefer to speak of achievable standards of performance and would ask you to bear in mind that such achievable and consistent standards can only be attained by effective work planning and skills training. You must ensure the work place lay-out is the most satisfactory within the limits or constraints of the business, i.e. the placement of benches or work surfaces, the siting and arrangement of plant materials, composts, containers, trays, rollers, or trolleys and the positioning of the worker in relation to the job. Account must also be taken of the nature, condition, and characteristics of the materials (conifers/Berberis/Erica), rigid, semi-rigid, or polythene pots, etc. the suitability of the compost, and the environment in which the worker operates.

The labour force must be trained in the specific work activities related to each job, not just shown how to do it and left to get on with it.

In work recently carried out by the Agricultural Development and Advisory Service on the preparation of cuttings and hand potting techniques, they so rightly qualify performance standards in 3 distinct categories:

Good — The output of a well-trained worker in good work conditions working with first class materials in a well laid out work place.

Typical — The output of the average worker in average conditions.

Poor — Least skilled workers operating under poor conditions.

Table 1 gives an example of an achievable standard of performance after training:

Table 1. Potting. Approximate throughput rate per person per hour.

Crop	Old Method (Hand)			New Method (Hand)		
	Good	Typical	Poor	Good	Typical	Poor
Rooted cuttings of <i>Hedera</i> placed into 9 cm pots	450	250	150	840	570	330

It is, perhaps, interesting to note that the comparative output from a potting machine per person per hour was:

Good	Typical	Poor
800	600	370

These potting machine figures per person are based on a team of 4 workers.

Training in the precise method and sequences of activities related to the performance of a specific task is essential if the worker is expected to emulate the through-put achieved as the result of a method studied project. I urge you — do not make the mistake of expecting a poorly trained, poorly motivated person working with mediocre plant material in badly lit, draughty, uncomfortable work conditions to equal the performance standards displayed in the demonstration area and then fault them for not doing so. This may seem gratuitous advice, regrettably it is based on experience.

How many times have new techniques floundered or somehow never achieved their promise? Possibly because the views and comments of the work-force were neither sought nor considered when the changes were introduced, neither were they trained in the job method and the essential work skills of the new technology.

In the wider context of industrial training, I believe that members of I.P.P.S. are ideally suited and able to share their skills and expertise with others. Indeed, is not your motto, "To seek and to share?"

To Seek: Is to assist in the identification, development, and validation of new propagation and production techniques;

To identify specific subjects or production processes which could lend themselves to research and development projects;

To identify areas in the work cycle of established propagation techniques which are of particular learning difficulty; and

To identify and agree on standard work methods which could lead to the establishment of standard performance rates.

To Share: By working in cooperation with the education and industrial training services to stimulate interest in career development and progression through relevant further education and work skills training;

By assisting in the preparation of training programmes designed to overcome the problems of particular learning difficulties;

By becoming instructors in specific work skills and particularly in the new techniques of nursery stock propagation; and

By stimulating interest among fellow members in the benefits of instructional techniques training both in their own work and when passing on their skills to others, and the benefits to the business as a whole of training in work organisation (studying the method of the job, work planning, and work place lay-out).

Finally, "seeking and sharing" by continuously striving to ensure ever more credible and acceptable proficiency tests by working with the testing service as skills examiners and assisting in the development of standard work systems and techniques, and identifying and agreeing achievable standards of performance. To conclude in the vernacular of this city:

"Lang may ye seek and share".

THE PRODUCTION OF POT-GROWN LINERS IN FRANCE

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The story of a pot liner starts either with a seed, a cutting, or a graft; let us start it with cuttings.

The cutting material is collected from the stock plants each morning while it is still cool. Then it is kept in cold storage until the cuttings are made (never more than 2 days). All the cuttings are made with secateurs. The speed depends on the worker, of course, but mainly on the species, and it can vary from 200 to 500 per hour. Cuttings are dipped in hormones; we use IBA at concentrations between 1 and 5 parts per 1000.

Polythene tunnels are used for propagation. These are 8 metres wide and 30 metres long, double skinned with windows for ventilation. They are whitened for protection against the sun; we do not use any other shading system. The cuttings are stuck either in frames or in multipots. In both cases the compost used is a 50/50 mixture of peat and sand.

During the first three weeks humidity is kept as high as possible (around 97%) either with mist, with "Humid Air" — which is very close to a fog system — or with a low level tunnel. Then when roots appear, vents are gradually opened.