

## Work Organisation for Growers

**T. David Gilchrist**

**Chandlers Ford, Hampshire, England**

### INTRODUCTION

The subject of work organisation has been around for many years as nursery growers have tried to improve their production efficiency. Various methods of study have been tried in order to obtain that competitive edge. Some of these techniques have been adopted from tried and tested systems, as used by other industries with some success.

Today, as never before, these techniques are invaluable in the quest for efficiency in order to stay competitive. Growers and propagators need to identify how to get more from the working hour. Close examination of the tasks carried out on the nursery can often reveal possible areas for improvement.

For example, just how much time does a worker spend walking to perform a task? This can be a large portion of time which is not entirely productive. Only by detailed examination and study of the task can a decision be made as to how it can be improved. All tasks need to be considered because the nature of nursery work involves the repeated handling of plants; from the taking of a cutting to the placing of the finished plant on the trolley for distribution.

The owner, manager, or supervisor needs to encourage their staff to consider the method of how the task is carried out. All staff need to develop an awareness of how they are carrying out a task to try and work as efficiently as possible to keep costs down. The continuing rise of labour costs and the increasing demands of customers has resulted in the need for even more stringent observation of how tasks are done. On the nursery there are many areas for the grower to study. Examples include:

- The collection of propagating material; cuttings, scions, buds;
- The sticking of cuttings; handling of plug trays;
- Potting up rooted cuttings;
- Potting on liners into their final pots;
- Setting/standing down potted plants;
- Caning and tying climbers;
- Trimming/pruning stock to obtain the desired shape/quality;
- Labelling;
- Spraying.

The list is considerable if the problem is to be resolved. It is important to consider all production, lifting, and preparation for despatch because all plants are handled.

### WORK STUDY METHODS

The safety, well being, and comfort of workers is the concern of ergonomics, which is often referred to as "fitting the task to the worker". The subject demands a knowledge of medical disciplines so that ergonomists are able to design tasks to suit people.

Products and services may be designed to remove all the unnecessary parts, or simplified to retain only those which are necessary for functional, aesthetic, or prestige purposes. When these cost-reducing devices are built in at the design stage

the technique is known as value engineering, but the related technique of value analysis, may be used on existing services and products. Similar thinking can be applied not just to products and services but to the way tasks are done.

With all these approaches, there are two basic questions: “how should the task be done?” and “how long should it take?” The first of these must be tackled by a problem solving technique and the second by work measurement.

## **IMPROVING PRODUCTIVITY**

The term “productivity improvement” has been used for many years. It means the productivity of goods and services with the minimum of resources, consistent with adequate quantity, quality, utilisation, and other requirements.

Productivity can be increased by raising production but using the same or fewer resources, or by maintaining the same productivity with fewer resources. These resources are materials, labour, services, and money. Productivity measurement poses problems because it is difficult to reduce all results to a common denominator. This makes comparisons between different companies difficult. It is a relative consideration: productivity may be measured before and after a change, and the two results compared to quantify the uplift in productivity. A common form of productivity measurement is operator performance in terms of time taken to do a job.

## **PROBLEM SOLVING**

People are always solving problems and making decisions both in their private and working lives.

**Type of Problem.** Work study recognises four types of situation:

- 1) An improvement problem, in which there is a situation that needs improving in some way, such as an inefficient method.
- 2) A deviation problem, in which the actual situation differs from the planned approach.
- 3) A creative problem, in which one wishes to invent or design something, given terms of reference, or objectives to be achieved.
- 4) Problem avoidance, in which one tries to anticipate troubles or problems before they occur, and thinks up remedies in case they do occur.

**Solution Strategy.** There may be an infinite variety of problems but all can be approached using a common strategy. The general approach applies equally to method study, organisation and methods, operational research, or to any other technique.

**Problem Definition.** Clearly, before a problem can be tackled the true problem, as opposed to the apparent problem, must be defined.

**Data Collection.** All the facts about the situation must be assembled before any solution can be attempted.

**Examination.** The facts must be critically examined in either a logical way, or in some cases, using a completely illogical approach.

From the results of this examination can follow:

**Development of a Solution.** Examination will show up the deficiencies and point the way to a solution. This is now developed and tested during a “dry-run” period.



**Installation.** When the proposed solution is as perfect as it can be, it is introduced to the situation.

**Maintenance.** Continuing monitoring and up-dating is necessary as the situation develops in the future.

**Methods for Problem Solving.** Problem solving methods can be separated into “logical” and “illogical”. A logical, step-by-step method is traditional critical examination which asks “what is done?”, “when?”, “by whom?”, “where?”, “how?”, “are the targets achieved?”, and, to all this, “why?” Often tasks need not be changed or simplified, but can in fact be abandoned altogether as unnecessary.

An illogical approach is to use analogies to describe a situation, thereby making a complex one more easily understood by equating it to similar circumstances with which the observer is more familiar. The Kepner-Tregoe approach is to list all things about what the situation is and what it is not. From the lists, the causes of deviation from the desired condition are highlighted.

Another nonlogical method of collecting ideas is brainstorming. This requires participants to throw in ideas as they occur to them in an uninhibited way, with no criticism. This method avoids stereotyped ideas and often generates novel and even way-out ideas. Trial and error is often used, each trial being improved upon until the optimum solution is achieved.

### **IMPROVEMENT OF WORKING METHODS**

Problem solving may be applicable to all situations, but method study capitalises widely on the techniques. In the production of plants, organisation and method is the principal tool for increasing effectiveness and productivity. The investigator may wish to improve the layout, using a flow diagram as the basis, even using three-dimensional models, which can be moved around to find the best configuration.