

# Liner Production Management and Ergonomics

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## INTRODUCTION

Fitzgerald Nurseries is a new nursery business, specialising in the production of liners and plug-rooted cuttings. It was found that attention had to be given to planning the short-term and long-term objectives of the business simultaneously. Without proper care and planning these two objectives may be self-conflicting, for example, the provision of proper facilities may be at the cost of production materials. It therefore became necessary to put resources into producing our crops at a profit and to a high standard to generate a cash flow. Many liner nurseries must take such broad factors into account as they develop, expand, and become more efficient.

The management of limited resources in such a situation is of paramount importance. The use of these resources has to be optimised and each mistake made must be a resource in itself. If a mistake is not too major the business will continue provided the error is corrected and the procedure documented for all staff to take note — a new information resource has been added to the business. The big question is, how many of these can you afford? It is obviously cheaper to learn as much as possible from mistakes made elsewhere, or observed by others who have already developed solutions to many of your problems, so this should be where the new business begins to build its knowledge base.

Below are some points which this business has considered and which may serve as a starting point for some in the search for answers to various topics:

- **Vision.** Do you know what your aims are and have you documented them? Do the key staff understand these aims and do they understand how these aims will affect their jobs?
- **Strategy.** Is there a long-term plan in place, which takes into account your resources and the abilities of your staff? Do your staff know what the plan is?
- **Skills and Staffing.** Is there investment in training and are staff encouraged to develop as the business grows?
- **Structure.** Is the nursery structured in such a way that it can be managed properly, and have staff been made accountable for the efficiency of their work? Is there a regular review of all aspects of performance?
- **Reviews.** Do you systematically examine all practices and procedures on the nursery, attend seminars, read relevant literature, look at new concepts and technology with a view to constant improvement of the nursery and its staff?

## MANAGEMENT OF RESOURCES

The most valuable resource any new business will have is its founder and the key staff. If these people have ability, are interested in their work, have a will to succeed, and can work together as a team then the nursery is off to a good start. There will

be many other requirements of these key people and possibly the least obvious is the patience required to stick with a business until it turns the corner to profitability. If these people do not have such qualities you will just have to regard them as a liability and take the proper action.

In an industry where a high level of attention to detail is required over a long production period, to get the product to a marketable state, it is essential that proper attention is paid to training and personal development of staff. These people may change from time to time, especially in a new business. It is therefore essential that the time given to training an individual is not entirely lost to the business if that individual leaves. This can be achieved by ensuring that all staff have access to the information obtained on training courses, or built up by the business, and see its practical application. I believe this to be the best way of ensuring that a "pool" of valuable training remains the property of your nursery. This can only be achieved if proper procedures and work practices are in place and documented to ensure proper consistency from one worker to another.

The managers within the nursery will have to become more than plants people, they will need the ability to spot qualities and weaknesses in their staff, and act as the catalyst to enhance the former and reduce the effects of the latter. Each key staff member, in turn, will have to be given the proper training to do their jobs to the best of their abilities and, in this industry, this is usually the responsibility of the owner. Do we always take this responsibility? It is too easy to allow time to slip without acting upon what should have been obvious. It is necessary however, once the need has been identified and the resources made available, that the key staff are made accountable for applying the training they have received.

The other resource that the new nursery will need can be summed up quite simply and it is "capital investment". There are many ways one can acquire capital and many people to advise on it. Extensive advice should be taken as the production of liners is one of the more capital intensive businesses in this industry and make-shift facilities resulting from lack of capital cause loss of profit. It is therefore important that a proper business plan is made out, with realistic estimates for the provision of proper facilities for your crops and a realistic repayment period set for any loans procured. Once the appropriate resources have been obtained it is the management of them that will determine whether you can pay your investors back. It is therefore your competence in their eyes which will determine whether you get that capital or not.

Ultimately it is customer demand for our product that determines how we fund our business and we must be concerned about what is good for our customer. Without good quality customers the business is like a yacht without a sail and totally dependant on where the current brings it. The profitable filling of that demand will be the source of much of the businesses funding for production.

If we are targeting a market where we must produce plants in large quantities at a low sales value and profit, this factor is obviously going to determine the outlay on the facilities. What is certain in this situation is that every cost-saving provision that is put in place will ensure the survival of the business against its competition. We must provide what our customers require for them to make a reasonable profit, too. When that demand on price exceeds reason the liner producer must find new customers who can pay a reasonable price.

When the business can no longer either reduce costs or find new customers a decision has to be made as to whether liner production can be the sole activity of the

business and alternatives may have to be looked at.

Knowingly selling at a loss or an unsustainable profit may mean either the producer or the staff will have to accept a low income and as not many of us willingly volunteer for this option we must ensure that we do not end at that situation through bad planning. This situation may be hypothetical but it is a point where some of us may come to in the future if some haven't already.

What is the value of our product to our customer? It may be solely dependant on what our customers get for their product and if our customers are not making a reasonable margin or have low sales volume, the chances are we will not prosper. All these points, if carefully studied, should show the need for a good cost analysis system. If we do not account for costs such as lost production time (down time) or other latent costs we run the risk of having high sales but a bankrupt business. On the other hand if we have bad and inefficient work practices, fuelled by unfocussed staff or management but get-by through making our customers pay too much, we may see lean times in the face of competition. The identification of costs on a product category basis is the only way to ensure particular products are not under or over priced. There is potential for loss of profit in both cases. There are many examples in other industries of how this is done, but many of us are slow to develop such a system as there are so many other concerns to attend to which seem more important.

## **ERGONOMICS**

In the view of this author, the study of ergonomics has not been given proper attention and its rightful place on college courses. While a lot of people have a natural ability to lay their work out ergonomically many do not. Those not already studying this subject as part of the overall management of a liner nursery should seriously consider adding it to their reading list.

Ergonomics is a way of thinking about the layout of workplaces and growing areas, the organisation of work and the adoption of tools and equipment for the effective and safe completion of tasks. This, in effect, is common sense to us all but there can be many instances where a more in-depth study and application of ergonomics could prove useful - and ultimately profitable - to many of us. There are many tasks which require people to spend long periods of time seated or standing in one position. There are also supervisory jobs which require excessive moving around the nursery. The design of any nursery should take these factors into consideration. If staff do not have a well thought-out work environment it will have adverse effects on their psychological and physiological approach to their work. The following are just some practical examples of how the study of ergonomics can help the liner producer.

**Design of Chairs Used for Staff Preparing Cuttings.** This should take into account stress on the spinal column which should be as straight as possible when sitting. Chairs should be adjustable to suit different members of staff and different tasks. The chairs should be chosen with worker comfort in mind, not just price, as a little investment in an ergonomically designed chair should be repaid in output if all other management is good.

**Light, Heat, and Surfaces.** At the proper room temperature the body can function efficiently. However, nurseries often have over-heated work areas yet don't have proper facilities to heat the propagation hall in winter. This can be easily overcome by thermostatically controlled heating. On this nursery, we use radiators bought

second hand and run from the glasshouse heating system. It is now law to have lighting installations to an approved standard but sometimes the light emitted is too little, too much, or reduced by dust deposits on tube covers and absorption into dark walls or work surfaces. Poor work surfaces can also reflect too much light and cause stress to workers eyes. All these elements result in worker discomfort which in turn reduces the output and well being of staff.

There are many other, more serious, examples of poor workplace provision, such as faulty appliances, untidy work areas and badly maintained equipment, which can have more serious implications for the well-being of staff and the survival and profitability of the nursery.

An ergonomically sound nursery provides proper work conditions so that management and staff can progress their nursery in a safe, focused, and productive manner. Many ergonomic topics are either already covered by law or may soon be. It is already mandatory to provide a Safety Statement for businesses. Why not produce an Efficiency Statement, where loss risks can be identified and solutions put in place? This statement would be reviewed by all key staff to ensure a better future for all. One of the very important lessons learned on this nursery is that attention given to the needs outlined above has a very positive effect on how people work as a team and the interest shown by an employer for the well being of staff will be mutually beneficial.

I believe that the study of ergonomics by nursery owners and managers will ultimately lead to the following:

- The reduction of worker stress.
- The health and safety of staff.
- Staff motivation.
- The reduction of costs.
- Improved productivity and product quality.
- More realistic profit margins.