

not think that you will ever become a real master because there will always be taxa which will give you a hard time. It is like a game of golf, and that makes gardening and especially the art of germinating seed so fantastically interesting and it will keep you humble!

Optimising Productivity in a Bedding Plant Nursery in South Africa®

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WHAT IS PRODUCTIVITY AND WHY IS OPTIMISING PRODUCTIVITY IMPORTANT?

Productivity is the ratio of output to input and the key determinant of value. Productivity is closely related to all the factors that influence value, quality, service, price, and so on.

Productivity improvement increases value and the well being of an organisation. The effectiveness of an organisation as a whole determines its level of productivity.

HOW DOES ONE OPTIMISE PRODUCTIVITY?

Optimising productivity means increasing the output value without increasing the resource input.

Management needs to focus on issues such as:

- Goal setting.
- Planning.
- Organising.
- Monitoring.
- Controlling.

Productivity can be improved by:

- Improved manufacturing processes and procedures.
- Increased capital investment to improve manufacturing and delivery procedures.
- Increased labour performance to reduce manufacturing/delivery costs.
- Increased levels of labour participation to assist in the improvement of quality and labour performance.
- More effective research and development to increase output by providing better products and services, and processes.

WHAT ARE WE DOING AT SITTIGS' TO OPTIMISE PRODUCTIVITY?

1) Management issues:

- Regular management meetings.
- Accurate and up to date financial information.
- Accurate production planning and monitoring.

2) Mechanisation issues:

- Tray filling and potting machine combination.
- Seed sowing machine and plug production.
- Trolley and crate system to transport plants.
- Truck with tailgate lift.
- Irrigation systems.
- Computerised accounting, production planning, and labelling.

3) Labour performance issues:

- Emphasise on teamwork.
- Skills training to complete various processes effectively.
- Employ people according to their abilities and treat them fairly.
- Employees are encouraged to take responsibility.

4) Nursery layout issues:

- Lessons learned from the past.
- Advantages of the layout of the new section.

5) Customer service issues:

- Delivery up to point of sale.
- All products pre labelled and priced.
- Cash and carry customer convenience.

Manipulation of Flowering in *Clivia*®

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INTRODUCTION

The genus *Clivia* Lindl. belongs to the family Amaryllidaceae and comprises four species, all endemic to Southern Africa. Three of the species, *C. caulescens* R. A. Deyer, *C. gardenii* Hook., and *C. nobilis* Lindl. have tubular, pendulous flowers, while *C. miniata* Lindl. Regel have erect, trumpet-like flowers. The latter species is the most widely cultivated as a garden or pot plant and is, therefore, also the most researched of the four species. In this talk I will concentrate on the flowering of *C. miniata*.

The flowering period of *C. miniata* is in early spring and under South African conditions peaks in August-September although it is possible to manipulate the flowering period to some extent by regulating the growing temperature (Mori and Sakanishi, 1974; De Smedt et al., 1996; Honball, 2001) and lighting (Vissers and Haleydt, 1994). Before attempting to manipulate flowering in any plant, however, it is important to have a thorough understanding of the growth model of the plant and in this talk it will be treated as one of the major aspects.

GROWTH MODEL

A *Clivia* plant raised from seed, has a single axis consisting of a true stem-part covered with the closely spaced leaf sheaths forming a pseudostem. Figures 1A and 1B show a longitudinal section of the stem apex of a *Clivia* plant showing the apical bud and next to it a young inflorescence bud. After having observed the growth and