Plant production system: testing and implementation©

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INTRODUCTION

Plant Production System (PPS) is a web-based database which helps to organise nursery tasks in specific weeks, from propagation to potting as well as create work lists and capture completed work daily in order to have control over stock in the nursery. This talk introduced and explained PPS.

BACKGROUND

Arnelia farms nursery produces close to 150 different taxa in various genera including *Protea*, *Leucospermum*, *Leucadendron*, *Erica*, *Telopea*, *Chamelaucium,* and *Bougainvillea*. Each taxon has its own nutritional and management requirements to achieve high quality outcomes. However, keeping track of these tasks as well as additional tasks of weeding, growth regulating, and spacing is a challenge in an ever expanding nursery. With most taxa pinching, pruning, or spacing must be completed by specific dates and if these are not met the planned outcome is not achieved. Historically, everything was managed with the use of Microsoft® Office Excel® (2010) spreadsheets and knowledge of personnel. But as the nursery grows the need develop for a more effective way to keep track of tasks including propagation, potting, plant maintenance, and stock. After unsuccessfully searching for appropriate industry software, we decided to approach DiPAR Systems (Bellville Park, Cape Town, 7530, South Africa) to help create a plant production management system. Most systems available are aimed at short term nursery crops where the cycle starts with propagation (vegetative or seed), transplanting of plugs or rooted cuttings after a specific number of weeks, and finally potting again to the final pot size. Plants are sales ready within a couple of weeks or months. This did not fit well with our nursery where plants are grown mostly from cuttings for 12 to 18 months. We have different ages of plants of the same taxon for different sales periods at the same time in the nursery and this should be managed.

PLANT PRODUCTION SYSTEM

The program consists of various master files in which the user is able to set up all the plants, containers, locations, tasks, and product lines for a nursery. For each production line which the nursery will produce a production plan is created (number of units to sell) as well as all the production steps necessary to produce the product and this is linked to specific weeks in which the tasks must be completed. A work schedule is then generated which can be modified either in the office or on a mobile device in the nursery. Once the schedule is saved work lists are generated via a module called Dynamic Reporting. After the work is completed, individual workers or team leaders can capture the daily work completed.

With the use of Dynamic Reporting various reports can be generated depending on the user's needs and management level. Reports could include work still to be done per week or weeks, completed work or status of stock in the nursery.

FURTHER PHASES

As soon as phase one of PPS is fully functional several other phases will be considered including:

- Dispatch of stock and management thereof.
- Management of consumable stock such as pots and potting media.
- Setting up and management of demand planners for following seasons.

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