

Lean Production Basics: Implementing Lean Manufacturing Principles in a Bedding Plant Nursery[®]

Hans-Jürgen Sittig

Prime Genetics (Pty) Ltd, P.O. Box 403, Hartbeespoort 0216, South Africa

Email: hans@primegenetics.co.za

INTRODUCTION

Production Nurseries in South Africa face many problems. When times are tough, it becomes clear that these problems have to be addressed to continue running a profitable business.

Rising input costs, energy shortages, and poor demand impact the bottom line. We are in business to make a profit. Profit = sales price less costs.

The usual reaction to remain profitable is to cut costs. Purchase the cheapest raw materials, pay the lowest wages, and use less fertilizer, and so on. However, buying cheaper often means getting poor quality, and to stimulate sales, higher discounts are offered. This is a downward spiral, which over time is not sustainable.

Business owners and managers lose sight of what the biggest cost factors are:

- Production losses
- Over production
- Discounts
- Unproductive labour
- Poor inventory control, running out of raw materials or too high inventory levels
- Poor management, which contributes to costly inefficiencies

A better way to react is to **FOCUS ON THE COSTS YOU CAN CONTROL** and to become more efficient. We came across the story of Toyota and Lean Manufacturing Principles and realized that these principles can also be applied in a production nursery.

LEAN MANUFACTURING PRINCIPLES

These are sound and proven principles developed and applied by Toyota over many years. Extensive research has been done on the Toyota Production System and Lean Flow Principles. The Lean Enterprise Institute is actively promoting the implementation of this system and principles worldwide. See <www.lean.org> for more information.

What follows is an attempt to summarize these principles and tools and to encourage the reader to do more research and to discover how they can be implemented in his or her own situation.

The ultimate aim of applying Lean Manufacturing Principles is to eliminate all waste from a production system.

It is a production system based on three principles:

- Eliminate waste
- Make products and materials flow
- Base supply on customer demand

What Is Waste?

- It is any activity that consumes time, resources, or space and does not add any value to the product or service.
- It is all the unreasonable work that management imposes on people and machines because of poor planning and organization.

FOCUS ON THE PROCESS

The Toyota Production System focuses on the PROCESS. If the process is right, the result will be right. People use processes to make products.

A process is simply a set of actions that must be performed correctly in the right sequence at the proper time in order to create value for some customer.

Average people managing brilliant processes can achieve excellent results. Often brilliant people, forced to manage mediocre processes, fail and leave.

LEAN MANAGEMENT VERSUS TRADITIONAL MANAGEMENT

Lean Management.

- It is a system to make people think
- Line managers are process experts
- Go and see management, problems are solved at the point of value creation
- Learning by doing approach
- Employees are part of a continuous improvement process
- Focus is on processes to achieve results
- Avoid problems proactively by design
- Focus on managerial responsibility

Traditional Management.

- Management will think, employees will work
- Generalist managers with weak process knowledge
- Problems are solved far from the point of value creation
- Training is usually done away from the work place
- Planning and direction is top down
- Focus is on results only
- Problems are reworked when they happen
- Focus is on managerial authority

IMPLEMENTATION OF THE PRINCIPLES

There are various tools to implement these principles.

The 3 Ps of Lean Action:

- PROBLEMS
- PROCESSES
- PLANS

Define and solve the right PROBLEMS through reconfiguring the right PROCESSES by getting agreement and implementing the right PLANS.

Go and take a walk thorough your nursery. Take a camera along, look critical. You will be amazed at what you will see if you really look. It is usually not what you would expect!

Ask yourself:

- What keeps me as manager awake at night?
- What frustrates my staff most in trying to do their work?
- Is this the best way to do it or is there a better way?
- Does this flow?

Value Stream Maps and Process Flow Charts. Walk with a piece of paper and a pencil and draw a flow chart of every point where you create value. Go and look at each process, how things get done, and draw a process flow chart. By doing this many inefficiencies will become clear.

The Five S House Keeping System.

- Sort: Remove all unnecessary stuff from the work place
- Set in order: Organize the workplace
- Shine: Keep the workplace clean
- Standardise: All repetitive work, define the processes. Use visual communication and visual standards that are displayed where the work gets done to show how it should be done and what output is expected! Don't write long process descriptions that get filed and never read again! A better way is to use pictures and diagrams and make posters with Power Point.
- Sustain: Implement practices that maintain discipline.

Continuous Improvement. No problem is solved forever. No process is perfect. A system needs to be in place to avoid solving the same problems over and over again!

There is a scientific method to follow: PLAN – DO – CHECK – ACT.

Do the planning, design the process. Do the work, implement the process. Check the results, are they what you expected? Make changes and improve.

Achieve continuous improvement by involving employees to:

- Identify problems when they happen
- Make suggestions
- And rectify problems before you proceed to the next step

When a problem occurs the Lean Manager does the following:

- Go SEE: go to the work place and see what is happening
- Ask WHY 5 times: get to the root of the problem
- Show RESPECT by involving the employee to solve the problem. It is usually the process that fails and not the person.
- Manager as a COACH: don't blame the employee, check the process and coach the employee to do the process steps properly.

OUR FOCUS TO IMPROVE EFFICIENCIES

- Documenting work place procedures using visual communication.
- Train employees at the workplace on how to do the processes correctly.
- Teaching employees basic green technical know how.
- Applying the PLAN – DO – CHECK – ACT principle to keep improving.