

Automation in the Nursery

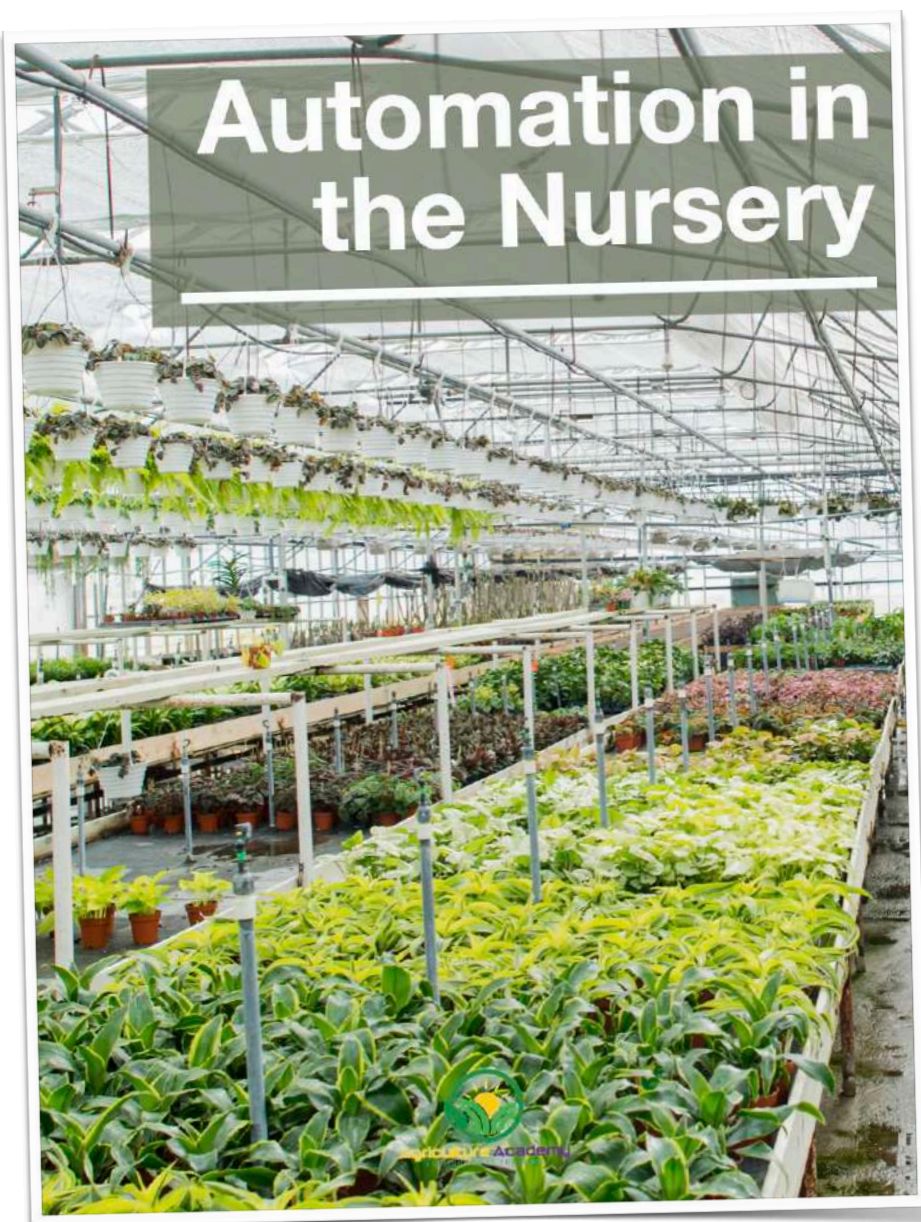


Agriculture Academy
AGRI-BUSINESS TRAINING

Modernising your Nursery

Thank you for downloading this guide!

Are you starting a new plant nursery, and feeling overwhelmed by the amount of time, effort and skill required? We may have a solution for you. Automation. In this guide, we are going to discuss some practical solutions to common problems, including planting, irrigating, fertilization, and moving plants in and around your nursery. This will help you modernize your nursery, reduce labour requirements and ultimately grow more plants for less.



Plant Propagation

Multiplying plants in your nursery is time and labour consuming. There are many automatic machines on the market designed to mix soil, fill pots and sow seeds. Machines like this not only protect your workforce from back breaking physical work, but uniformity will also be improved.



Plant Care

It would be ideal if we could just plant our stock and leave them to grow without any additional care. Irrigation is probably the most important factor as a plant grows, providing they have enough sunlight. You will do yourself a big favour by installing an automated irrigation system. Better yet, computer controlled systems will allow you to leave your plants over the weekend without having to worry about if they are getting enough water. Sprinkler and drip systems are the most common option used by growers and allow you to water your plants gently and evenly. Other options include ebb and flow designs, where water periodically floods the rootzone and then drains.

When it comes to fertilisation, even simple spreaders and sprayers will help apply nutrients quickly and evenly. We discuss another option in our tips coming up later in this guide.



Moving your Plants

Moving your plants in and around your nursery is a hefty task. Loaders and trucks should be at the top of your priority list, especially as your business grows. If your business affords it, you can also take a look at robots like the ones shown here.



Top 3 Tips

Tip 1: Benefit from other growers' technology. There are many ways you can do this. It can be as simple as ordering young seedlings ready-rooted that you can grow up in your nursery. This limits the need for mother stock, labour to make your own cuttings, and it ensures you always receive high quality plantlets. Many research trials are done to create new and improved plants every year. These plants will ultimately be easier to grow, and have a greater pest and disease resistance which will greatly reduce the inputs

required from you. You must however keep in mind that due to royalties, you must be able to sell your plants for a high enough price to justify the initial investment.

Tip 2: Use a fertigation system. Fertigation combines the processes of irrigation and fertilisation by adding a fertiliser into the irrigation water. Fertigation offers many benefits, including lowered labour requirements, and reduces fertiliser waste by delivering a small amount of nutrients on a regular basis, thus minimising leaching. It is recommended you flush the system once a week to prevent toxic nutrient buildup in the soil. You can do this by simply running fertiliser-free water through your system.

Tip 3: Grow your plants hydroponically. Hydroponics systems are designed to reduce labour, nutrient and water requirements. Once set up, a high tech hydroponics system could function with minimal inputs, allowing you to focus on other aspects of your nursery business. If you think this could be the solution for you, you will have to grow hydroponically suitable plants. Herbs and veggies are a great idea, and so are aquatic species like *iris* and *microsorium*. You could also potentially supply a niche market, such as aquariums or aquatic landscapers.

