



RFID Blooms for Plant Nurseries

RADIO CHIPS HELP KEEP TABS ON PLANTS



Inventory control, an important part of any modern business, is difficult for the nursery industry.

Large shrubs and trees are hard to track using the electronic barcode readers common in most businesses because of the need to get a scanner close to the barcode and problems with soil damaging the barcode labels. The dirt, water, mold, algae and humidity present in nurseries also rendered many of the codes unreadable. Another alternative, manual inventory, unacceptably increases continuing labor costs.

RFID Technology to the rescue.

A radio frequency identification device, or RFID “tag or label”, contains a tiny chip that transmits a signal back to a reader. The signal can be received from several feet away, even if the chip is imbedded in a tree or buried in soil. One huge advantage of RFID over electronic product readers, is that RFID does not need a line-of-sight reading to record information. Once energized by a signal from a reader, The tags return a data signal that is picked up by the reader just by walking by the product.

In a nursery, they can provide information about the fertilizer, water and other inputs a plant has received, as well as information about the number and types of plants in the inventory.

A variety of different tags are available to meet a grower’s requirements. For example, a rice-grain-shaped glass cylinder that can be implanted into the woody trunks of trees and shrubs or a small waterproof plastic tag and a disk that can be hung from a branch, buried in the potting soil or glued to the edge of a plant container.

The move to RFID tag all inventory through a supply chain started with Walmart and Target several years ago. Major retailers will soon require it of all their suppliers,



The benefit of this technology is the amount of information it can track and the ease with which the information can be recalled. For example, a single tag can tell a grower the date a cutting was stuck, who performed the task, and when the plant was fertilized, transplanted and trimmed and trunk diameter. It also can track when a plant was sold, who it was sold to, how much it was sold for, when it is scheduled to ship, and even track the truck to its destination.



RFID also offers the capability to be compliant with any Government Certification, e-pedigree, plant and food chain track and trace and growing history as well as eliminating much of the paperwork associated with such documentation requirements.

For nurseries, the most attractive feature of RFID technology is its inventory control possibilities.

Cost-wise, RFID would be useful for nurseries dealing in a large volume of flats as well as more expensive trees and shrubs. Re-usable RFID tags now available provide significant improvements in the economics and may allow for total inventory tagging. "Snap-around tags, with a read-range of approximately 5 feet, are available which are quickly snap-connected around any circular surface like a tree trunk.

Also, entire nursery staff is well used to the labour-intensive routine of frequently working well into the night to reconcile their inventory counts. Fixed station RFID readers could be positioned every 30 to 50 feet but on large nursery properties, this adds considerably to the cost. A viable alternative to consider is to use a mobile handheld device or a mobile RFID reader on a cart which you would walk or drive down each aisle and it would read all the tags along the way. With an integrated WIFI link, it would automatically update the database and provide an instant real-time view of all inventory.



As an added bonus, the RFID handheld mobile unit could also speed your checkout time. You'd be able to point a reader at a customer's cart or trailer and instantly validate what products he was buying.

RFID can also be used for automatically monitoring greenhouse temperature and humidity by integrating sensors in various zones. If either temperature or humidity sensors take readings outside of an acceptable range, then vents, fans or heaters can be automatically deployed.

The Netherlands has witnessed even more aggressive RFID implementations. The Dutch potted plant business is by far the largest and most advanced in the world. With this technology they are able to track every plant in a greenhouse from seed to sale in a time period ranging from six months to a year. Passive, reusable 13.56 MHz (high frequency) tags are applied to the underside of trays that carry potted flowers and seedlings. This tag is an adaptation of a specialized RFID tag originally developed for the commercial laundry business. The system has been deployed in greenhouses as large as 700,000 square meters, and installations have ranged from ten to 50 readers. The Plant Order System comprises of pot adopters, conveyor belts and plant nutrition systems which takes care of the plant from seeding to customer orders. A combination of RFID and photography ensures that the plant is not neglected. In case the plant requires further nutrients the system takes note of the fact and sends the plant to the necessary

section. RFID has enabled to achieve full automation and optimization and as a result achieve savings in high value assets production .

FALKEN Secure Networks(FSN)—Your partner for RFID automation



If you choose to pursue RFID implementation in your organization, here is the FALKEN Secure Networks commitment to you:

- FSN will provide solution architects to work with you to define system requirements for your particular installation. Multiple locations can be networked together for a central and real-time view and centralized management.
- FSN will do a RFID site survey to validate radio frequencies, tag types, system design and performance
- FSN will provide all necessary hardware and software to make the system work for you
- FSN will integrate the system with your existing enterprise management software
- FSN will provide documentation for the system, including operating procedures
- FSN will train your people
- FSN will provide warranty and continued system support

Contact Us

FALKEN Secure Networks (FSN) is a specialized System Integrator, RFID Solution Architect, and Certified Value-Added Reseller with focused expertise in the RFID site survey, cost-effective design, and complete turn-key project implementation.

Contact FSN at sales@falkensecurenetworks.com

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