

How Secure Is Your Business?



Left: Post signage to inform truck drivers where to report. Right: Post signage to inform visitors of security policy. (Photos: Thomas Dudek)

Every greenhouse operation should have a security management plan.

Learn about the four levels of security and the 15 elements you should consider when creating written security procedures for your business.

**By
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The recent *E. coli* incidents involving spinach and our earlier problems with *Ralstonia* should make greenhouse growers wake up in a sweat: What would happen if the public thought our products weren't safe

because of disease or insects? What would happen to your operation if your crops were deliberately or accidentally contaminated with herbicides or other toxic materials? Is your company actively reducing exposure to risk?

Know The Security Levels

Each greenhouse operation should have a security management plan, which addresses four levels of security (see Figure 1, right). These levels of security include:

Physical security. Protect your operation's premises through locks, lighting, fences, gates, signage, cameras (if a large operation) and more.

Personnel security. Issue background checks on new employees and train personnel so they know security expectations as well as locations of fire extinguishers and first aid kits and who to call if the boss is gone. Provide facility keys only to certain

individuals, perhaps with numbered keys and a sign-out system.

Operational security.

Post signage for customers, visitors and vendors so they know where they should enter and exit as well as where they are not allowed on the premises. Also list emergency contact numbers and anything that protects the operational processes of the facility.

Product security. Secure the product from production through shipping to final customer delivery. Create a secure quarantine area for incoming plant material until it is proven disease and insect free. Make sure ◆

Four Layers Of Security

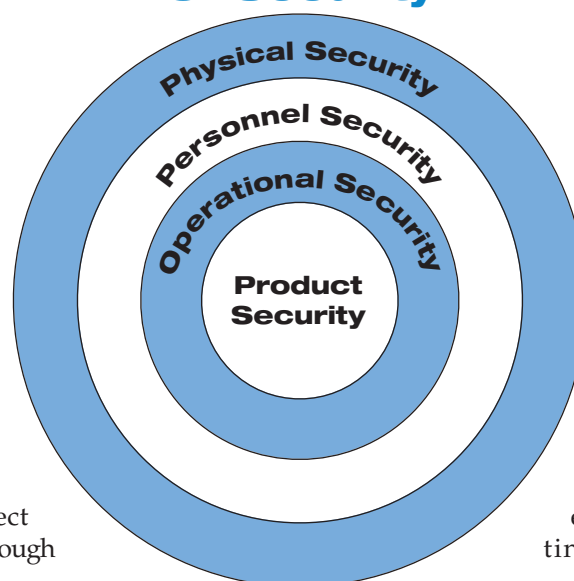


Figure 1. These are the four levels of security every greenhouse should have.

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shipping and product testing areas as well as transportation vehicles are secure.

Make A Plan

Someone in every operation should be responsible for security. It may be a single individual responsible for all four levels or more than one individual, depending on business size and number of employees and locations. The key is to designate a person or persons for this role.

Communicate security policies to all your employees, including part-time and on-call employees who may only work a few days or weeks a year. Communication can be written in your employee handbook or discussed in training sessions conducted when new workers are hired. In the case of non-English-speaking employees, be sure your message is translated correctly so your workers understand your security plan.

What should be in your plan? We suggest you develop and maintain written procedures on how your business intends to deal with the following 15 items.

15 Security Considerations

1 Know your plant suppliers. If you buy through a broker, learn who produces the plants. Do not accept unexpected shipments of plants without checking with your broker or producer.

2 Be sure to inspect incoming shipments to verify the quantity, identity and integrity of the cuttings or plants received. Isolate new shipments for as long as possible in a separate greenhouse. Monitor the plants by visual inspection and sticky card traps for insects. Many times shipments arrive and they are immediately sent out to the production range and not inspected for disease or insects. This can put your entire operation in jeopardy. This is the time to send representative samples to a university diagnostic lab if you suspect a problem. It is also the time to conduct in-house ELISA tests if you suspect a problem or do routine testing as a matter of policy.

3 Maintain shipping manifests, inspection reports, inventories and other records in case there is any contamination, insect infestation or quality issues. Develop and implement a tracking system to track the movement of plants from each of your suppliers or shipments within your greenhouse so that infected or contaminated plants/areas can be



Be sure to inspect incoming cuttings before putting them in the growing area.

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This growing media is protected from weather, but it is not put in a secure area.

quickly identified. These types of tracking systems are in place in the food system now and have been used numerous times when a problem occurs, like the recent *E. coli* outbreak on spinach. A trace-back system is already in place by most propagation greenhouses that enables them to rapidly determine the exact stock plant that a cutting or group of cuttings came from. This was established prior to the *Ralstonia* outbreak that occurred in the 1990s and early 2000s.

4 Implement measures to protect your growing media, fertilizers, pesticides and water sources throughout your production facility. Secure water sources, including wells and ponds, pumps, injectors and valves. Periodically inspect them for evidence of tampering. We often see fertilizer stock tanks uncovered and pesticide sprayers and storage areas unsecured. We've even seen a partial container of herbicide sitting next to a 55-gal. fertilizer stock tank! An accident waiting to happen!

5 Reduce the potential for developing insect and disease resistance to pesticides by asking your plant and cutting suppliers for a list of pesticides used on plants, and adjust your pest control program accordingly. We have heard of situations where growers cannot control a pest problem with a certain pesticide only to find out the cutting supplier used pesticides with the same mode of action routinely.

6 Regularly test your water sources for herbicides and other contaminants. Very minute amounts of herbicides, contaminants, or even road salt or brine can have a serious impact on crop growth. If you have a shallow well less than 50 ft. deep, you may be at greater risk for these issues. Be sure to store fertilizer in a secured area away from your water supply and pesticide storage area. Store pesticides in a secured, ventilated storage facility separated from the main production facilities in case of fire.

7 Prevent plant pathogens from moving in your irrigation water. If using ebb-and-flow systems, separate water recovery for each bay/greenhouse. Incorporate blocks of non-related species on long benches/beds to provide a barrier to pathogen spread. Filter/disinfect return water by slow sand filtration, ultraviolet light or ozonation in closed irrigation systems. Be sure to install drainage systems so water does not stand in production beds or aisles following normal irrigation. Water-loving pathogens like *Erwinia*, *Pseudomonas*, *Pythium* and *Phytophthora* can spread easily through improperly maintained irrigation systems.

8 Buy growing media and media components from known, trusted sources. Always store pre-mixed media and components in a secured area that is protected from weather, birds and other wildlife and away from your pesticide and fertilizer storage area. If you mix your own media, train equipment operators carefully so the proper proportions of components and other additives are maintained. We recommend you always have at least two trained equipment operators working at the same time to prevent sabotage or errors. Do not store media or media components for long periods; buy only amounts needed for that season's production.

9 Provide supervision and periodic training to employees to ensure your firm's security measures are consistently carried out. Having a plan is great, but be sure to share it with your workers so they are part of your team.

10 Conduct a self-assessment of your firm's vulnerabilities and review it annually or when the operation changes. Look at all the critical points in your plant growing, shipping/receiving and marketing. If you are not comfortable doing this, ▶

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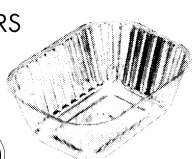
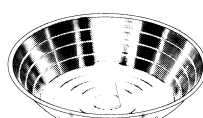
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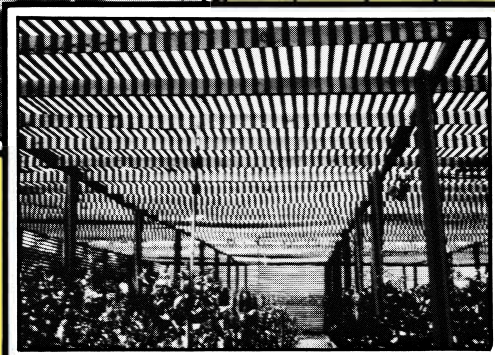
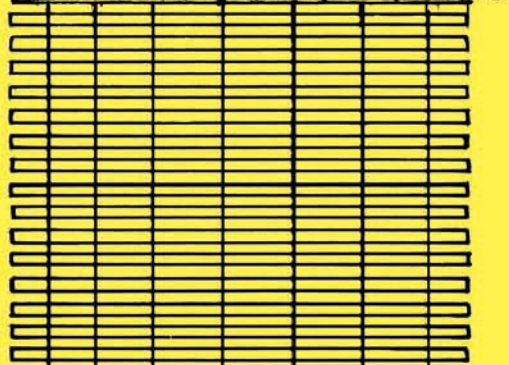
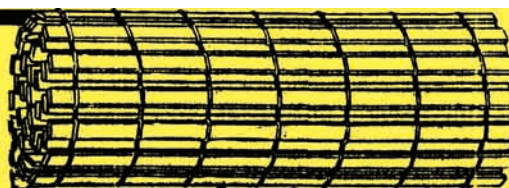
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bring in someone from the outside who can look at your system with a different viewpoint. If we work in a business day in and day out, we do not always see the obvious.

11 Conduct background checks on all employees to ensure their suitability for assigned tasks.

12 Develop a system to notify suppliers, customers and government officials of suspected or confirmed emergencies. If you have a confirmed, serious plant pathogen, let your customers know. This not only builds trust with your customers but also limits the damage to our crops and possibly other areas of agriculture.

13 Address security measures during transportation. Do you know the background of your drivers? Are your trucks secured between shipments? What are the risks of loads being tampered within transit?

14 Verify the security measures taken by your suppliers. Do your suppliers have security plans in place to prevent contamination in the production of your growing media, fertilizers and pesticides?

15 Finally, limit access to critical operations to authorized employees, contractors, haulers and visitors, including extension agents.

After Ralstonia, we saw most, if not all, propagation greenhouses limiting access to everyone except essential workers to reduce the risk of introducing or spreading a disease or pest problem. Numerous wholesale and some retail greenhouses have put in place access policies that require everyone to visit the office first before being allowed to enter the production area.

Security Makes Sense

Today's higher production costs, smaller profit margins, greater reliance on global producers for cuttings and young plants, increasing government and public scrutiny of our product for diseases and insects, and customer demands for product accountability mean that security should be a major concern for any greenhouse company. A good plan aggressively implemented will prevent minor problems and significantly reduce the threat of a catastrophic loss. **[GPN]**

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