

Grower 101:

Improving The Workplace Environment

The workplace environment — from how a workspace is arranged to if an employee sits or stands — can help make happy, productive and injury-free employees.

By John Bartok, Jr.



Top: Back problems are common due to the position workers have to assume to accomplish a task such as pinching. Bottom: Observe employee work practices to see if they can be improved.

Employees come in all sizes, strengths and ages as well as motivation and skill levels. One of the challenges a greenhouse manager has is matching employees to work tasks. Provide a good match and your employees are happy and productive. A poor match results in low productivity and a greater chance for accidents and personal injury.

Over the past few years, ergonomics, the relationship between the worker and the work environment, has become more important. The Occupational Safety and Health Administration (OSHA) and other safety-oriented organizations have developed standards and guidelines that help employers provide better work conditions. Implementing some of these can increase productivity considerably.

Horticulture-Related Injuries

Although there have not been very many studies of greenhouse-related injuries, research in Sweden several years ago found that the greatest number of injuries occurred to the lower back, shoulders, neck, knees and wrist/hands. Injuries such as tendonitis, bursitis and carpal tunnel are increased due to repetitive movements and the work environment. Back problems are common due to the positions workers assume to accomplish tasks. Examples include picking plants off

the floor and bending to reach the center of a 6-ft.-wide bench.

Employee age can also affect performance. Older greenhouse employees may have additional needs. Due to the aging process, some of these seniors may require higher light levels, reduced speed of transplanting conveyors and more rest periods. They generally have a greater sensitivity to temperature, reduced muscular strength and slower assimilation of instructions.

Workstations

The greenhouse industry uses many workstations for transplanting, potting, pruning and packing. The increase in productivity between a poor design and a good design can be more than 50 percent. A good design can reduce cumulative trauma disorder (CTD) complaints such as pain or numbness in the muscles or wrists. The treatment of these is rest, surgery and a wrist splint. The cost for medical treatment, worker compensation and lost production may be \$15,000 or more.

Workstations need to be flexible. Two workers, one 6 ft. tall and the other 5 ft. tall, have different height and reach needs. The height of the work area and distance to materials should be adjustable.

Most greenhouse workstations should be designed with the option of either sitting or standing. Prolonged sitting is as bad as prolonged standing. In the sitting posi-



Top: Carrying plants down long aisles can increase fatigue. Bottom: Unsafe work positions can lead to falls.

tion, the seat height should be adjustable, adequate knee room provided and forward reach limited to about 16 inches. Good support for the back and a footrest are needed. In the standing position, an anti-fatigue mat on an adjustable height base is important. In both positions, the work surface height should be at or just below elbow height.

To save time, a good workstation design has the materials arranged in the sequence that they will be used. For example, at a transplanting station, the prefilled flats would be located on a cart near your left hand. The dibble, if used, would be on the left side of the work area, and the plug tray would be located to the right and tilted to make removal easy. Once transplanted, the flat would be either pushed to the rear of the work area onto a conveyor or lifted and placed on a cart on the right.

Reducing Stress And Fatigue

Here are some ways to reduce risk factors of work tasks, ►

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management

decrease chances of injury and increase employee productivity:

- Select the best employees for the tasks. Are they physically capable? Are they trained to operate a particular machine?
- Rotate employees between jobs. This reduces psychological stress as well as physical stress on different muscle groups.



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• Train your employees both for the tasks they are to perform and to recognize the signs and symptoms of CTDs. Information and videos are available from OSHA offices, insurance companies and equipment manufacturers.

• Observe employee work practices. Look for arm, wrist, head and body movements. Do employees stop work to shake or dangle their hands at their sides to get circulation started? Do they lean forward to get a better view of the computer screen? Do they hold their backs after moving a load of plants?

• Provide better air quality in closed areas. Reduce, remove or dilute pollutants such as dust, exhaust fumes and pesticide odors.

• Reduce heat stress by providing shade, installing fans and insulating work areas.

• Increase light. Paint ceilings and walls a light color to reflect light. Reduce glare from windows with screens or blinds. Supplement room lighting with task lighting for visual comfort and increased accuracy.

• Install ramps rather than stairs, especially in areas where there is considerable materials movement.

• Employ mechanical aids to reduce materials handling. Examples include pot/flat separator, plug extractor, pot handling fork, battery-operated pruners, wagons and carts.

• Make protective and safety equipment readily available and require employees to use it.

• Listen to your employees. They are the ones doing the work and feeling the stress. Any ideas on changes or improve-



Top: Convenience of materials improves transplanting efficiency. Bottom: A sitting cart makes pruning easy.

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ments you can get from them may be worth investigating. This also gives them a feeling of involvement and shows your concern.

Providing a healthy and safe environment for employees will increase productivity, reduce accidents and slow turnover. Training through videos and mentors can enhance job performance. **GPN**

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