



Figure 2-11. Example of good garden center housekeeping.

Dress for Safety

Wear ordinary clothing that is clean, in good repair, and fits properly. Trousers should not be too long, shirttails should be tucked in, and sleeves on long sleeved shirts should be buttoned. Make certain that sleeves or other parts of jackets are not so loose they could become caught in the machinery. Keep work clothes clean, since dusty or dirty clothing can cause skin rash and irritation.

Wear comfortable, well-fitting shoes or boots. Well-made shoes or boots cost more, but they fit better, last longer and are safer and more comfortable. Slippery shoe soles may cause “slip and fall” injuries when working on a trailer or stepping up to the seat of a tractor.

Do not wear anything that could get caught in a machine and pull you in. It may seem unlikely, but serious amputations and other injuries have resulted from wearing rings, necklaces, or other decoration. Wear the appropriate clothing and use safety equipment.

Equipment Hazards

Before working on or attempting to clean or unchoke a machine, turn the power off and lock the electrical switch in the off position. Otherwise, someone else can come along and start the machine while it is being worked on. Major accidents have happened because someone failed to lock out equipment.

- ▶ Never work on any equipment while it is running.
- ▶ Before getting into a dangerous position in or around machinery, put a lock on the electrical switch and take all the keys with you. Never give anyone a key to your lock.
- ▶ After locking out, always test the lock out by trying to start the equipment to make sure the correct switch has been locked.
- ▶ Be aware of machines that start and stop automatically. They are especially dangerous to work on since it takes a special effort to determine if the power switch is off or if the machine is only in the “pause” operational phase.



photo by gale allbritton

Figure 2-12. Potting machine with easy to access power shutoff button.

Think for a moment what it would be like for arms to be inside a potting machine (Figure 2-12) and suddenly the power comes on. Just thinking about such a thing is awful and should be plenty of motivation to turn all the equipment off and lock it out before cleaning or repairing the machine.

Power Tools and Equipment

Mowers, tractors, sprayers, edgers, and trimmers are common machinery in the nursery and landscape industry. Each tool or equipment type has its own safe operating procedure and requires routine maintenance to keep it in safe and proper working order.

Operating manuals describe safe practices for each power tool or piece of equipment. These manuals should be consulted in advance to assure safe operations. In general, when using nursery or landscape power tools and equipment:

- ▶ Read and follow the manufacturer's routine and preventive maintenance schedule.
- ▶ Survey the area for potential hazards before beginning work.
- ▶ Never bypass kill switches.

- ▶ Wear safety glasses, a dust mask, and closed toe shoes when operating any gasoline powered lawn maintenance tool.
- ▶ Never operate equipment while taking medication.
- ▶ Do not use tools or equipment with parts that are loose, worn, cracked or otherwise visibly damaged. Tag damaged tools "Out of Service" to prevent accidental start up or use (Figure 2-13).



Figure 2-13. Always tag damaged tools and equipment.

- ▶ Keep body parts and clothing away from the running engine and cutting blades.
- ▶ Mow up and down a slope when using a riding mower, not across a slope.
- ▶ Turn off mowers before dumping the grass catcher or removing clogged grass from the chute.
- ▶ Do not pour fuel into the tank of a running engine.
- ▶ Do not smoke while using, refueling or servicing a gasoline powered tool.
- ▶ Do not run a gasoline engine indoors.
- ▶ Turn the engine off when not in use.
- ▶ Allow the engine to cool before performing maintenance or refueling.
- ▶ Stop the engine and disconnect the spark plug wire before cleaning, inspecting, adjusting or repairing rotating parts or cutting blades.

Machine Guards and Shields

Protective guards and safety devices prevent many accidents and are required by federal OSHA and state regulations. Equipment is much safer with guards and safety devices in place. Even with guards and safety devices in place, employees should be alert and cautious when working on or around machinery.

An easy way to prevent injuries is to keep guards in place on all machinery at all times. If guards must be removed for maintenance or repair, it should be required in safety policy and work rules that the guards be replaced before the machine is put back into operation. It may take a few extra minutes to replace the guards, but it only takes a few seconds to sever an arm, finger or leg, or to lose an eye.

Shear points that cut, pinch points that pinch, and crush points that crush are common in our industry's equipment. If horticulture and landscape equipment did not have these features, it would not accomplish the many tasks for which they were manufactured. These potentially hazardous points are found on mowers, hedgers, edgers, tillers, mixers, potting machines, tractors and trailers — practically all equipment the industry uses. They account for thousands of avoidable cuts, pinches, bruises and crushing injuries each year.

Guarding and shielding is the best protection the nursery or landscape worker has against such injuries (Figure 2-14). New equipment is typically well guarded and shielded. However, over time, shields may be removed and not replaced, usually because they are considered inconvenient. The result is the equipment is operated in an unsafe way,



Figure 2-14. Mower guard penetrated by stick.

and senseless injuries occur. To prevent these kinds of accidents, follow the suggestions listed below.

- ▶ Keep manufacturers' guards and shields in place. Never remove them. Replace them immediately if someone has removed them.
- ▶ Check to ensure that the shield is working properly.
- ▶ If a manufacturers' shield is no longer available for an old piece of equipment, design one to provide adequate protection over moving parts that are not properly guarded. Never attempt to service, adjust or unclog equipment while it is running. During such activities, lock out the equipment so it cannot start up unexpectedly.
- ▶ The job is not finished until the guard is replaced. If you take it off - put it back.



Figure 2-15. Chain saw personal protective gear.

Chain Saw Safety

Chain saws are used for only a fraction of the hours that other common nursery and landscape power equipment is used, yet they cause about the same number of serious injuries to workers. Chain saws are the most dangerous piece of equipment used in our occupation. Any employee who will operate a chain saw should be thoroughly trained, outfitted with personal protective gear (Figure 2-15), and be closely supervised in chain saw use until competence is demonstrated.

The specific chain saw should be matched to the task. An undersized, underpowered chain saw or oversized, overweight chain saw increases the risk of an accident. All chain saws should be properly maintained, the chain should be sharp and have the proper tension, and the chain brake should function properly. The chain should not rotate while the throttle is in the idle position, and the chain should stop immediately when the throttle is released. The operator should be equipped with

- ▶ A hard hat, protective eyewear (goggles) and hearing protection.
- ▶ Close-fitting clothing with long trousers and sleeves that do not impede work.
- ▶ Gloves and protective chaps manufactured specifically for chain saw operators.
- ▶ Work shoes or boots with steel toes and skid resistant soles.

Chain saw operators should never work alone, but coworkers and others should stay a safe distance away and not attempt to communicate with the operator while the saw is in use. In addition, the safe chain saw operator never reaches to cut above shoulder height and never stretches for hard to reach cuts. Instead, the operator should change positions to approach the cut with better balance, and keep the saw away from the head and neck. Keep the nose of the chain saw bar clear of other nearby objects during cutting to prevent kickback.

Finally, if the operator is felling a tree, safe escape routes at right angles away from the

photo by merry mott



Figure 2-16. Securing equipment to trailer.

direction of tree fall should always be planned in advance.

Vehicle / Trailer Safety

Only approved and qualified individuals are permitted to operate motor vehicles. Vehicle drivers are responsible for the vehicles they drive. It is the driver's responsibility to routinely check oil and fluid levels, have enough gasoline and fuel for the day and to operate the vehicle in a safe and legal manner. Any repairs that cannot be made through the normal maintenance routine should be documented and service requested. The vehicle should be removed from use if unsafe.

Tractor accidents occur most often due to rollovers. These accidents often result in serious injury or death. Injuries from tractors are more likely to occur if operators are not trained in safe operating procedures. Rollover protection frames should be in good repair and seat belts should be worn at all times during tractor operation.

It is common to pull trailers to help move equipment and supplies from site to site. Follow these safety precautions

when operating vehicles, such as trucks and tractors, and pulling trailers.

- ▶ Set the parking brake in the towing vehicle and use wheel blocks to **chock** the wheels of the trailer before removing any equipment from the trailer.
- ▶ Secure equipment and fuel tanks to the vehicle with chains (Figure 2-16) or straps to eliminate or minimize shifting of the load.
- ▶ Do not allow anyone to ride on the trailer; all passengers should be inside the vehicle. No additional passengers are allowed on tractors.
- ▶ Use ramps to load and unload mowers and edgers from the trailer.
- ▶ Take slow, wide turns when towing trailers.
- ▶ Do not exceed the load capacity as posted on the trailer.
- ▶ Do not place all the heavy equipment on one side of the trailer; balance the load.

Electrical Safety

Many electrical accidents, like most other accidents, are the result of human error. Ignorance, neglect or carelessness in the use of electrical equipment and appliances are the chief causes of electrical accidents.



Figure 2-17. Damaged power cord and overloaded extension cord.