

INSIDE THE SPRAYER

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The many components of a modern pesticide sprayer must work together in order to produce the desired result—a biological effect. If even one of the components is damaged or not functioning properly, the sprayer may not be able to correctly deliver material to the target pest. Proper sprayer design, setup, repair, and maintenance is essential for a successful pesticide application.

In this article we will look at the components of a sprayer, describe their function, describe how to tell whether or not they are operating properly, and how to maintain and repair them.

Screens and Filters

Screens and filters are absolutely essential to proper function. Screens and filters should be checked and cleaned at least every time the tank is refilled. If you notice a partially or completely plugged nozzle, loss of pressure, or lack of liquid getting to the pump, even though the tank still has liquid in it, screens and filters should be checked immediately.

When working with sprayers remember to wear appropriate safety clothing. Screens can serve to collect and concentrate the pesticide as they filter the solution. **NEVER** clean a screen or filter by putting it in your mouth and blowing into it. Screens should be cleaned with a soft brush and rinsed with clear water before replacing. You may be able to get a special nozzle and screen cleaning brush from your dealer. If not, use a toothbrush and keep it with your other tools used with pesticides, NOT in your locker.

A sprayer may have four sets of screens or filters. The first is a screen over the tank inlet. This is usually supplied by the manufacturer and is designed to prevent large pieces of

debris from entering the system. The second is often called a suction strainer, because it is located on the suction side of the pump, between the tank and the pump. This screen protects the pump, pump valves, pressure regulator, control valves and nozzles by capturing particles that could damage these components. A filter here is recommended to be a 30 mesh screen size although a larger size such as 16 or 24 mesh may sometimes be use. A 50 mesh screen may be appropriate at application rates of 0.3 gpm per nozzle and smaller.

The in-line strainer comes after the pump and before the pressure relief valve or any other control valves. This is where you want to capture any particles and unsuspended or unmixed product, not at the nozzle strainer. The mesh size used here should be the same size as used in the nozzle stainers.

Screens at the nozzle are essential for proper nozzle flow rate and pattern. They capture any remaining small particles such as rust or unmixed product. Guidelines for the appropriate mesh for in-line and nozzle strainers are given below.

Nozzle strainers can be either screens or slotted strainers. Some may also incorporate a check valve to stop the nozzle from dripping after the boom or nozzle is turned off. These also need to be checked for proper operation and freedom from corrosion or clogging.

Every sprayer should have, at a minimum, a suction strainer and screens at every nozzle. The inlet or tank screen and in-line filter may or may not be present, depending on the manufacturer of your equipment and the design of your particular sprayer. If your sprayer is missing either of these two screens, or it's been more than a day since they've been checked, add them or clean them before using the sprayer. Their presence and proper function will help you succeed.

GOLF COURSE SUPERINTENDENTS INSTITUTE

Please join Golf Course Superintendents Association of Northern California (GCSANC) and the University of California Cooperative Extension (UCCE) at Mountain Springs Golf Course in Sonora on October 10, 11, 12 for the next Golf Course Superintendents Institute.

The theme will be "Environmental Issues Challenging Today's Superintendent". Dr. Martin Petrovic and Dr. William Steinke are some of the noted speakers.

In response to the membership, a special half-day seminar on budget preparation will be held on Wednesday October 10. This will be a hands-on course on budget preparation. Class size is limited to 20 people.

On October 11, we will have a full day seminar on environmental issues facing superintendents today. This seminar is limited to 120 people. In the evening spouses, guests and children are invited to attend a BBQ at the Mountain Springs Clubhouse.

On Friday, October 12, 7:30 am golf will be a shotgun start. Presentation of golf prizes and lunch will conclude the day.

Hotel reservations will be made directly to the Hotel's we have reserved.

A spouse program will be provided. Children and spouses are encouraged to attend.

Watch your mailbox for a registration form in August.

We hope to see you there.