

# Choosing a garden sprayer

Sprayers are used for applying liquid pesticides that come as liquid, water-soluble powders, or wettable powders (wetable powders don't dissolve; they are suspended in the water while being sprayed on the plants).

## Sprayer Styles

**Hose-end sprayers** have a device that proportions solution into a stream of water and a container for the mix. The force of the water draws up just the right amount of concentrate into the stream.

Hose-end sprayers don't require pumping and, although the hose length limits their range, they put out a large volume quickly, which you want for lawns or massed shrubs. A hose-end sprayer also saves money: because there's is no leftover mixture to throw away, you can pour the unused portion of undiluted chemical back into its original container.

Hose-end sprayers have adjustable nozzles for covering a wide area with a mist, a fan-shape spray, or a straight stream (for reaching tree tops). You can adjust the nozzles to direct the spray against the underside of plant leaves.

Some hose-ends are adjustable. A dial on the top has up to 16 different settings, to dilute at the ratio you desire. The blending and dilution both take place in the spraying head. Just pour the chemical in the bottle; the sprayer takes care of the rest.

There are also hose-end nozzle heads that attach directly to the original chemical bottle. This is the simplest system of all. When you're finished, just clean out the nozzle head.

The newest types of hose-end sprayers don't require you to do any figuring at all. Just screw a cartridge containing the pesticide onto the sprayer, and the sprayer automatically meters the right amount into the water stream.

**Compression sprayers** generally have a 1- to 3-gallon capacity, can go anywhere, and are more precise than hose-end models, but they are more likely to clog. It's best to use a sprayer with a 2-gallon capacity; larger compression sprayers are heavy when full, making them difficult to carry around.

The versatility of compression sprayers makes them the most widely used type. They are relatively light and portable, and their wands and adjustable nozzles make application precise.

To operate compression sprayers, first add the proper proportions of chemical and water to the tank and then secure the top. Pump the handle to build air pressure into the tank. When you're ready to apply the pesticide, press the trigger to open a valve at the end of the hose — the compressed air forces the liquid spray out the nozzle.

You can adjust the nozzle to deliver a fine mist for dense, low-growing plants. Larger models emit a 15- to 30-foot stream to reach treetops. The wand sizes vary according

to the size of the entire unit, but most are long enough that you can spray close to the ground or the underside of leaves without having to bend over.

**Backpack sprayers** usually hold 5 gallons of mix. The tank is carried like a backpack, which makes the considerable weight easier to wield. They require frequent pumping with one hand while the other directs the spray.

**Slide-type (trombone) sprayers** can produce the farthest-reaching stream, but they require continual pumping and the stream is not constant. The pump, which is built into the handle, has an action that works on both the push and pull strokes to maintain a constant stream. Because this type of sprayer throws the spray further than any other type of hand-operated sprayer, it's quite effective for spraying fruit trees. It is best suited for high-pressure spraying jobs around the home where you don't have to keep moving the bucket.

To use a slide-type sprayer, pre-mix the solution in a bucket, then drop the end of the trombone hose into the bucket. The hoses are about 6 feet long and the end in the bucket has a filter screen. The hose has a clip or a heavily weighted end to keep it from pulling out of the bucket. The pumping action sucks the spray out and forces it out the nozzles.

The nozzle rotates up or down for spraying the undersides of leaves and adjusts from a spray to a stream reaching 25 feet or more. Wand extensions of up to 9 inches are available for greater reach.

The 1-quart capacity brass slide pump and nozzle is a powerful but compact spray gun that's mounted on a plastic bottle. The nozzle adjusts from a spray to a stream. These are excellent for spraying roses and other flowers near the house.

**Trigger sprayers** have a simple plastic squeeze-pump handle mounted on a plastic bottle. Commonly used as a mister, this inexpensive sprayer works well when applying pesticides to outdoor plants. If you use it for pesticides, though, be sure to mark the bottle clearly and to use it only for that purpose. Use another bottle for misting with water.

**Pump sprayers.** For large jobs that require extensive walking, the backpack pump sprayer is worth considering. Made of high-impact plastic or galvanized steel, this type handles up to 5 gallons of spray mix. The displacement pump is operated by constantly working a lever with one hand while directing the spray with the other.

The pump handle is often linked to an agitator in the tank, which keeps wettable powders in suspension and prevents them from settling to the bottom.

The nozzle can be adjusted from a fine mist to a standard spray to a 40-foot stream.

Although backpack pump sprayers are contoured to fit your back and equipped with padded, adjustable shoulder straps, you need strength to carry them around. The container alone weighs 8 to 15 pounds, and water adds about another 8 pounds per gallon. However, the heaviness of the pack is offset by its ability to go longer between refills (since it contains a lot of solution), and by the relative ease of carrying a 40-pound pack on your back rather than a 25-pound sprayer over one shoulder.

## Good Design and Components

Sprayers are made of materials that are highly resistant to corrosion, such as brass, stainless or galvanized steel, or plastic. Regardless of the material, you should thoroughly clean the sprayer after use, or the chemicals eventually erode the material.

Fittings on sprayers used to be made of either brass or galvanized steel, but high-impact plastic is now used widely, since it is less prone to corrosion or rust.

**Nozzles.** The nozzle is the component most subject to being plugged by small particles of grass or dirt. Look for a nozzle that is easy to remove for cleaning. Two types are commonly used in home gardening: hollow-cone nozzles and flat-fan nozzles. The hollow-cone nozzle is used to spray pesticides and fungicides on shrubs. It can be adjusted from a thin stream to a fine mist. A flat-fan nozzle is best for applying herbicides; it gives more precision and control.

**Tanks.** The sprayer tank should have a wide mouth for convenient filling. Many have a funnel-shaped top, which directs any chemicals or water that spill around the edges during filling to run down into the tank rather than down the sides. The wide top also makes it easier to rinse and drain the sprayer and to thoroughly wash out any particles of debris in the tank that can clog the hose. Also look for a good, solid base, so the sprayer doesn't tip over while you're pumping air into it.

The chemical concentrate is always mixed in the sprayer's container, according to the manufacturer's specifications detailed on the label.

**Valves and hoses.** Some compression sprayers have safety valves that automatically open when the pressure reaches a sufficient level. You can also use these valves to release the pressure in the tank when you're finished spraying, which is more than unscrewing the top to release the pressure.

Look for hoses that are 2- or 3-ply reinforced rubber or vinyl, to resist cracking. There should be at least one filter (usually located at the base of the wand) that can be quickly removed and cleaned when necessary.

## Safety Tips

- Work on calm days; if there is a slight breeze, spray with the wind at your back and back away from what you've sprayed.
- If you have sensitive skin, wear long sleeves and gloves when working with the chemicals. Rubber kitchen gloves or disposable plastic gloves repel spilled liquid chemicals without hampering your dexterity.
- Dust masks and respirators offer protection against inhaling chemical spray or dust. If the chemical is blown back over you, the masks and respirators don't block it completely, but they do screen out most of it. They are generally only necessary when you're working on trees, where the spray goes up and then settles down around you.
- If possible, don't use one sprayer to spray both pesticides and herbicides. Use two different sprayers, and mark each one clearly. If you do use only one sprayer, take extra care to clean it thoroughly after using it.

## Sprayer Maintenance

- To prevent corrosion, keep your sprayer clean. After spraying, unscrew the nozzle and make sure it isn't clogged. Empty the container and dispose of any leftover chemical according to the directions on the pesticide label. Thoroughly rinse out the container three times. During the last rinsing, put the top on the sprayer and run water through the hose and nozzle.
- Apply oil to moving parts as required; follow the directions on your particular sprayer. The gaskets on pumps are usually made of neoprene rubber or leather and need an occasional oiling.
- Regularly clean nozzles that have a small filter. Cleaning is especially important after you spray toxic materials.
- Hang the sprayer upside down when it's not in use so that it can drain and dry completely.

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