

WINES & VINES

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Tips on Buying a Sprayer

A worthwhile first step in deciding what kind of sprayer to buy is to think in terms of matching the sprayer both to the size of the vineyard and the size of the tractor with which it will be used. Vineyard size includes not only what is presently planted but what is likely to be planted in the future. Matching the sprayer to the tractor should consider not only the horsepower and physical size of the tractor but the weight of the tank as well.

Two kinds of sprayers are needed in the vineyard, an herbicide sprayer for weed control and a second sprayer for the control of insects and diseases. The two are not interchangeable.

The majority of sprayers used to control insects and diseases have a hydraulic or liquid flow nozzle which sprays larger size droplets out through the nozzle. There are also mist blowers or air blast sprayers which tend to focus the air more effectively and place very fine droplets on both sides of the foliage. The mist blowers and air blast sprayers can be divided into two types, the first variously called the axial flow, axial fan or air-blast type. The second type is sometimes called the wind shear, air-assisted, or pneumatic sprayer. Both types utilize a high-pressure air stream but differ in the way the chemicals are broken up into droplets. A variant on the air-assisted sprayer is the rotary nozzle where a cylinder in the nozzle creates a centrifugal force to generate very fine droplets. Also in the air mist category are the electrostatic sprayers where the droplets are imparted with an electric charge.

A hand sprayer can be used for a very small vineyard; a hand or backpack sprayer will handle an acre or more. Hydraulic sprayers are generally used until the vineyard is 3-5 acres in size. Mist blowers can either be mounted on a three-point hitch on the tractor or on a small trailer. In vineyards with more than 10 acres, a trailer-type unit will be used. Growers with a self-propelled mechanical harvester can have an over-the-row sprayer attachment made to their specifications.

For large vineyards there are over-the-row units with shear nozzles that can cover as many as six rows at one pass. Owners of vineyards of 50-60 acres and more may want to consider an electrostatic sprayer.

Now available are units that reduce pesticide drift by recovering and recirculating sprays. A two-tunnel sprayer covering two rows at a time is expensive but provides a savings of 25-50% on chemicals. Different types of deflectors are also on the market that will maximize the use of air by giving it better direction. Both the deflectors and the recirculating units reduce pesticide drift. There is also a trend in sprayers to use less and less volumes of water with the same amount of chemical per acre.

Under-the-row herbicide sprayers must control pesticide drift because the chemicals that control weeds can also cause damage to vines. Herbicide sprayers are available that have protective covers and trap sprays under a dome.

It is important to buy a good quality sprayer and to buy one from a dealer who is knowledgeable about vineyard spraying and who can work with the distributor and the manufacturer. Dealers should allow customers to run a sprayer with water as a way of demonstrating it. Be skeptical of dealers who will not permit this.

Prospective buyers should also consider getting recommendations and comments from other growers in their area and can often arrange to watch others operate equipment. Availability of parts is another major factor to consider.

In comparing sprayers prior to purchase, careful consideration should be given to the durability of construction, tank, pump, nozzles, filters, pipes and hoses, framework, controls, monitors, ease of attachment, ease of maintenance, power requirements and cost. The skills of the person who will operate the sprayer should be considered and one's personal preference should play a part.