

The greenhouse is an isolated environment encased in glass. This means the normal sources of water are not present. As a result, the greenhouse gardener must know how and when to provide moisture. However, the needs of plants vary. Some, originating in dry, arid regions, have developed a built-in resistance to drought. Others, such as African violets, are accustomed to the luxury of damp, tropical soil.

There are several ways to tell just how thirsty a plant is. The most obvious sign is wilting. If the leaves begin to droop, it's time to water. Or inspect the soil surface. If it is dry to the touch when you scratch a half inch or so beneath the surface, a thorough watering is needed. Old hands at plant care often can tell when to water by the color of the soil or by the sound of the pot when it's tapped with the knuckles.

Here are some important tips for watering:

Schedule watering for the morning, so plants can dry off before nightfall. Wet plants exposed to cooler temperatures at night are more susceptible to disease. Watering in the morning also means plants get moisture during daylight hours when they grow most.

On bright, sunny days, the loss of water through evaporation and transpiration is greater than on cloudy days. Give plants an extra dose on bright days, and hold back a little on dark days.

Coarse, sandy soil cannot retain moisture as well as humus-rich, well-structured soil. Watering may have to be more frequent for sandy soil, so check pots often.

Keep water from collecting on leaves, where disease could get a foothold.

Keep in mind that plants prefer too little water to too much. Roots stuck in swampy soil will suffocate.

During the winter, cold water directly from the tap may be so cold it will shock roots into temporary inactivity. Although plants look doomed, they often will recover. Avoid shocking roots by mixing warm water with cold. Ideal temperature is around 60 degrees Fahrenheit.

Because they are non-porous, plastic pots retain water better than porous clay pots. Consequently, fewer waterings are necessary.

If a garden hose is fastened to the faucet, prevent the soil from splattering by using a water bubbler attachment or misting device.

With the wide variety of greenhouse accessories available, watering can be fully automated and temperature controlled. Water can be misted, applied directly to the surface, or irrigated from underneath. For overhead or surface watering, mist nozzles are installed on vertical pipes attached to a feeder pipe located along the perimeter of the bed. A solenoid valve activated by a timer allows you to make watering fully automatic. Overhead misting is useful for the cutting or propagating bed. For seedlings or mature plants, surface watering is best because foliage generally needs to remain dry to avoid disease.

An uncomplicated, inexpensive way to maintain soil moisture is through the wick system. Wick material suspended in water reservoirs is inserted into flats or individual pots. Capillary action pulls water up into the soil. The amount of water supplied can be regulated by increasing or decreasing the distance between water source and plant containers. Flats are usually kept no more than four inches above the reservoir pans, while pots may be as far as eight inches away.

For catering to the needs of individual plants, nothing beats watering by hand.