

WATERING: An Introduction

Water is essential. Many functions such as photosynthesis, respiration, absorption of nutrients, and flower development rely upon it. The source of this life-giving liquid for the majority of gesneriad growers will be their community water supply.

The tap or **culinary water we consume locally can generally be considered acceptable and good enough for watering gesneriads.** It does, however, contain significant amounts of chlorine which can be harmful to plants. (To permit chlorine to disperse, it is recommended that any water used for gesneriads be drawn to a pail or bucket and allowed to stand for approximately 12 hours before it's used.)

Any water used with gesneriads should never be too cold or too hot, but rather tepid or slightly warm to the touch. **Gesneriad roots are very sensitive to temperature changes.** One of the best ways to ensure correct water temperature is to let it stand in an open container for 24 hours. This will allow for the water to reach room temperature as well as permitting the escape of chlorine.

There are **two methods of watering which can be employed in gesneriad culture: top watering and bottom watering.** Bottom watering can be further divided into four methods: saucer, wick, mat and self-watering. All of these methods of watering have their advantages and disadvantages but each has an appropriate place in general gesneriad culture. Only top watering and the bottom watering methods of saucer, wick, and mat are discussed below. (Self-watering containers are not available locally, and as a result, have not been discussed.)

Top watering is accomplished by pouring water directly onto the surface of the potting mixture through the use of a watering instrument, e.g., watering can, poultry baster, etc. **For top watering to be effective, a grower must ensure that sufficient quantities of water are added to adequately wet the potting mixture.** This is accomplished by running enough water into the soil mixture such that a small quantity of water drips out the bottom of the pot. When and where top watering is utilized, growers must avoid "swamp to desert" conditions by balancing their watering schedule such that a plant's soil is constantly moist rather than too wet or too dry.

Bottom watering using the saucer method consists of each plant having its own saucer which is then used as a reservoir. On a regular basis, the saucer is filled with water and, through capillary action, the potting mixture is moistened. As with top watering, any bottom **watering schedule must be balanced and timed to avoid "swamp to desert" conditions.**

The second method of bottom watering is through the use of wicks. The **major advantage of wick watering gesneriads is that the "swamp to desert" conditions so prevalent with top or saucer watering are completely eliminated, i.e., the potting mixture remains constantly moist.** This even, constant supply of water provides optimum growing conditions for gesneriads especially in connection with a constant feeding program. Wick watering can take the form of individual reservoirs for each plant or communal reservoirs for large or multiple numbers of plants. It should be noted that any potting mixture for wick-watered plants must meet one very specific criterion: it must be porous. Gesneriads do not flourish with "wet feet", and will quickly develop all sorts of root and crown problems under such conditions.

A number of man-made fibres and materials are suitable as wicking material. These include nylon string, nylon from old hosiery, and acrylic four-ply knitting yarn. Avoid wicks made from natural fibres such as cotton or wool as these will rot once



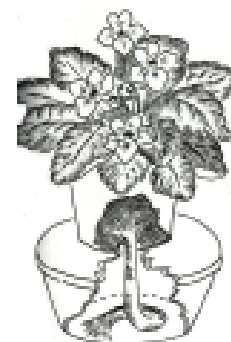
Two methods of watering are used in growing gesneriads: top watering and bottom watering.



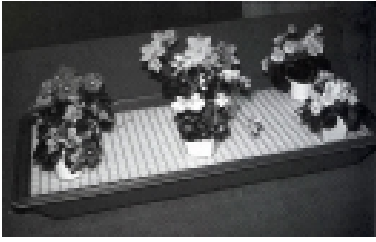
Top watering



Saucer watering



Wick watering using a single reservoir.



Wick watering using a communal tray.



Temperature, humidity and light intensity also influence the amount of water plants will use daily.



Mat watering showing capillary action.



Top watering using a poultry baster.

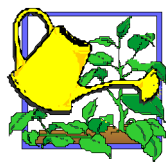
moist. Wicking a plant is a simple process: with a sufficient length of material to reach from the bottom of the pot to the reservoir left outside the pot, the wick is drawn up through a pot's drainage hole into the potting mixture such that it's approximately half-way up the depth of the pot.

The number of wicks a pot will require depends upon the size of the pot: a rule of thumb is that **the number of wicks used should be one less than the pot diameter in inches**, e.g., a four inch pot will require three wicks. Once a plant is satisfactorily wicked, it's necessary to start the wicking action between the potting mixture and the wick. This is accomplished by saucer watering until the entire potting mixture is moist, at which point the plant and wick can be placed on, and in a reservoir.

The last method of bottom watering to be discussed is mat watering. As with wick watering, mat watering provides for a constantly moist potting mixture and avoids any "swamp to desert" conditions. **Mat watering like saucer and wick watering relies on capillary action to keep the potting mixture moist.** Materials suitable for mat watering include numerous non-woven synthetic materials. The most popular and cheapest of these is pella, a thick heavy padding that is 100% acrylic. Pella is commonly used as interfacing material for clothing and is generally available at stores specializing in garment materials.

Matting is put into place by cutting a piece of matting material approximately 1/4 inch longer and wider than the tray it's to fit in (once wet, the matting will shrink somewhat and lay flat in the tray). The matting is then thoroughly moistened before the plants are placed upon it. Once the matting is moist, plants can be placed on it. **As with wick watering, ensure that the potting mixture in each pot is porous and thoroughly moist.** To place plants on matting, use a twisting or screwlike movement, and push the pots firmly down into the material. **Good contact between the bottom of the pot and the matting material is absolutely essential.** In addition, the matting material must remain uniformly wet at all times.

In addition to the mechanics and timing of watering, the factors of temperature, humidity, and light intensity will also heavily influence the amount of water a gesneriad will use daily.



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