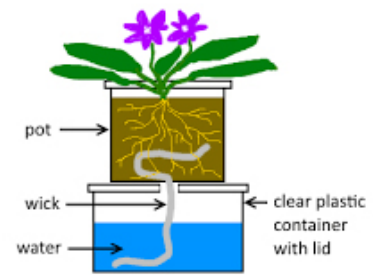


Wicks and Wicking Action

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Wick Watering African Violets



This is one view of the use of wicks for growing violets. There are conflicting views and certainly each viewpoint has merit. It has been found that synthetic fibres, e.g., acrylic, nylon or polyester, work best because unlike natural fibres such as cotton they do not rot or promote fungi growth. We use #3-1/2 braided Nylon cord with an untwisted center. We usually have about 4000 plants at a given time.

Extensive testing on wicks and wicking action have shown some surprising results. A test, using 12 sizes of wicks from a small thread to macramé cord about 1/4 inch diameter, showed unexpected answers to some questions. Twelve violets (same variety, same size, same size pot with the same soil) were used to test the 12 sizes of wicks. The wicks were pulled up into the soil the same distance. (Additional tests were made with the wicks in the pot in various places and configurations and it made very little difference in the overall growth and health of the violets. There were small differences in the uniformity of moisture, especially in larger pots such as bulb pans where two wicks produced more uniform moisture in the soil.) Tile pots were set on a grid with all 12 pots the same distance from the bottom of the pot to the water surface. (Another test showed that, with our nylon wicks, the maximum distance water would travel up the wick was about 4 inch.)

There did not appear to be any wick too big. These and subsequent tests showed that the wick, regardless of size, would carry only as much water up to the soil as the soil would accept. Once the soil has taken up all the water it will hold, no more water will be transferred from the wick. This appears to mean that the key factor is: "how much water will the soil hold?" A wick too small would not carry up enough water for a large plant, for a plant in air conditioning or any situation where evaporation or use of water exceeded the amount of water the wick could transport.

The wicks failed when the soil got too wet or too dry. Perhaps an ideal situation would be 1/3 soil, 1/3 water, and 1/3 air. The soil and the plant will get too wet when:

- 1) The soil holds too much water when the soil composition is too heavy. (The addition of perlite or something similar will help keep the soil "light" and help prevent packing.)
- 2) The soil has been pressed too tightly.
- 3) The plant has not been re-potted often enough. When the violet is not re-potted often enough, at least 3 adverse conditions will occur. First, the pH drops. With our soil, our water, and our growing conditions, the soil starts with a pH of about 6.8. After about 6 months it drops to about 4.2. A low pH deters proper uptake of nutrients needed by the plant and it also speeds up deterioration of some of the soil components. Breakdown of the soil will help it hold too much water and
- 4) As the roots grow they take up space and begin to help fill the pot and they pack the soil so it will hold too much water.

The soil will get too dry when:

- 1) The wick is too small for the conditions or
- 2) When the water supply is cut off and the wick and/or the soil have become completely dry (gradually re-wetting the soil and the wick will re-start the wicking action) or
- 3) The soil has dried enough for it to pull away from the inside of the pot leaving a space between the soil and the inside of the pot, allowing additional drying, or
- 4) The wick has become plugged-up with algae or minerals from the fertilizer or hard water. Algae grow where the water or wet surfaces are exposed to sufficient light. We make a reservoir using a container, painting the outside with an opaque paint and a using a mat for watering the violet. When we use mats, we insert the wick up into the soil through two holes in the plastic pot, leaving the wick across the bottom of the pot to assure good contact between the mat and the soil.

The bottom line is that wick watering is one of the easiest ways to grow violets but it is not a magic elixir to cure all ills; TLC is still needed to grow pretty violets.