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African Violets

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Introduction

The African violet (*Saintpaulia* sp.) is an excellent flowering house plant which will grow and flower under low light intensities found in the average home. Where there is insufficient natural light, they can be grown and flowered successfully entirely under artificial light. Large numbers of varieties, types and colors are available, and the ease with which they can be propagated makes this an excellent plant for interior decoration of the home.

Figure 1. An African violet

Culture

Light

African violets require about 1000 footcandles of light for 8 to 12 hours per day for best growth and flowering. However, lower light levels for longer periods of time are also satisfactory. Often, it is possible to tell from the plants appearance whether light levels are satisfactory. If light is too low, leaves are usually deeper in color and thinner than leaves on plants receiving higher levels of diffused light. Unless the light level is extremely low, plants may grow well but will flower poorly or not at all. In such instances, supplemental artificial light is helpful in promoting flowering.

Excessive light levels can cause leaves to become pale or yellowish green, much lighter than normal and some leaves may show dark areas where they have been shaded by other leaves. Growth at high light levels is slowed and plants become more compact, however, although flowering may continue freely for a while it will eventually decrease due to chlorophyll destruction.

The length of time plants are exposed to light also affects growth and flowering. Plants may receive proper light levels for only several hours a day and thus insufficient total light; while plants in another location receive light of lower intensity but for longer periods of the day, and thus more total light. African violets do well in bright light from an eastern exposure. African violets should not be exposed to direct sunlight.

African violets can be successfully grown when the only source of light is from fluorescent lamps. Although incandescent lamps may be used, fluorescent lamps give better results, are less expensive to operate, and produce less heat. Plants grown entirely under fluorescent light should receive approximately 600 footcandles of light for about 12 to 16 hours per day. This amount of light can be provided by suspending two 40-watt fluorescent tubes 12 to 15 inches above plants. Tubes should be mounted in suitable fixtures equipped with reflectors.

Temperature

African violets grow best at a night temperature of 65°F to 70°F but will grow satisfactorily at 60°F to

80°F. Temperatures in Virginia often exceed 80°F, under prolonged high temperatures growth and flowering are reduced. If possible, place plants in the coolest place in the home during these periods or in an air-conditioned room.

Humidity

African violets tolerate dry air but need higher humidity for best growth and flowering. Humidity around plants can be increased by setting pots in water-tight metal or plastic trays filled with wet pebbles or sand. Care must be taken to avoid placing pots directly in the water to prevent root damage.

Media and Container

Drainage is one of the most important considerations in preparing a media mixture for African violets. An excellent mixture of readily available materials may be prepared by mixing equal parts (by volume) of potting soil, sphagnum peat, and horticultural grade perlite or using a general mix of peat moss, vermiculite, and perlite. Excellent plants can also be grown in mixtures consisting of equal parts of sphagnum peat moss and perlite. Commercially prepared packaged media mixtures are also available for African violets although many are too rich, hold too much water and too little air. The medium should have a pH of about 6.0 to 6.5 or be slightly acid for the best results.

Always sterilize used pots before planting to kill disease organisms, insects, nematodes and weed seeds that may be present. If making your own medium mix you may need to sterilize if the component packages have been open and exposed for a period of time. Most commercially prepared media mixtures are sterilized. Always check the label. The medium may be sterilized by placing it in a container and heating it in an oven. For best results, the medium should be slightly moist before sterilization and heated to 180°F and held at that temperature for 30 minutes. Old clay pots may be sterilized by the same procedure used for soil. Plastic pots will not withstand heat sterilization but can be reused after washing thoroughly with soap and water or a diluted 10% bleach solution. Because African violets have shallow roots, it is best to keep the plants in shallow pots or containers, no deeper than four inches.

Figure 2. Close-up of an African violet flowers.

Watering

A definite schedule for watering African violets is not desirable since frequency and amount of water required varies with media mixture, drainage, light, temperature and humidity under which plants are grown. The type of pot used also has an important effect on frequency of watering, as plants in clay pots require more frequent watering than those in plastic pots since evaporation is greater. Decorative glazed pots without drainage holes are generally unsatisfactory due to lack of drainage. In general, water should be applied whenever the surface soil feels dry to the touch, but before it becomes hard or the plant wilts. Avoid water on the crown of the plant as this can lead to crown rot. Overwatering is the most common reason African violets die!

African violets may be watered from the top or bottom. When watering from the top, apply sufficient water to the surface soil to thoroughly saturate it and discard excess water which drains through the bottom of the pot. Watering from the bottom may be done by placing the pot in a container to which about 1" water is added. When the soil surface becomes moist, remove the pot and pour out of excess water. “Wick” watering may also be used.

The temperature of the water should be the same as that of the room or slightly warmer to avoid any chance of spotting leaves if water contacts foliage. Chlorinated or fluorinated water, if satisfactory for human consumption, is satisfactory for African violets.

Fertilization

Many completely water-soluble fertilizers containing nitrogen, phosphorus, potassium and other required nutrients are sold for use on house plants and African violets. The safest way to apply dissolved fertilizer is to give the soil a normal watering from the top, apply the fertilizer solution from the top and then discard excess water and fertilizer solution that drains from the bottom.

Plant growth and color often indicate the need for fertilizer. A gradual loss in leaf color combined with a reduced growth rate usually indicates that fertilizer is needed. If in doubt as to whether plants need additional nutrients, fertilize one or two and wait about 10 days to see how they react. If plant growth is evident and they become darker in color, the rest of the plants may be fertilized.

Propagation

African violets may be propagated easily by leaf cutting, and about 6 to 9 months are required to obtain flowering plants. Any leaf is satisfactory if it is healthy and firm. Remove the entire leaf with petiole (leaf stem) by snapping or cutting it off at the stem of the plant and trim the petiole to about 1 to 1½ inches in length. A combination of half vermiculite and half sand, by volume, makes an ideal propagating medium or the medium used for growing plants may be used. Insert the petiole into the medium by pushing it into a hole made with a pencil or similar tool. Roots normally appear at the petiole base in 3 to 4 weeks under good conditions and leaves of the new plants appear at the medium surface 3 to 4 weeks after root formation.

Figure 3. An African violet leaf that has been successfully propagated.

Old multiple-crown plants may often be successfully propagated by division. Carefully cut each crown away from the plant so that each plant has its portion of the root system. Each division is then potted in the soil mixture.

Old plants often develop a short stem which cause them to have a “leggy” appearance. Usually, such plants may be successfully re-rooted by cutting the plant off at the soil level and inserting the old stem in the same medium used for rooting leaf cuttings.

Pests and Diseases

New plants brought into the home should be examined thoroughly for signs of insects and diseases and kept separated from other plants. If they appear healthy at the end of about 6 weeks it is usually safe to set them with the other plants.

Control of most insects and mites can be obtained with insecticidal soap sprays. Mealy bugs may be controlled by mixing alcohol with an equal amount of water and touching each insect with a cotton swab dipped in the solution. Take care to do this only in lower light conditions to avoid leaf burn (scorch).

Cyclamen mites can cause severe stunting of plants and are difficult to control, and where only a few plants are concerned, the infected plants should be discarded. Be sure to read and follow all label directions on pesticides used on African violets.

Various disease organisms may affect African violets from time to time, but adequate spacing of plants, use of sterilized media, provision for good air circulation, prompt removal of faded flowers and unhealthy leaves, and control of thrips and mites are all important preventative measures. Root diseases are usually caused by over-watering. The first sign of this problem is usually a limp, unthrifty plant. Symptoms may not show up on the leaves until severe root damage has occurred. In most cases with root diseases or damage the best control is to discard the plant and purchase new healthy ones.

Some problems caused by cultural factors include ring or leafspot and petiole rot. Yellowish rings, spots or streaks on the upper surface of leaves are caused by cold water touching relatively warm leaves. This can be avoided by using water at room

temperature or slightly warmer than leaf temperature. Petiole rot occurs when petioles touch the edge of the pot and develop brown, sunken areas at points of contact. The injury is localized and does not cause the petiole to rot unless disease organisms enter the wound. This trouble is the result of chemical injury caused by the accumulation of soluble salts at the pot rim of clay pots. This problem can be reduced by using fertilizers sparingly and applying sufficient water to thoroughly saturate the soil. When water is applied to the soil surface, excess water and the salts will drain out the bottom of the pot. Petiole rot can also be avoided by waxing the pot rim or covering it with aluminum foil.

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