

*Worth Repeating ..*

# Recognizing and Correcting Light Problems

By Amy Cash-Allison

African violets obviously need the proper type and amount of light to perform their best. Our plants clearly tell us when lighting stress creates problems with their growth. As growers, it is our job to learn to recognize these signs so that we know when our plants are happy or lacking something. Top winning show plants epitomize the results of correct culture and lighting. Their leaves lay flat and overlap, demonstrating the proper "pinwheel" appearance. There are very few gaps between the leaves, the petioles grow to a proportionate length, and the soil is unnoticeable through the foliage. If you can understand how violets behave in response to lighting issues, you can put into motion the steps to correct them. Most likely, they will thank you by performing how you have always hoped they would.

## **Excessive Light**

Typically, excessive light (either in intensity or day length or both) will exhibit these symptoms:

- The general appearance of the plant will be weak. The color will be very pale, and there will be little or no gloss to the foliage, especially on older leaves. I have also seen the opposite effect where the leaves darken nearly to a black color, and cultivars that are supposed to have silver backs turn red.
- The outer leaves may also become blotched with yellow markings or areas, and they die off much more quickly than normal.
- The crown becomes tight and crowded. Occasionally, the plant will begin to grow upright, but growth is tight instead of open.
- The leaves will be brittle, hard, and often curl or wrap down around the rim of the pot.
- The stems of the leaves will usually be short and thick and will sometimes start to bend.

- Oftentimes, the plant will lean away from the light source.
- The plant will bloom, and the flowers are intensely colored, but short-lived. The peduncles will have trouble clearing the thick growth of foliage.
- Rust or bronze-colored "burn" or scorched blotches may appear on the leaves. Sometimes holes may develop due to burns.
- The plant may sucker more than normal. Overall growth of the plant may be stunted or slow.
- Sometimes fantasied cultivars will revert to solid colors, or you may also notice more mutations among your plants.
- Over time, especially after correcting the problem, the leaves may develop a crackled appearance, almost like stained glass.
- Variegated varieties will revert to solid green.

If you grow under artificial light, examine your set-up. What type of bulbs are you using? What is the wattage on those bulbs, and how close are the bulbs to the tops of your plants? Most growers use two 40-watt bulbs in either wide spectrum or cool white (or a combination) for each shelf. The bulbs should be approximately 8-10 inches from the tops of miniatures and semi-miniatures and 12-16 inches away from the tops of standards. You can try to move the more sensitive plants to dimmer areas on the shelves, such as the outside row or to the ends of the lights, as light will be more intense near the center of the fixtures.

You may also try installing two lower wattage bulbs into one fixture and using this

shelf for your more light-sensitive plants. It is generally recommended that you not mix different wattage bulbs in one fixture, since it may shorten the life of the ballast. If you use artificial light and are already following these guidelines, start by repotting your plants and reducing or stopping fertilizer use.

Then you might try to reduce the amount of time the lights are on each day. Try an hour or two less the first two weeks and use your plants' reaction as a guide. It will take quite some time for the foliage to relax. Also, you might try raising the lights higher above the plants. If none of these options bring acceptable results, maybe try putting that particular plant into natural light or give it away to a friend. If growing with natural light, try moving your plant further from that window, move it to another location, or place more shading material in between the window and the plants.

### **Light Deficiency**

When plants do not receive enough light, either in day length or intensity, here are some symptoms:

- Leaves will be spread out and general growth very open so that the soil is easily seen.
- The leaf stems will be unusually long and may bend and twist to expose the leaf surface to the most available light source.
- The leaves will not overlap, but will fan up and out.
- The plant will begin to lean toward the light source. The leaves will reach upwards, instead of laying down flat.
- The plant will fail to bloom.
- The overall appearance of the plant will be poor or weak, and the lower leaves may die off at a higher rate than normal.

If you use artificial light, reduce the amount of space between your plants and bulbs or leave the lights on for a longer amount of time each day. Increase day length only one hour per week. You may also need to change your bulbs if they are old, but change only one at a time in each fixture to avoid shocking the plants from overexposure.

If you grow in the window, experiment with different windows in your house, preferably east or south (with protection). Notice what kind of light the plants are getting at all times of the day. A south window will receive strong light for the entire day unless a tree helps to shade the sun. A west window may be too intense in the afternoon if there is no shade, and a north window may be too dark to support strong growth and blooms.

To grow substantially better violets, a compact light cart or portable tabletop fixture is an excellent investment that you will never regret purchasing. Even an inexpensive under-the-cabinet light fixture will help. Most of the best plants are generally grown under lights, since the conditions are controllable. Of course, show-winning plants have been grown in windows, but they require extra attention to provide proper light intensity, a back-up plan for cloudy days, and daily turning for symmetrical growth. Watch the way your plants are reacting to their light source. Remember whatever you do, make one change at a time and give the plants plenty of time to communicate with you. Good luck!