

## HEAT STRESS IN FUCHSIAS

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*The months are different but the problem is the same. It's interesting to read how others handle fuchsias in hot climates. Editor*

The hot dry climate of the Adelaide Plains, where average maximum temperatures of 30°C (86°F) and over, is to be expected in January and February. With days of “century” heat on the old Fahrenheit scale, sometimes boosted higher by hot north winds, it is a time particularly conducive to heat stress in fuchsias—and fuchsia growers! In fact, for both, the symptoms are similar: a tendency to droop shed foliage (clothing) and look exhausted.

In fuchsias, there are two main types of heat stress: (a) when the mix is dry and (b) when the mix is wet. When the mix is dry the plant has drooped because transpiration through the leaves under hot, dry and possible windy conditions has exhausted the water supply in the soil or potting mix. At this point the roots are probably not damaged, and they will readily take up fresh water.

The best treatment is to SOAK the plant in cool water. Add a wetting agent if your plants have not already been treated. Do not use household detergents, as these can burn the plant. (*In Australia the product is called “Wettasoil”. Ed.*) The soaking need not take long. Soak only until the bubbles have stopped rising and the pot feels heavy again.

If the container cannot be soaked—e.g. if it is too large—take care to water it thoroughly. Normal watering is not enough. I have often found that even after filling a pot to the brim several times, the core of the root ball can still be quite dry. If possible, a wetting agent should be used in the water. The weight of the container should be checked afterwards. Even when watering normally in hot weather, be aware of the temperature of the water that you are using. A hose that has been lying in the sun will have absorbed a lot of heat; the first water running out can be too hot to run comfortably onto your hand. I have seen steam rising from water that has been heated in a hose. Hot water from the hose will certainly damage plants. Run cool water through your pots and baskets until the water coming out of the bottom of the container is cool. Even cold water poured in at the top can come out warm at the bottom!

The stressed plant should then be put in a shady place out of the wind, at or near ground level, until either the leaves have plumped up again or, if the leaves have fallen, new shoots have developed. A plant that has been heat stressed so badly that its leaves have dropped needs to be kept in a cool shady place until the hot weather has passed. If the new shoots become stressed, the plant will probably die.

If your plant has drooped while the potting mix is still damp, you will probably find that the mix has become hot. I have found that this occurs most frequently when the plants are in brown or black plastic pots or baskets. Even the early morning sun striking the sides of the pots can heat up the moisture inside to a temperature that will damage the roots. The plant can no longer take up water, the leaves droop and drop off and the roots begin to rot in the accumulated moisture. This causes further leaf drop and the plant may eventually die.

Nevertheless, many fuchsias are tough, and with immediate rescue treatment, can be saved. I prefer to soak the plant in cold water until it is thoroughly cooled down, then drain it well and keep it cool as described above. You may find that your container is one that does not

drain well. It is advisable to examine the mix in the bottom of the pot to see if it is still soggy after draining. If that is the case, give the plant some fresh mix in a better draining container. In my experience this problem seldom occurs in wire baskets or unglazed terra-cotta pots with good drainage holes. In these containers, the mix is kept cool by evaporation through the sides of the containers. Although unglazed pots and wire baskets may dry out more quickly than plastic ones, the drying out does not cause as much root damage as “wet heat stress”.

A gold rule: DO NOT PRUNE HEAT STRESSED PLANTS. Resist the temptation to “just trim it back a bit.” I hear someone say, “I cut it back hard, and if it lives, it lives.” They are almost certainly ensuring that it will die. There are three reasons for this that I can thank of: (1) you are giving the plant additional stress from the shock of being cut back. (2) There is decreased transpiration. The leaves which are cut off can no longer draw up water, thus leaving the mix too wet. (3) If the leaves have fallen off, you will be cutting off the parts of the plant, the young branches that are most able to regenerate quickly. It takes a long time for a fuchsia to shoot again from old wood even where the roots are undamaged. If there is no top growth, the roots will continue to die back. It is a vicious circle.

Leave it to the plant to work out how much, if any, top growth it needs to lose. When the new young shoots are well established, you may find that the tenderest parts of the plant have died back a bit. Careful trimming at this stage may be all right, but the life of the plant is more important than the external appearance.

As prevention is better than a cure in gardening as well as in life, a few points may be helpful.

**Is your mix drying out too quickly?** Check the following possibilities.

- Your mix is too open. Very coarse open mixes, such as those that are used for orchids, or very sandy mixes used for native plants, are not very suitable for fuchsia. Use crumbly compost with lots of well-rooted organic material that will retain the moisture without being too wet.
- There is too much peat moss in the mix. Peat is good in a damp climate as it holds moisture without rotting away. The moisture remains in the moss—much like a sponge—without really wetting it. Once it is dry, it is very hard to get it to dampen again. This type of mix is not very suitable for plants in hot dry areas.
- The container is filled with roots. If the plant has been in the pot for too long, most of the original mix will have been used up. This is apparent when the level of the mix becomes lower in the pot. If the contents of the pot are mainly a mass of roots, it won't hold much water.
- The basket lining is too thin. Organic linings such as coconut fiber will rot away in time, leaving the basket vulnerable to drying out very quickly on windy days. I do not think that plastic linings are a good idea unless they have many slits or openings to ensure good drainage. They should never be put in the bottom of the basket. Mulching cloth a nonporous material designed to suppress weeds in the garden whilst allowing moisture to pass through and also recommended for baskets linings, is, I find, better than plastic as it allows evaporation from the mix without keeping the mix too wet or allowing it to dry out too quickly.

**Are you pots getting too hot?** The following are some ideas for keeping them a bit cooler:

- Double them up—that is, put them inside a larger pot, preferably thick cement, glazed or unglazed clay or terra-cotta pot. A few centimeters of space between the two pots will give

insulation if they have to be kept where the sun shines on the side of the pot for part of the day.

- In front of your fuchsias, put pots containing heat-tolerant plants such as geraniums, or cacti- or plants that you don't like much which someone had given you!
- Use other object-umbrellas, fancy plant holders, garden chairs, statues, etc., to shade your plants during the worst heat.
- Imbed your pots in mulch. I do not recommend burying them in the ground, as is suggested in some publications, as this could cause problems with drainage. As well, all sorts of pasties from the soil could get into your disease-free mix.
- Mulch the top of your pots to prevent drying out. Gravel, marble chips, wood chips. Etc., will reflect heat, keep the surface friable and prevent the growth of moss. If the space in the top of the pot is filled with gravel, you may be discouraged from over watering. (Over watering may cause the death of your plants.)

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