

Ten tips to raise the humidity in your shadehouse, glasshouse or indoors

Many exotic orchids from Central and South America or Asia require high levels of humidity in the range of 60-80% as they come from humid regions, such as cloud forests in mountainous regions, or are used to receiving regular rainfall. In Inland southern Australia the relative humidity falls to about 20% or lower on a hot 35°C day in summer. The following article lists some of the ways humidity can be increased in regions where low humidity is a problem, starting with the lowest cost options.

1. Water filled gravel trays.

Filing a shallow container with water and either filling it with gravel or placing an inverted tray in the container to keep the pots clear of the water is a simple and low cost way of increasing the humidity around one or more plants. This can be used either indoors or in a shadehouse during summer. It is also useful for indoors during winter if heaters dry the air. Pots must be above and not in the water.



2. Placing carpet on the benches.

Old carpet or other absorbent material can be placed on benches. This absorbs the water when watering the plants and slowly adds moisture to the air as it evaporates.

3. Weeping hose

Attaching a weeping hose along the top of the wall of a greenhouse allows water to slowly trickle down the shadecloth and cools and humidifies the air as it passes through the shadecloth. A 10m weeping hose is about \$30.



4. Suspending carpet or hessian inside the shadehouse

Allowing water to trickle down a suspended absorbent material (eg carpet or underlay, shadecloth, old tree fern trunk) inside a shadehouse increases humidity. The water can be recycled if the water is collected at the bottom and a small electric or solar pond pump is used to pump the water back to the top.

5. Growing plants in the shadehouse that raise humidity

Hanging plants, such as Spanish Moss, from the ceiling will help increase humidity. These are best used in conjunction with overhead misters as these plants also need to be kept moist to grow well. Growing moss or ferns on the greenhouse floor also helps.

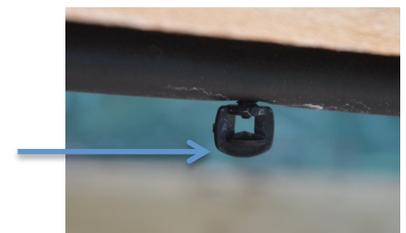


6. Keeping the floor damp

Having a moisture retaining material on the floor of the shadehouse or greenhouse will raise humidity. If wet daily, with either a hose or under bench sprays, gravel, sawdust, wood shavings or similar material all retain moisture and slowly release it.

7. Underbench sprays

Running black polytube under the benches with small spray nozzles and having it spray several times a day on a timer will wet the floor and keep it damp while not wetting the orchid leaves and reduce the risk of fungal diseases developing on the plant leaves.



8. Overhead misters

Small misters inserted in polytube or solid PVC piping suspended from the shadehouse roof can be set to come on for 15 secs or longer several times a day during hot weather using a timer and use little water. They are very low cost when purchased on the internet. Misting hoses can also be purchased from larger hardware and garden shops. Misters can leave salt deposits on the leaves unless you use rainwater. Misters do wet the leaves and so fungal diseases can occur and leaves should be dry before evening.



9. Misters and foggers

These larger foggers come in several designs. The ultrafine fog produced is so fine that it will not wet the leaves but does significantly increase the humidity. Foggers can cost about \$600 or more. While more expensive, a single fogger can substantially increase the humidity in a large shadehouse and has the advantage of not wetting the leaves so does not encourage fungal diseases. They are usually set to operate with a timer or humidistat.

It is also possible to make your own ultrasonic misters if you have some technical expertise and kits can be purchased for about \$110 (see House of Hydro at <http://www.thehouseofhydro.com/three-head-mist-maker.html>).



There are excellent videos online on how to make a fogger/mister. It is recommended not to purchase those with LED lights imbedded as these can short out after a time.



10. Evaporative coolers

Orchid growers with a larger shadehouse that want to both cool and humidify their orchid house often use either a portable or fixed evaporative cooler. These can be purchased new for around \$100 or second hand and are very effective and relatively low cost to run. They will raise the relative humidity from around 20% to 45%.

Evaporative coolers have the additional advantage of producing good air movement which is important when humidity is higher. They also lower the air temperature by 5-10°C depending on the humidity of the intake air. The lower the intake air humidity, the greater the temperature drop. Drawing fresh air from outside the glasshouse will drop the temperature more than if you just recycle the same air.

Homes that are cooled with an evaporative cooler in summer should have adequate humidity levels indoors for most orchids but may need additional humidity in winter depending on how they are heated.



It is important to ensure good air movement when humidity is kept high to reduce the incidence of fungal diseases. The use of fans is recommended, particularly in glasshouses that tend to have less natural air movement than shadehouses.