BALLTECH ON DEMAND™

SUCCULENT PROPAGATION

Succulents are generally native to arid and warm regions. This contrasts with most bedding plants grown in North America which are tropical. Environmental conditions for succulents need to be much dryer than conventional propagation. Many growers report that misting is not necessary and is problematic causing disease outbreaks.

Substrate– a wide variety of potting substrates are suitable. Many commercial propagators use approximately 70% peat: 30% perlite blend in North America. This blend lends itself to suitable aeration and drainage when irrigation practices are used. Similar blends containing coarse coconut fiber instead of perlite have also yield positive results. Upon "sticking" the soil just be damp - level 3 - (1 to 5 scale, 1 = dry soil pulling away from container and 5 is saturated from a heavy irrigation) and never saturated.

There is often a misconception that bark, or sand-based mixes are best, but in practice these are more difficult to manage moisture in propagation. Several growers report that adding beneficial microbes such as *Trichoderma harzianum* are especially beneficial for succulent establishment.

Sticking – Many succulent URCs are fleshy leaves and may not need to be inserted into the soil for rooting. However, the crop time is lengthy, and the plants are generally uneven when propagated from leaves instead of stems. Recognizable stems should be inserted into a dibbled hole and ensure good stem to soil contact is made.

Misting & moisture – Succulents need low to moderate moisture during propagation. Wet foliage is a critical issue and should be avoided as much as reasonably possible. URCs and plants should go into the night with dry foliage to reduce disease incidence which can permanently scar leaves. Misting is generally not recommended at night and most succulents are successfully propagated without mist.

Many growers find that wetting the soil (level 3) during sticking and then tenting the crop with Reemay (or similar) is beneficial while others choose not to tent. This will depend upon your environment. Tenting can provide ample humidity for rooting and the prevention dehydration while keeping the foliage dry. In some very dry environments misting over the top of the Reemay may be warranted.

Light – A light shade cloth (or Reemay) can be beneficial during the first few days of propagation in southern climates if starting plants in summer with high temperatures and light. Propagation in late fall or spring generally warrants full sun.

Feeding –Low fertilization rates (100 to 150 ppm N) are appropriate from a complete fertilizer appropriate for the water quality. Substrate electrical conductivity levels should be kept below 1.2 mS/cm (PourThru) until roots are established.

Feedings are generally every 4 days except for *Sempervivum* varieties which are 2 to 3 days apart. After two weeks, increase the substrate EC to 1.5 mS/cm.

Disease - Dry foliage is the number one key to reducing disease. Fungicide applications targeting *Fusarium, Alternaria,* and *Botrytis* are suggested during the first week of propagation. Be sure to follow all label instruction and conduct trials. Growers have reported success with Daconil (leaves residue), Micora, Pageant and *Cease*.

Fusarium oxysporum and *Alternaria alternata* infection on

Suggested propagation strategy:

- Stick URCs into a rooting substrate with moisture level 3.
- Do not apply water for the plants for several days.
- After several days, a light irrigation and feeding (solution EC of 1.2) can be applied
- Moderate to high fertilizer concentrations will burn the tissue
- I quick rinse of the foliage may be beneficial to remove fertilizer residue
- Shading should only be used to reduce temperature stress when temperatures surpass 80 °F