

Reducing Plant Stress with Shading

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Nurserymen use a wide range of materials and methods to minimize the adverse effects of sunlight and wind. Lath structures, shading compounds, white plastic, poly shade fabric, and planted windrows are all tools that can be used to reduce direct sunlight and slow wind currents. Utilizing these methods will allow the grower more control over plant transpiration.

Poly shade fabric has been used by the nursery industry for decades. It can be purchased in various degrees of opacity such as 30%, 50%, 70%, and 90%. It can be installed for the entire growing season when working with a light sensitive crop, or for short-term use to minimize desiccation.

Conditions that might warrant the use of shade fabric include: transplanting, trimming, or general changes in the growing environment.

At D&B Plants, weather conditions and the sensitivity of plant material are taken into consideration at the time of transplanting. Shade fabric is placed over the plant material, and removed in stages as required. For example, bare root *Berberis thunbergii* f. *atropurpurea* in full leaf, coming from a high humidity propagation structure can be very temperamental to transplant. A 90% light reduction is often implemented for 3 to 5 days, followed by a week of 70% shade, and finished for an additional 2 weeks at 30%. Weather conditions and cutting appearance dictate the timing and opacity required.

Trimming on certain types of plant material can shock leaf tissue that has been shaded by the overstory. Trimming can be timed to coincide with cloudy weather to minimize plant stress. When this is not feasible, 30% shading, for 2 or 3 days, will prevent sunburning the remaining leaves.

During spring shipping season, plant material is removed from various growing areas and placed in a staging area. When conditions warrant, a light shade (30%) is placed over the entire order for 2 or 3 days to help the plants acclimate. Ideally, the plants will then be exposed to full sun for an additional 7 to 10 days.

With any of the temporary conditions described, monitoring weather conditions as well as plant response will eliminate damage from over shading, such as stretched growth or fungal disease.

Shade fabric can be used to fit the adjusting light requirements of plant material. Combining various opacities allows increments of higher light levels as tarps are removed individually.

Increasing light levels gradually has resulted in more favorable plant vigor and higher percentages of survival.

The second part of the morning session convened at 10:30 a.m. with Timothy Brotzman serving as moderator.