

## BEAT THE HEAT: ESSENTIAL TIPS FOR PROTECTING YOUR CROPS

*When temperatures surge in summer, it's crucial to leverage all available tools and resources to optimize growing conditions for your crops.*

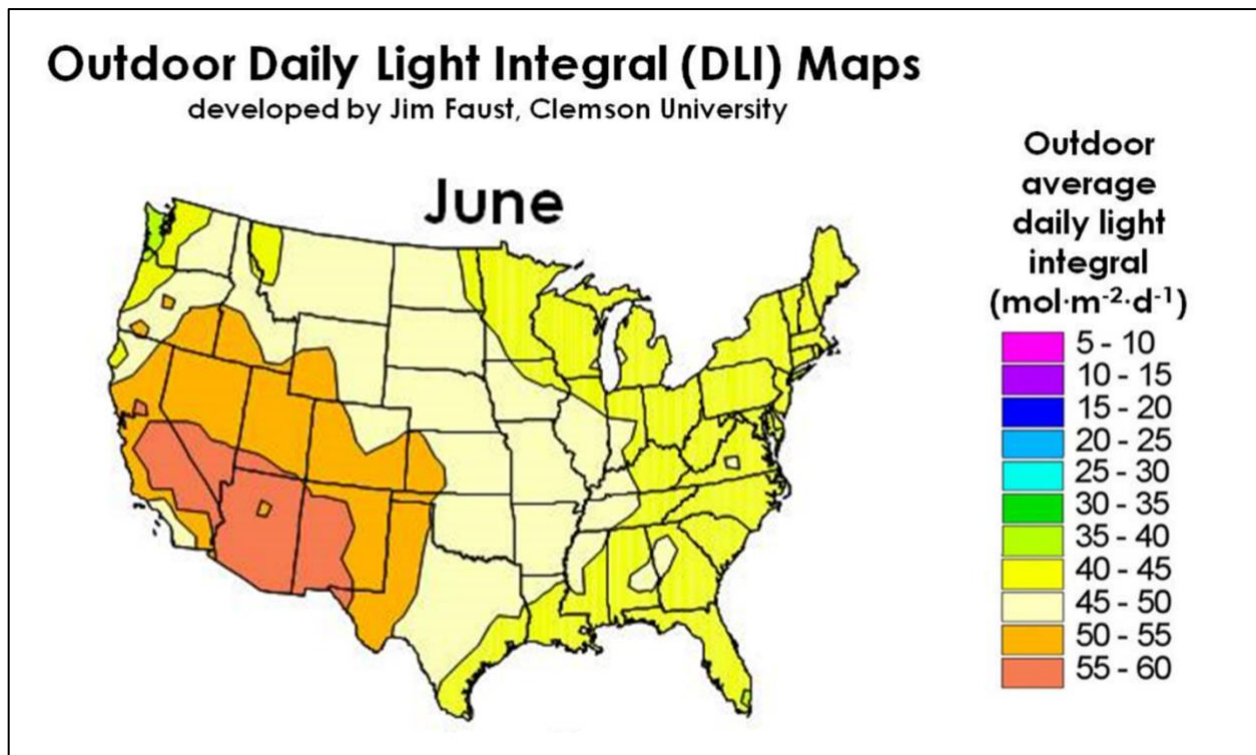


Figure adapted from Daily Light Integral (DLI) maps from [Michigan State University](#).

Mum transplants and poinsettia URCs tend to face severe heat stress during the dog days of summer. Here are some effective strategies to help your mums and poinsettias thrive despite the heat.

### Use Shade Structures—30 to 50%

Unlike greenhouse structures that are often whitewashed to reduce light intensity and maintain cooler temperatures, field-grown mums lack this protection. Installing a shade structure is a quick and effective way to limit solar radiation.

- [Research from NC State University](#) indicates that black shade cloth providing low levels of shade (around 30% or less) offers minimal temperature reduction. The issue lies in black shade cloth's tendency to absorb solar radiation, which then radiates heat downwards towards the crop - meaning lower percentage shade affects light levels more than air temperature. While shading with black shade cloth may not reduce air temperature, it may still reduce leaf temperature.
- Further studies from NC State indicate that reflective shade cloths, such as those made from knit aluminum or reflective white materials, can reduce heat gain by up to 30%, thereby enhancing cooling efficiency. This research indicated that maximum reduction in heat was achieved with 60% shade cloth.
- When using shade cloth, it's important to consider the impact on light intensity. Daily light integral (DLI) maps for the U.S. show that most states receive 40 mols per day or more in June. The optimal light quantity for growth varies by species, but most floriculture crops thrive with a DLI of around 10 to 12 mols per day. According to [Purdue Extension](#), garden mums require a minimum of 8 to 10 mols per day and high-quality mums are achieved with 18 mols per day or more. Therefore, reducing light intensity by 50-60% should not significantly impede growth.

### **Syringe Plants During Finishing**

Syringing is a method of cooling crops down with light water or mist applications. This helps cool the leaves without the risk of overwatering plants and saturating the substrate. Syringing can help to cool the leaves directly and through the process of evaporative cooling.

*NOTE: Avoid syringing too late in the day so the leaf surface can dry before night. Depending on your location, humidity and overhead structure this could be between 3 and 5pm. Leaf wetness into the night will provide conducive environments for disease.*

### **Cool URCs Before & During Propagation**

- Ensure the cuttings are cool when they arrive by checking the stem temperature with an infrared thermometer. If warm, check out our [URC Action Guide](#).
- The main points include removing URC heat in the cooler as well as rehydrating them by dipping or utilizing a fog chamber. This ensures maximum stickability, root growth and uniformity of rooting.
- On the prop bench, use shade cloth and maintain visible water droplets on leaf surfaces the first 10 days or until root initials are visible.

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