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Bench Space is at a Premium

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This time of the year greenhouses are starting to fill up and bench space is at a premium. Plug and liner flats are piling up waiting to be transplanted and material that has already been transplanted is waiting to be spaced out. In many cases growers will wait to transplant plugs and liners in waiting to try and cheat time and space or are be tempted to wait longer into the season to start to space out plants leaving them pot tight or at a less than optimum spacing in order to optimize the space they have.

This is where the plan falls apart. The idea of optimizing space by holding plants longer before spacing or transplanting is actually counterproductive. Yes, of course you can fit more plants in a give space using this strategy, but what you loose is overall crop quality. Lower quality plants will therefore result in a higher percentage of shrink (plants



Figure 1. Celosia plant held in plug flat too long before transplanting.



Figure 2. NGI held too long as liners before transplanting.

in the compost bin).

The biggest problem with not spacing plants is undoubtedly stretch. This can happen at any stage of production. Plants that stretch in the plug flat start out with one (or maybe even two) strikes against them before they even get transplanted. Figure 1 shows a batch of celosia that was held in the plug tray too long. Now the stems are stretch and cannot support the weight of the leaves. This grower will struggle with these plants for the rest of the spring. Vegetative propagated material isn't immune to this either. These New Guinea Impatiens may not be falling over like the fore mentioned celosia, but they



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Figure 3



Figure 4

aren't very attractive (Figure 2).

Spacing after transplanting can sneak up on us because plants that are flat or pot tight look real nice on the bench as a group (Figure 3). However, once you pull one of those plants out of the group, you can quickly see the loss in quality (Figure 4).

Also, when plants are held tightly together, the lower leaves are crowded out and begin to yellow (Figure 5). Now not only do you have plants that are unsightly, you also have to expend extra labor to clean off these chlorotic leaves.

With closely spaced plants you always run the risk of increased disease, especially botrytis (Figure 6). Leaves below the canopy stay wet after irrigation for longer

durations creating the perfect environment for diseases. Insects can too become problematic because getting good penetration with sprays can be impossible.

As mentioned above this all can lead to the worse case scenario – Shrink. It is unrealistic to think that we can eliminate all shrink. Typically we like to see a shrink rate of 10% or less. When you compare the effect of increase from a 10% shrink rate to a 15% rate you will see that it cuts into your bottom line by 18%.

Luckily, we have some simple strategies for avoiding overcrowding of plants. Plan ahead and order on the amount of plants that you can adequately space out and get them spaced out on time. At this point in the season it



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is probably too late to do this, but make a note of how many plants you can fit in your greenhouse this year so you can reflect that in next year's order. Consider tossing the extra plants that you can't space now. It is better to take the loss now before you invest more time and resources into plants that will ultimately be sub-quality. Finally, consider using some plant growth regulators to try and control the stretch. Using products that might be less active, like those with the active ingredients of daminozide, chlormequat, or ancymidol. You may have to apply these multiple times but the risk of overdoing plants in one application is reduced. Be sure to reference the product label for specific application rates and precautions for your crop.❖



Figure 5



Figure 6