

CULTURAL CONTROLS: Planting Dates and Times



INTRODUCTION:

Virtually all of the tomato and pepper acreage in Florida are planted using transplants or plug plants to promote earliness, uniformity and decrease disease problems. Planting dates are based primarily on marketing and economics. This decision is driven by anticipated "market windows" when crops are predicted to be of higher value for a given area. Within this general category there are also a number of other related factors which should also be taken into consideration to maximize production during any chosen planting period.



Figure 9. Healthy tomato transplants. Photograph by: Charles Vavrina.

TRANSPLANT DATE/TIME CONSIDERATIONS:

- Growers should be aware of cultivar/weather/pest interactions. Many diseases prefer cool, wet weather while some prefer warmer temperatures. Insects generally thrive under hot, dry conditions.
- Heat tolerant tomato cultivars are beneficial in early plantings in all Florida tomato production districts.
- In north Florida, *Tomato spotted wilt virus* (TSWV) resistant cultivars are especially important in spring plantings.
- In southwest Florida winter crops, resistance to *Fusarium* crown and root rot and tolerance to gray wall are important. In Dade County winter crops, gray wall tolerance is important.
- Avoiding transplanting during the heat of the day may minimize physiological drought which can cause 'heat girdling', especially prevalent in peppers. This is caused when temperatures just above the mulched bed are extremely hot and plants transpire faster than they can take up water from the small root ball, thus causing a collapse of the stem (**Figure 10**). If you must plant mid-day, keeping beds moist and using a water wagon soon after transplanting reduces the amount of resetting needed.



Figure 10. 'Heat girdling' or 'stem scalding' resulting in stem collapse of pepper. Transplanting at 11 am and 1 pm resulted in a 20-30% increase in heat girdling compared to 9 am and 3 pm. Photograph by: Charles Vavrina.



OTHER TRANPLANTING DECISIONS:

- Setting tomato and pepper plants to the depth of the first true leaf results in earlier yields and larger fruit size. This is due in part to the more favorable environment, i.e. moist and cooler, a few inches below the bed surface, especially during hot weather (**Figure 11**).
- If possible, locate early plantings away from neighboring fields which could be a source of insects and disease in the early part of the season.
- Mulch color is generally determined by time of transplanting. White mulch is used in warmer seasons since it reflects heat and results in a cooler bed. Black mulch is used during cool seasons because it absorbs heat 'into' the bed, providing a warmer environment for young plants.
- Silver or metalized mulches can be used in any season when insects such as whitefly or thrips are a problem.



Figure 11. Varying transplant depths (left to right): to first true leaf, to cotyledons and just covering the root ball. Photograph by: Phyllis Gilreath.

Effect of Tomato Transplant Depth On Yield		
Transplant Depth	Yield (25 lb cartons/A)	
	First Harvest	Extra-Large
Root Ball	658	536
Cotyledon	871	664
1st True Leaf	1081	912

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