

Tomato Transplanting Reaches New Depths: Deeper planting, a technique from days gone by, is getting a fresh look in Florida- and proving its worth.

by
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As growers strive to increase efficiency and earn more money, many turn to the latest in modern technology. Now, there may be a real simple way to increase yields without turning to the latest thing: You can plant your transplants deeper.

Previous studies in yield increases with deeper pepper transplant plantings prompted a look into how deeper transplanting in tomatoes might affect yield. This is not something new. In 1865 a researcher recommended cabbage, pepper, and other plants should be planted 1 to 2 inches deeper than they had previously set in the flat.

Growers in Florida are embracing this rediscovered transplant "technology" based on the results of several studies carried out statewide that indicate it works!

Tried In The Field

In 1994, seven trials were conducted in four of the five major tomato production areas in Florida. Production season was varied (fall, winter, spring), as was variety (Agriset, Allstar, Cobia, Colonial, and Sunny) to determine if these factors affected planting depth.

In each of the trials, three planting depths were used: just covering the rootball (far right); planting to the cotyledon or seed leaves (middle); and planting to the first true leaf (far left). Commercially produced transplants from several sources were used, so transplant height varied across plants. All trials were on plastic-mulched beds (white or black according to season), and either drip--or seepage-irrigated.

Most of the data has been collected to date. In five of the seven trials, significant increases in yield as a result of deeper planting have been evident. In each of these five "successful" trials, the result has been the same: Increased boxes of fruit at first harvest and, more importantly, of generally extra-large fruit.

Tomato Transplant Depth's Effect On Yield		
	First Harvest Yield	Extra-Large Fruit Production
Figures shown are for 25-pound cartons/acre		
The transplants were planted at the three depths shown here. The deepest-planted ones were at the first true leaf depth, which also had the highest yields.		
Rootball	658	536
Cotyledon	871	664
1st True Leaf	1081	912

First Harvest Has Highest Yield Increase

Is deeper better? Yes! Preliminary statistical analysis reveals that planting to the cotyledon leaf offers the same benefit as planting to the first true leaf where total boxes at first harvest is concerned. However, in

two of the five "successful" trials, a significantly greater yield of ex-large fruit at first harvest when planting to the first true leaf was shown.

The response to planting transplants deeper appears to be a first-harvest phenomenon, since yield increases overall (after three harvests) were only noted in two of the five "successful" trials. All of the varieties responded similarly to planting depth except Sunny, which was only tested once and should be retested. Planting depth results do not appear to be influenced by season. The two "unsuccessful" trials did not show a detrimental effect of deeper planting, but instead had no significant impact on yield.

Results May Vary Depending On Region

Should you be planting deeper? These results are based on studies conducted in the northwest and southeast regions of Florida as well as points in between.

Colleagues in Georgia tell me deeper planted peppers yield better there, and the same technique has been effective with cabbage in North Carolina. Data from Pennsylvania suggests deeper planting of peppers in a cold, wet spring may not provide a yield advantage.

Give it a try. Plant a few hundred feet on several rows, watch the plants develop and judge for yourself. Perhaps you might involve your local extension agent and set up a formal yield trial. If it was "the rule" 130 years ago, maybe we should give this "old technology" a try!