

## EXTENDING THE TIME OF APPLICATION FOR CHEMICALLY THINNING PEACH

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Peach trees set more fruit than the tree is able to support. Therefore, to have fruit that is of acceptable market size, up to 95% of the fruit must be removed from the tree. This is a very costly and time consuming process that is done primarily by hand. Currently no acceptable chemical thinners are available. The chemicals that are available are not consistent from year to year and the results from their applications cannot be seen for several weeks. These chemicals must also be applied within a very narrow application window to be effective. In a previous study conducted at the Chilton Research and Extension Center in Clanton, Alabama, Tergitol TMN-6 was shown to be an effective blossom thinner of peach that could be applied at full bloom and petal fall and still provide adequate thinning.

In the spring of 2002, a study was initiated with the objective of determining the effect of Tergitol TMN-6 after petal fall on the blossom thinning of peach. Tergitol TMN-6 was applied to 'Harvester' peach at four different stages of blossom development (full bloom, petal fall, shuck split, and shuck off) at rates of 0% (control), 1%, 2%, and 3% by volume with an airblast sprayer. The experimental plot was a randomized complete block design with single treatment trees with a buffer tree between treatment trees and a buffer row between treatment rows to minimize drift. Four limbs 1 to 2 feet in length were selected on each treatment tree and the total flower count and the stage of physiological development were determined prior to treatment. Before hand thinning, the

number of fruit on each tagged limb were counted to determine fruit set. A drop cloth was placed under one half of the tree at hand thinning and the fruit collected to determine the number of fruit hand thinned per tree. Fruit were harvested according to normal commercial practices.

Time of application had no affect on the amount of thinning, but thinning early did increase fruit size at hand thinning (see table). The amount of thinning increased with the increasing chemical concentration. Some damage occurred to fruit when the chemical was applied after petal fall, with the two highest rates having the most damaged fruit. Also the foliage was severely burned, and at the two highest rates the trees at shuck split were heavily defoliated. Due to concerns about phytotoxicity, the shuck off treatment was not applied. The highest rates had the fewest number of fruit and the lowest yield. There were no adverse effects on fruit quality.

**FLOWER REMOVAL AND FRUIT GROWTH OF 'HARVESTER' PEACH TREES  
TREATED WITH TERGITOL TMN-6, 2002**

	Fruit set (%)	-Fruit hand thinned- weight (g/fruit)	number (no/tree)	Scarred fruit (%)	Total fruit harvested (no/tree)	Yield (lbs/tree)	Fruit weight (g)
<b>Concentration (%)</b>							
0	39 a <sup>1</sup>	11.6	3548 a	0 c	705	124	90
1	41 a	14.6	2251 b	2 bc	523	131	120
2	36 ab	15.5	1620 bc	12 ab	425	111	126
3	29 b	15.8	1472 c	16 a	411	108	124
<b>Time of application</b>							
Control	39	11.6 b	3548	0 b	705	124	90
Full bloom	32	16.3 a	1787	0 b	453	120	127
Petal fall	39	15.3 a	1977	1 b	471	121	125
Shuck split	35	14.3 a	1579	28 a	434	109	119

<sup>1</sup> Means separation within columns by Duncan's Multiple Range Test  $p = 0.05$ ; columns without letters are not significantly different.