

# Blossom Thinning of Peaches in 2009

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Peach thinning is a necessary but an expensive part of peach growing. Every commercial grower expends many dollars on labor hand thinning peaches, but if it not done, peach fruit will be too small. Common practice is to wait until a 40 or 50 days or more after bloom to begin hand thinning. Fruit that are removed at that point have already consumed a great deal of the energy acquired by the tree. Moving the thinning period to near bloom would capture energy that could be used to better grow the fruit which will remain until harvest. Obviously, the risk of economic loss due to frost increases by thinning blossoms that otherwise might be among those escaping frost. Therefore, a goal might be to split the difference, thinning part of the bloom, reducing potential competition among developing fruit, but still maintaining more than the final number of fruit.

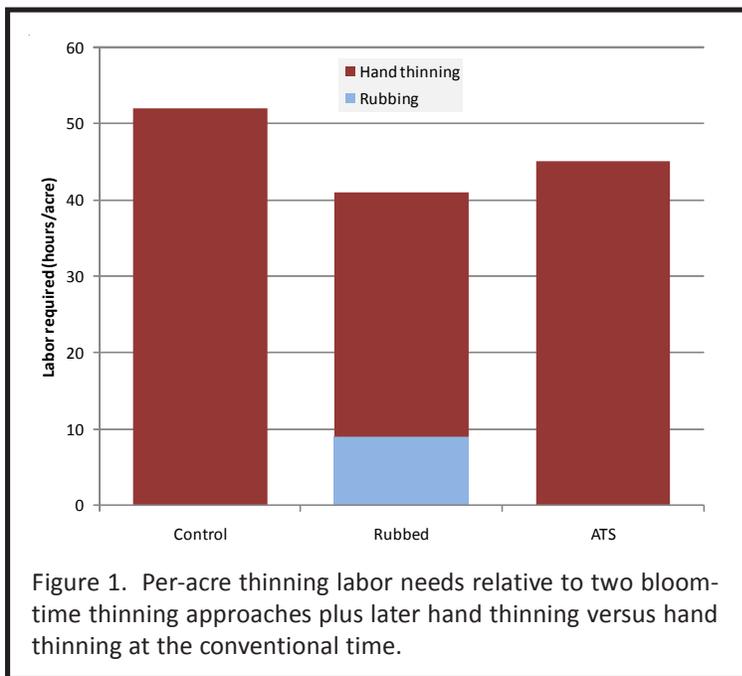
We conducted an experiment in 2009 which compared chemical blossom thinning, bud rubbing, and

conventional hand thinning. A total of 24 three-year-old Jersey peach trees on Lovell rootstock were selected for uniformity of vigor and bloom at the UMass Cold Spring Orchard Research & Education Center in Belchertown, Massachusetts. Three trees each were allocated to eight replications. Three treatments were allocated randomly among the three trees in each replication. The first treatment received no bloom-period thinning. The second treatment was hand thinned at the pink stage of floral development (April 21, 2009) by simply rubbing a slightly cupped hand on the underside of each shoot, removing the buds. The amount of time required to rub off buds was recorded. The third treatment was ammonium thiosulfate applied as 4 gallons of ATS per 100 gallons of spray solution at full bloom (April 24, 2009). Approximately six weeks after bloom, initial set was counted on each tree, and all trees were hand thinning to an appropriate com-

Table 1. Effects of blossom thinning by simple rubbing (on April 21) or with ammonium thiosulfate (4 gallons ATS/100 gallons spray solution applied on April 24) on fruit set, the time required for hand thinning, and on average fruit weight of 'Jersey'/Lovell peach trees in 2009.<sup>2</sup>

Treatment	Initial fruit set (no./cm <sup>2</sup> LCA)	Fruit removed (% of initial set)	Final set (no./cm <sup>2</sup> LCA)	Hand thinning time (min./tree)	Hand thinning plus rubbing time (min./tree)	Average fruit weight (g)
Control	30.8 a	82 a	5.4 a	28.5 a	28.5 a	198 c
Rubbed	12.8 c	64 c	4.6 a	17.8 b	22.8 b	237 a
ATS	20.0 b	73 b	5.1 a	25.0 a	25.0 ab	216 b

<sup>2</sup>Mean within columns not followed by a common letter are significantly different at odds of 19 to 1 (Duncan's New Multiple Range Test ,  $P = 0.05$ ).



mercial fruit density. The time required to hand thin was recorded. It is interesting to note that the trees where buds were removed by rubbing were noticeably greener at the time of hand thinning, six weeks after bloom. At two harvests (August 12 and 14, 2009), average fruit weight was determined.

The rubbing treatment removed about 58% of the potential fruit set, and ATS removed about 35% (Table 1). A greater portion of the initial set needed to be removed by hand thinning of the controls than of either of the two blossom thinning treatments. However, the time required for hand thinning was comparable for the control and ATS treatments. Rubbing reduced the time required to hand thin by 38%. If you add the time required to rub off buds to that required for hand thinning, the total time for the rubbing treatment is still

20% less than the controls (Table 1, Figure 1).

Very importantly, fruit size was also affected by thinning treatments (Table 1). Specifically, ATS increased fruit size by 9%, and rubbing increased it by 20%. It is clear that early thinning can dramatically reduce competition, allowing fruit that will remain on the tree to grow to a larger size by harvest.

These data clearly show that growers should consider these alternative thinning approaches for peaches. Hand rubbing moved a portion of the thinning to a more comfortable time of year (avoiding hot, humid, and peach-fuzz-itchy conditions), reduced the overall amount of labor needed, and resulted in larger fruit than conventional hand thinning alone. ATS was not as effective as rubbing in this experiment, but prob-

ably this lack of response was related to timing of the application.

