

COMPARISON OF BLACK, WHITE, AND SILVER PLASTIC MULCH FOR PEPPER PRODUCTION IN NEW JERSEY

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Abstract: Transplanted bell peppers (*Capsicum annuum* var. ‘Wizzard’) were planted on May 18, 1999 at the Rutgers Agricultural Research and Extension Center in Bridgeton, New Jersey. All plots contained Kennco high raised beds and drip irrigation. The treatments consisted of six different plastic mulches and a bare ground control. The treatments were as follows: 36” silver strip on white (SW); a rippled reflective silver from Parker Foils, Inc. (S1); a flat reflective silver from Clarke Ag. Plastics (S2); black from Reddick Fumigants (BL); dull silver on brown from DeWitt Company (DS); white on white (WW); and bare ground (BG). Early yields from the first harvest, taken on July 28, 1999, were evaluated along with total yields at the conclusion of the growing season. The early yields after the first harvest from highest to lowest were: S1= 440 boxes per acre (b/a), S2= 403 b/a, DS= 370 b/a, SW= 337 b/a, WW= 314 b/a, BL= 264 b/a, and BG= 248 b/a. Total yields (see figure 1.) at the conclusion of the study from highest to lowest in tons per acre were: S2= 9.9 t/a, WW= 9.6 t/a, S1= 9.3 t/a, DS= 9.2 t/a, BL= 7.9 t/a, SW= 7.6 t/a, BG= 7.3 t/a. Soil temperatures were also evaluated at two and four inch depths for a period of one month (see figure 2.) Soil temperatures were highest in the BL treatments and lowest in the S1 and S2 treatments. High temperatures after the first harvest caused a great deal of flower bud abortion and reduced late season yields in all treatments. The reader should not consider the endorsement or recommendation of one brand of plastic mulch over another or one company over another, based on these study results.

Figure 1. Monthly averages for soil temperature at 2 inches and 4 inches deep in morning and afternoon.

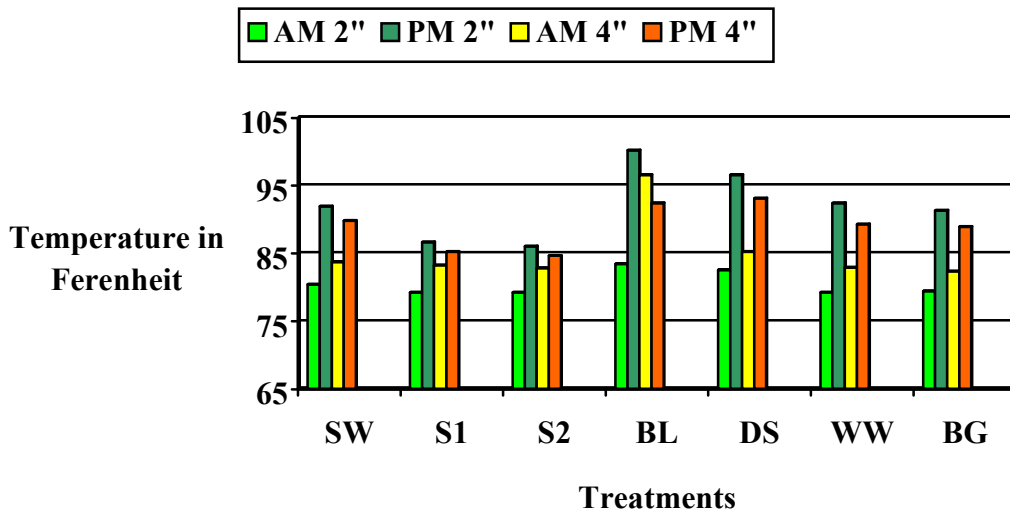


Figure 2. Total pepper yields in tons per acre.

