**Table 1. Dates, farming operations, and supplemental hand weeding time performed in adjacent roller crimper and bare ground fields planted to processing tomato.**

|  |  |  |
| --- | --- | --- |
| **Date & Field Activity** | **Roller crimper field** | **Bare ground field** |
| Sept. 22 2011 | Seed rye cover crop @ 2 ¼ bu/a, dry composted poultry manure applied June |
| May 22 2012 | Roller crimp mature rye followed by Roundup @ 1qt/a |  |
| May 24 |  | Flail mow rye disk incorporate |
| June 8 |  | Field tillage |
| June 18 |  | Disk tillage, preemergence Devrinol 50DF @ 3lb/a |
| June 18 | Transplant Heinz H5108, 60 x~15 inch spacing, transplant water 100 ppm 20-20-20 |
| June 19 | Set up drip irrigation |
| June 20, 22, 27 | Irrigation for 1-4 hr |
| June 26 | Late blight fungicide protectant + translaminar, Bravo WS @ 1qt/a + Presidio 4SC @ 4 oz/a |
| July 9, 16, 19, 23, Aug. 8 | 5-0-10 fertigation; 2, 1, 1.5, 1.5, 1.5 gals, respectively |
| July 13 | Bravo Weather Stik @ 1 qt/a; Voliam Xpress @ 9 oz/a, one CPB defoliated plant/1,200 row ft observed |
| July 5, 26 | Irrigation for 1-4 hr |
| July 16Hand weeding assessment per 200 ft row (x 3) | ~ 30 min/row = 22 hr/aeasy removal but all weeding required bending to pull: ivyleaf morning glory, redroot pigweed | ~ 43 min/row = 31 hr/aremoval a combination of standing hoeing and bending: ivyleaf morning glory, jimsonweed, lambsquarters, redroot pigweed |
| July 18 |  | Cultivation tillage |
| July 19 |  | Postemergence Matrix 25DF @ 1 oz/a + Metribuzin (Sencor) @ 8 oz/a |
| July 27, Aug 3 | Bravo Weather Stik @ 24 oz/a + Quadris @ 15 oz + Kocide 3000 DF @ 1 lb/a |
| July 30Hand weeding assessment per 200 ft row (x 3) | ~ 22.5 min/row = 16.4 hr/aeasy removal but all bending to pull: ivyleaf morning glory, redroot pigweed | ~ 3.3 min/row = 2.4 hr/aremoval by hoeing: ivyleaf morning glory |
| Aug 8Hand weeding assessment per 200 ft row (x 3) | ~ 4 min/row = 2.9 hr/a Mow off ivyleaf morning glory over roller crimped field borders, minor hand weeding |  |
| Aug 9, Sept. 6 | Voliam Xpress @ 8 oz/a for CPB or Lepidoptera |
| Aug 10, 17, 23, 30Untreated strips | Bravo Weather Stik @ 24 oz/a + Quadris @ 15 oz + Kocide 3000 DF @ 1 lb/a |
| Aug. 23, 27, 31 | Irrigation for 1-4 hr |
| Sept. 6, Untreated strips | Bravo Weather Stik @ 24 oz/a + Kocide 3000 DF @ 1 lb/a |
| Sept. 25 | Hand-harvested yield and foliar disease visual ratings |
| Oct. 2 | Mechanical harvest to determine if roller crimped rye residue fouled or interfered mechanical harvest operations. |