

# Detection Results

|                           | TP  | FP | FN | Precision | Recall | # Predictions Ignored | # Tomatoes with Multiple predictions | Pixel-Distance from prediction to nearest labeled tomato | Pixel-Distance from predicted tomato to correct predictions |
|---------------------------|-----|----|----|-----------|--------|-----------------------|--------------------------------------|--|---|
| <b>Hough</b>              | 100 | 3  | 75 | 0.971     | 0.571  | 15                    | 7                                    | 14.110   | 8.070   |
| <b>Watershed</b>          | 137 | 16 | 25 | 0.895     | 0.846  | 44                    | 21                                   | 16.340   | 11.500  |
| <b>Modified Hough</b>     | 100 | 18 | 75 | 0.848     | 0.571  |                       |                                      |  |   |
| <b>Modified Watershed</b> | 137 | 60 | 25 | 0.695     | 0.846  |                       |                                      |  |   |

**TP:** Where a predicted tomato uniquely matches a labeled tomato

**FP:** Predicted a tomato, but no labeled tomato exists

**FN:** Did not predict a tomato, but a labeled tomato exists

**Hough / Watershed:** Remove all predictions where "multiple" tomatos were predicted for a single labeled tomato.  
This can occur when a tomato is occluded by (e.g. a stem), and there are two halves of a tomato.

**Modified Hough / Watershed:** Place all "multiple" predictions onto the "False Positive" category