8 July 04
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PEST ACTIVITY IN LOCAL FIELDS
EARLY MATURITY VARIETY TRIAL

PEST MANAGEMENT NOTES IN LOCAL FIELDS

With our dry spring conditions, the common foliar diseases, bacterial speck and bacterial spot, have not been a problem.

Fusarium wilt, presumably race 3, is showing in more local fields. Yields losses from Fusarium wilt can be substantial. While race 3 resistant varieties are available, the choices are currently limited. Identification of Fusarium wilt is an important first step. The UC IPM manual describes and illustrates the disease well. Branches and leaves turn bright yellow, usually beginning with one or two branches. The growth stage when this is the most distinct is when vines are nearly full-grown. At this point, the contrast is extreme between the lush green vegetative stage and the yellowing caused by Fusarium. I believe a 1% to 2% incidence of Fusarium wilt might well be sufficient to set the stage for escalating losses in the near future when tomatoes are rotated back into the field. While it is hard to predict the rate of increase for our area, a couple of fields have reached over 10% levels in some hot spots. From my limited visits to the Sutter Basin where race 3 has been present for many years (first discovered by a local grower in 1987 and confirmed), race 3 has not progressed as rapidly as race 2 in that production area. However, do not be lulled into believing race 3 is a 'wimpy' pathogen. What should you do once it is discovered? Since this is a soilborne pathogen, avoid contaminating clean fields with soil transported on equipment from infested fields. This Fusarium is very crop-host specific. It is able to survive long periods. Therefore, the level of benefits achieved by rotating out of tomatoes is unclear at this point. Pay special attention to the race 3 resistant varieties at the seed company field days.

In addition, Fusarium foot rot has increased as well. While initially identified in the mid 80's in a few fields in the Woodland area, the distribution of this soilborne fungal pathogen has greatly expanded, much more than race 3. The destructiveness of foot rot is not as great as Fusarium wilt, but foot rot is more prevalent. Thus, the loss to the industry could be like a moderate, but steady leak in the pipeline. What is the remedy beyond field sanitation by not introducing contaminated soil into clean fields? UC Plant Pathologist Mike Davis is making progress toward identifying fungicidal control measures as well as genetic material for resistance. We are also looking at crop rotational strategies.

Again, with either of the Fusariums, it is reasonable to limit soil movement from contaminated to clean fields by scraping soil from equipment.

Verticillium wilt has been spotty in fields I have visited this year.

Spotted wilt virus is much more prevalent in isolated fields this year. There is no economical remedy identified.

Tomato Variety Trial Field Meeting Notice

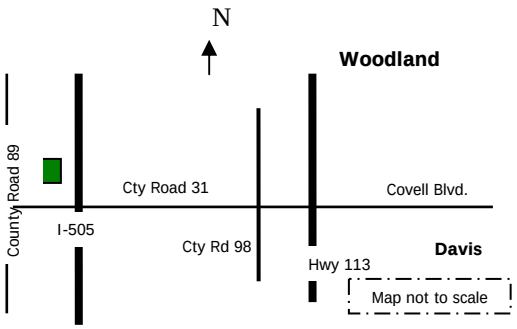
Early Maturity Variety Evaluation Trial

10am to noon, Thursday, 15 July 2004

Light lunch will be available for the first 30 attendees.

Directions: Field trial is ¼ mile west of Interstate 505 and accessible from CR 31. Signs will be posted. Field is north on gravel road between young walnut and older prune orchard.

From Highway 113 or CR 98, exit on County Road 31 heading west beyond the I-505 overpass. No CR 31 exit from I-505.



Included in the field day will be a plant disease display of Fusarium wilt, Verticillium wilt, and Fusarium foot rot. We will also be showing our field test evaluating an early season transplant population study on double rows.

FIELD RESEARCH

Interest in mustard cover crops across the state has increased. I have spent considerable time on four field sites in cooperation with UC Specialists Tim Hartz and Mike Davis. With the dry spring, soil dryness increased with the mustard cover crop that was tilled in late March and early April. We will be anxious to see a yield benefit from our 'bio-fumigant'.

Other tests:

- Whitewash evaluation on transplant survival under high temperature conditions.
- Transplant vs. direct seed comparison across populations and some varieties.
- Blackmold fungicidal control evaluation.
- Monitoring fields with high yield combined with high solids to identify causal relationships.

FIELD MEETING NOTICE: DRIP IRRIGATION AND MUSTARD COVER CROP

10:00-10:30 am, Mustard Cover Crop Meeting;
10:30-11:30 am Drip Irrigation Meeting
Wednesday, July 28th,
Woodland area,
County Road 98 x 1/2 mile north of CR 29
enter along south end of field (signs will be posted)

Our cover crop trial is to assess the benefits of domestic mustard to suppress diseases in our tomato rotation. We'll discuss data collected to date. Plans are to measure effects on crop yield and fruit quality. The trial is located on a field which is in the second consecutive year of tomatoes grown under drip irrigation.

Drip irrigation management toward the end of the season to enhance fruit quality will also be discussed. Fertigation with potassium will be highlighted.

Tim Hartz has developed a management scheme for assessing soluble solids by sampling the first few ripening fruit as a gauge. The method might signal the extent of soil moisture stress required to change sugar levels in the fruit. For instance, if sugar levels are below an expected norm at 5 weeks before intended harvest, further irrigation might be withheld to increase stress. Many different scenarios and conditions exist. However, for some, this early monitoring method can be very useful when soluble solids performance has been below par. UC Veg Crop Specialist Tim Hartz will be the main presenter.

Hope you can attend.

Submitted by,

Gene Miyao

Farm Advisor, Yolo, Solano & Sacramento counties

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TOMATO INFO NEWSLETTER

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