Unusual Observations during 2013

New England, NY, & Canadian Fruit Workers Conference
Burlington, VT
October 22, 2013

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Highland, NY 12528

CORNELL'S Hudson Valley LABORATORY

Unusual observations — 2013

Unusual callus tissue where summer pruning was done in 2012.
(At the meeting, Deborah Breth identified this as a response to wooly apple aphid feeding.)

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Ginger Gold photographed 25 March 2013.

Royal Court photographed 25 March 2013.

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Unusual observations — 2013

Lumpy twigs on Jerseymac noted when pruning in spring 2013.
(At the meeting, Deborah Breth identified this as a response to wooly apple aphid feeding.)

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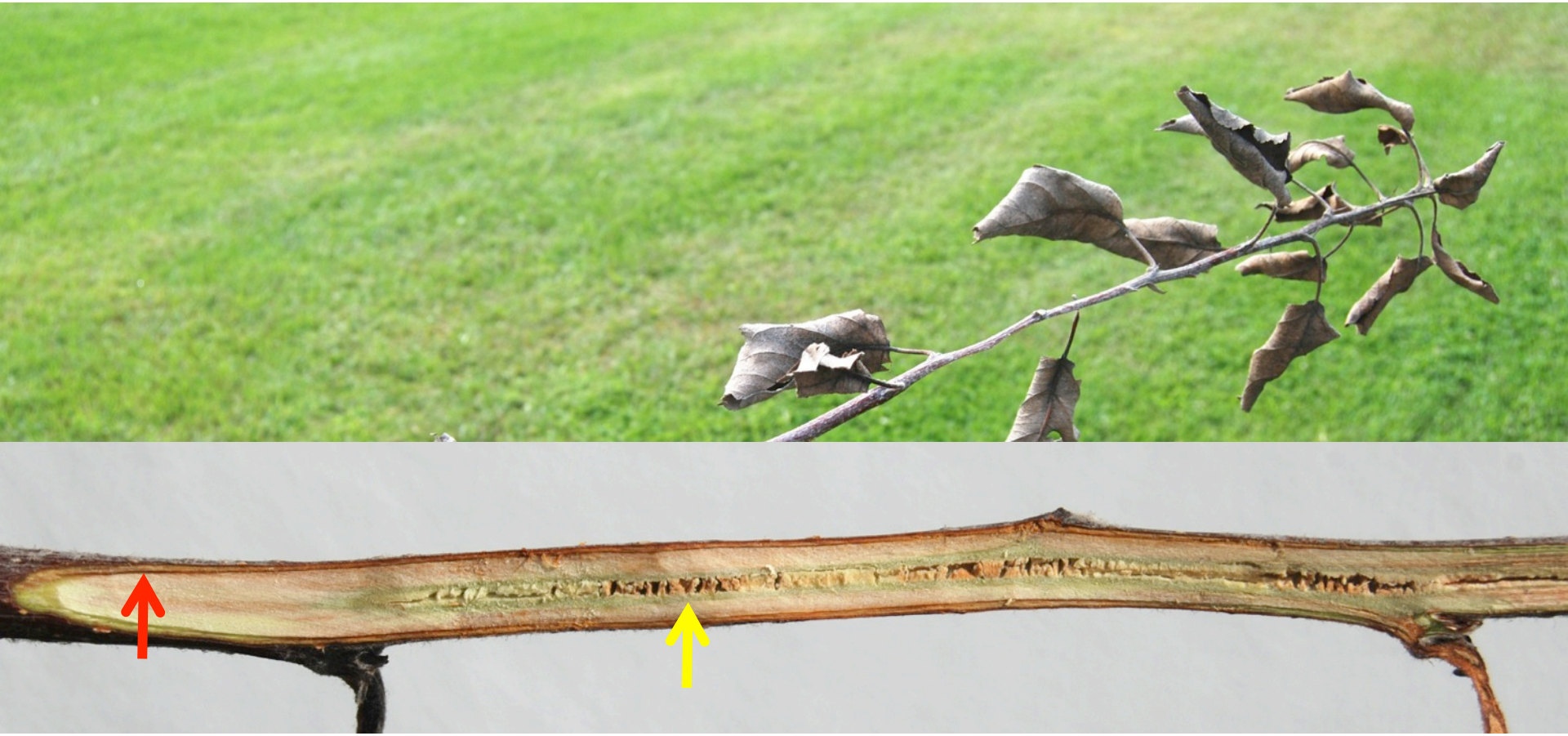
Unusual observations — 2013

Damage from lightening strikes.



Segmented pith (yellow arrow) and evidence of a burnt cambium layer (red arrow) are diagnostic characteristics for twigs killed by lightening.

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Unusual observations — 2013

Damage from lightening strikes.

Evidence of scorching (arrows) and uneven cell death in older xylem may also be present in trees hit by lightening.

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Unusual observations — 2013

Damage from lightening strikes.

Trees that are not killed immediately by produce new xylem that covers the scorched cells that were directly affected by lightening. When such trees collapse later in the season, the cells killed by lightening will for a brown ring in the woody cylinder of the trunk.

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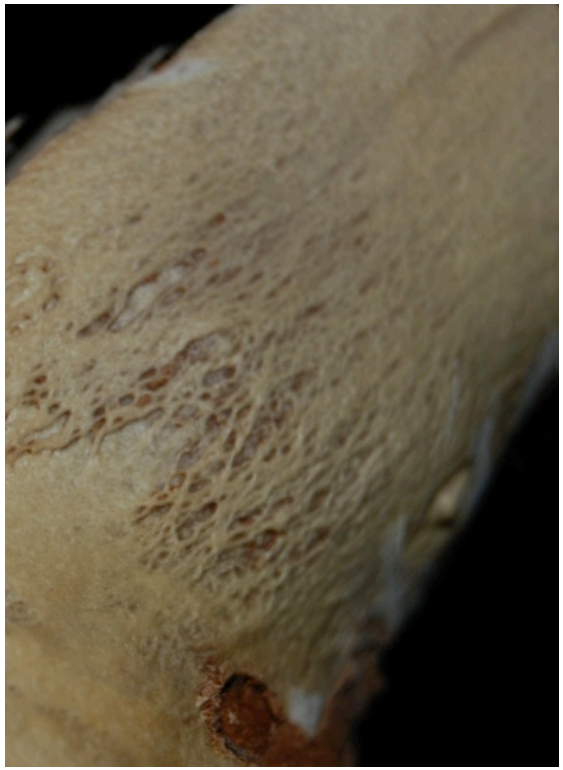

Trees recovering from lightening damage may have lightening-induced cankers (right) and networks of recovering xylem strands (left) beneath the bark is damaged sections of the trunk.

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Unusual observations — 2013

Damage from Hurricane Sandy (29-31 Oct 2012) ???

Unexpected peach fruit drop after pit hardening; associated suture warts and twig tip die-back.

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Unusual observations —

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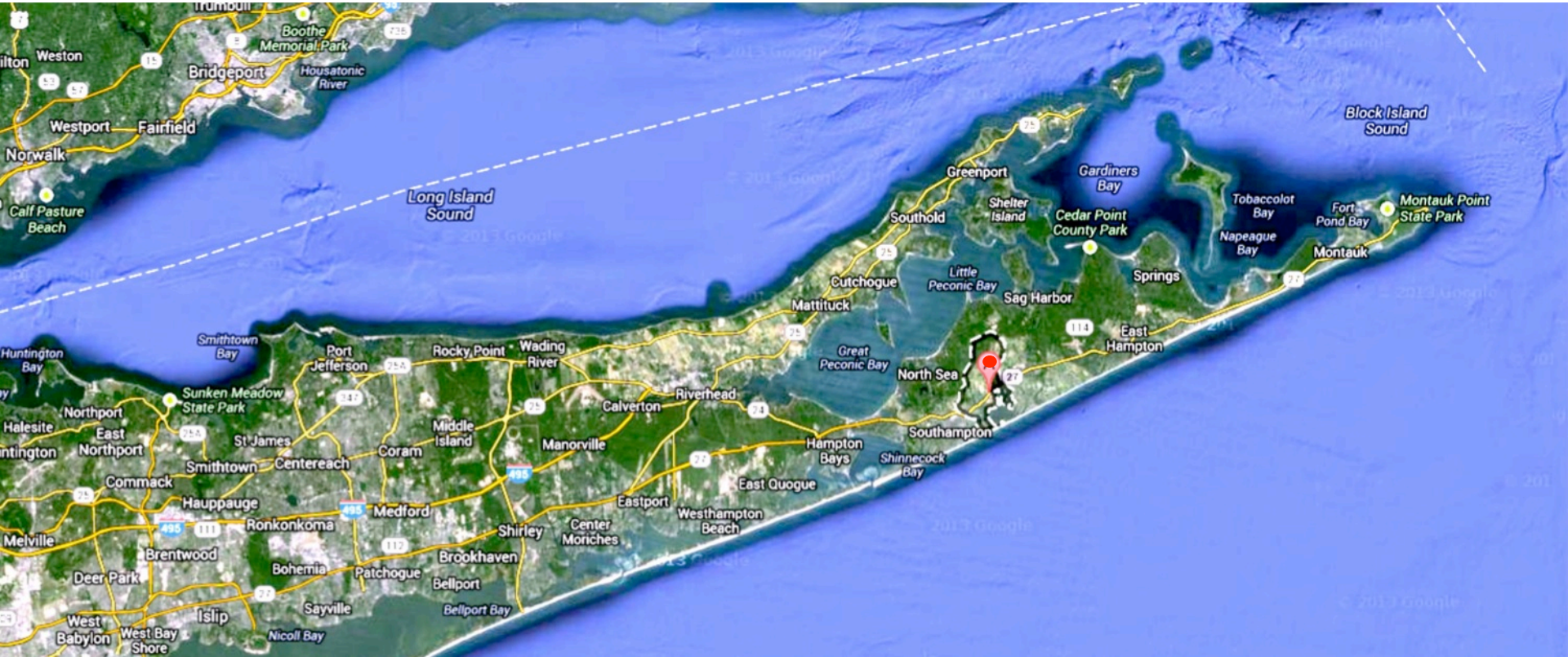
- affected orchard was on South Fork of Long Island.
- damage may have been from salt toxicity due to salt spray carried inland ???



Unusual observations — 2013

Damage from Hurricane Sandy, Oct 29-31, 2012

Unexpected peach fruit drop after pit hardening;
associated suture warts and twig tip die-back:

- Affected orchard was on South Fork of Long Island.
- Damage may have been from salt toxicity due to salt spray carried inland ???
- Prior to the fruit drop, winds of 10-15 mph persisted for 8-10 hr/day from 4-14 July 2013, and that was followed by a week of unusually high temperatures (for the area).

- Could fruit drop have been exacerbated by concentration of salts drawn into trees due to rapid evapotranspiration during the period of windy and hot weather ???

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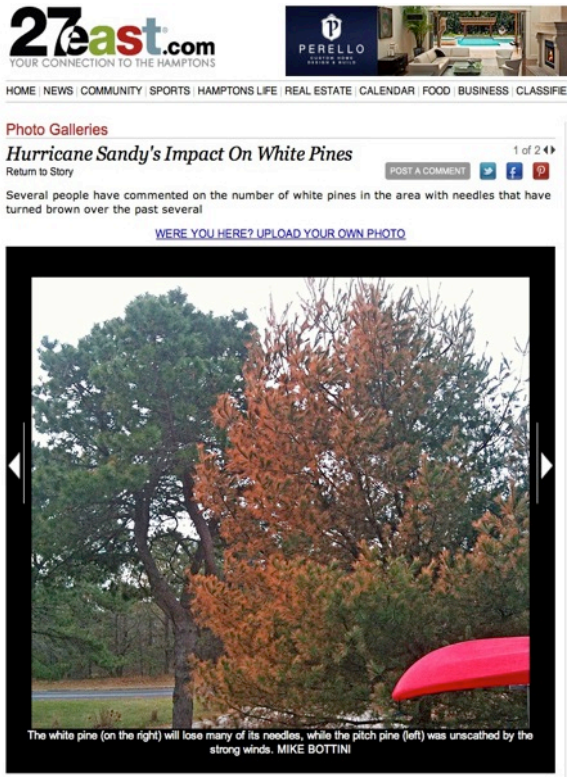


Related evidence for this hypothesis:

Hurricane-driven salt spray caused needle browning on white pines in many locations across Long Island.

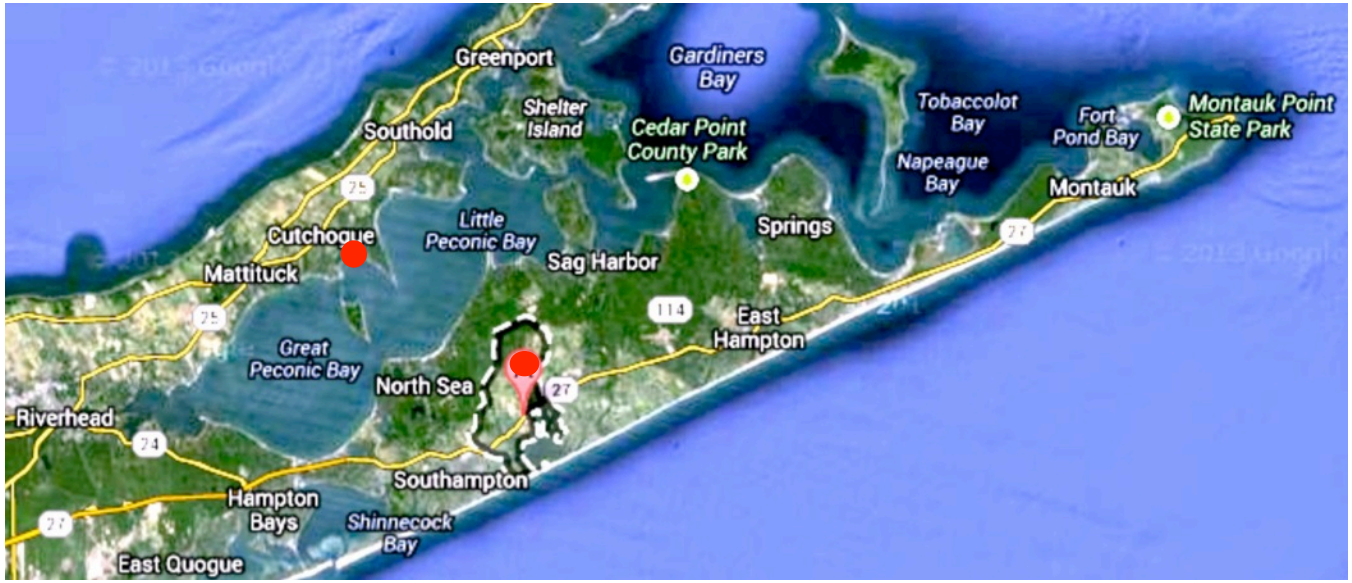
(Photo from 27east.com)

Unusual observations — 2013

Damage from Hurricane Sandy (29-31 Oct 2012)

In Cutchogue, in an orchard flooded with brackish water for 3 days:

- Apple trees planted prior to 2012 were unaffected.
- Apple trees planting spring 2012 had high mortality (30% ??)
- Flooded peach trees died.
- On peach trees, where flood waters came up to the trunk and covered only half of the roots, only one side of tree was killed.



Observations above reported by Tom Wickham, Wickham's Fruit Farm, Cutchogue, NY.

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