Evaluation of Insecticides for Apple Maggot Control

Dave Combs & Harvey Reissig

Orchard History

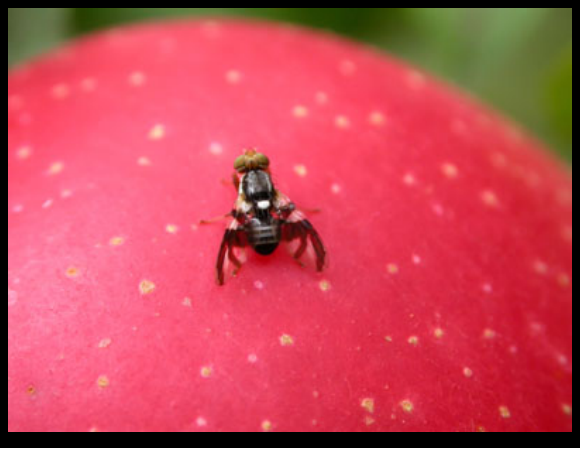
Commercial block of Jonagold in Wayne Co, NY

2009 had evidence of AM damage at harvest

Adjacent to abandoned orchard and woods

Damaged fruit collected in 2009 did not produce live larvae

Grower agreed to cooperate with experiment in 2010



2010 Experiment

Treatments of insecticides were applied at first fly catch (6 Jul)

Blocks of 9 trees (3x3) were arranged in a RCB design and replicated 3X

Applications were made at 14d intervals, 4 sprays applied in total

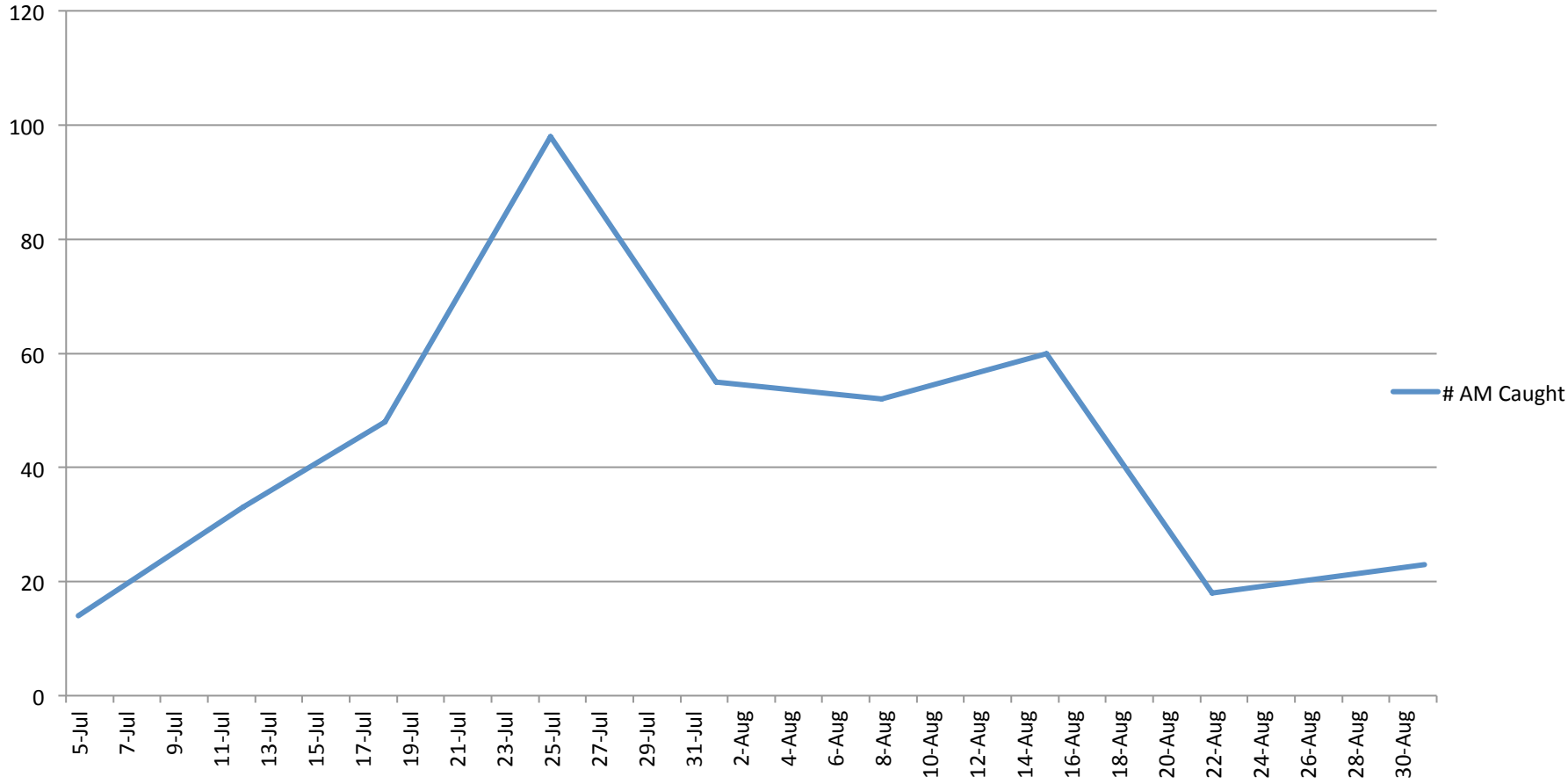
AM traps were hung in the UTC to monitor populations and checked weekly

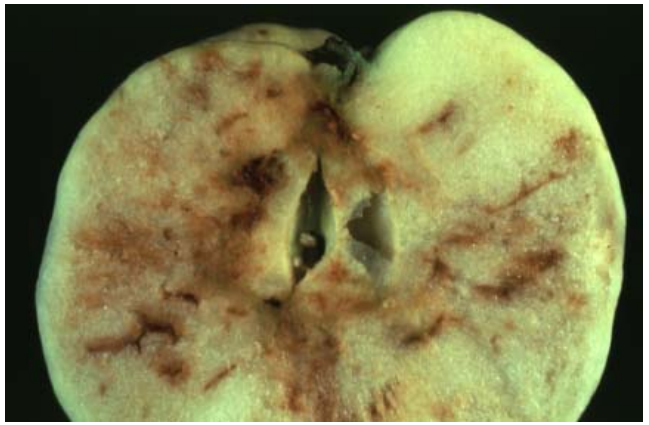
Harvest evals were conducted 1 Sep by picking and inspecting fruit

2010 Experiment

- Damage assessments were rated as a 'sting' if puncture did not exceed 1/8" and 'tunnel' if breakdown from larval tunneling was present
- Applications were made at 100gpa with air-blast equipment
- Applications were made on 6 Jul, 21 Jul, 3 Aug and 16 Aug
- Stinkbug damage was very heavy at harvest but was not rated
- Several different modes of action materials were used

AM Caught


120
100
80
60
40
20
0
5-Jul
7-Jul
9-Jul
11-Jul
13-Jul
15-Jul
17-Jul
19-Jul
21-Jul
23-Jul
25-Jul
27-Jul
29-Jul
31-Jul
2-Aug
4-Aug
6-Aug
8-Aug
10-Aug
12-Aug
14-Aug
16-Aug
18-Aug
20-Aug
22-Aug
24-Aug
26-Aug
28-Aug
30-Aug
AM Caught




N
W
E
S
2D
3D
Road
Aerial
50 feet
© 2010 Microsoft Corporation © 2010 NAVTEQ © AND
Pictometry Bird's Eye © 2010 MDA Geospatial Services Inc.
© 2010 Microsoft | Privacy | Legal | Advertise | About our ads | Help | Tell us what you think

Treatments

Actara 25W	5.0 oz/A
Avaunt 30WDG	5.5 oz/A
Calypso 4F	6.0 oz/A
Altacor WG	4.5 oz/A
Delegate 25W	6.5 oz/A
Guthion 50WSB	1.5 lb/A
Assail 70WP	3.4 oz/A
Untreated Check	

Treatment	Rate/A	% AM Sting
Actara 25W	5.0 oz	32.3 a
Avaunt 30WDG	5.5 oz	38.3 a
Calypso 4F	6.0 oz	19.3 a
Altacor	4.5 oz	18.0 a
Delegate 25W	6.5 oz	26.7 a
Guthion 50WSB	1.5 lb	15.3 a
Assail 70WP	3.4 oz	17.8 a
Untreated Check		19.0 a

Means within a column followed by the same letter are not significantly different (Fisher's Protected LSD Test, $P \leq 0.05$). Data was transformed arcsine (Sqrt *x*) prior to analysis.

Treatment	Rate/A	% AM Sting	% AM Tunnel
Actara 25W	5.0 oz	32.3 a	13.4 ab
Avaunt 30WDG	5.5 oz	38.3 a	15.0 b
Calypso 4F	6.0 oz	19.3 a	2.0 a
Altacor	4.5 oz	18.0 a	5.3 ab
Delegate 25W	6.5 oz	26.7 a	9.0 ab
Guthion 50WSB	1.5 lb	15.3 a	5.3 ab
Assail 70WP	3.4 oz	17.8 a	5.9 ab
Untreated Check		19.0 a	17.3 b

Means within a column followed by the same letter are not significantly different (Fisher's Protected LSD Test, $P \leq 0.05$). Data was transformed arcsine (Sqrt *x*) prior to analysis.

RESULTS

*All treatments were weak in preventing stings, no significant differences

*Industry standard Guthion was just as effective as all other treatments

*Contact materials did slightly better than ingestion materials

*Only one treatment separated from UTC, Calypso – known to be OP replacement, PHI and number of applications/yr are limiting

*High pressure situation

*Small crop load on test trees

*Tree spacing and size allowed for good coverage

*Plans to repeat test in 2011 in same location

Thanks

Burnap Farms
James Eve Jr - Consultant
Alex Walbridge – Summer Asst
All Companies who donated materials