United States Environmental Protection Agency

Office of Prevention, Pesticides, and Toxic Substances

DP Barcode: 346196, 347961, 343413
PC Code: 122804
February 21, 2008

MEMORANDUM

SUBJECT: **Drinking water assessment for Abamectin granular product to control fire ants, EC formulation applied aerially to citrus, and cattle ear tag.**

TO: **Barry OKeefe, Senior Biologist**
Registration Action Branch 3 (RAB3)
Health and Effects Division

And

Daniel Rosenblatt, Chief
Minor Use, Inerts & Emergency Response Branch
Registration Division

FROM: **Ibrahim Abdel-Saheb, Environmental Scientist**
Environmental Risk Branch II
Environmental Fate and Effects Division

2/21/08

THRU: **Dana Spatz, Acting Branch Chief**
Environmental Risk Branch II
Environmental Fate and Effects Division

CONCLUSIONS

The registrant (Syngenta Crop Protection, Inc.) have submitted applications for the following new uses of abamectin:

* **As granular product to control fire ants @ 0.0001 lbai/A, twice per season;**
* **As EC formulation to citrus applied aerially @ 0.047 lbai/A**

In addition, the registrant (Y-TEX Corporation) has submitted an application for the

following new use of abamectin:

* **As cattle ear tag (0.0016 lbai/A).**

In consideration of the use scenarios and application rates proposed for these new uses of abamectin, EFED concludes that the drinking water assessment dated March 20, 2007 (see attached) gives higher drinking water EECs and thus should continue to be used for the human health risk assessment.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

March 20, 2007
DP Barcode: D335118
PC Code: 122804

MEMORANDUM

SUBJECT: **Revised drinking water assessment for Abamectin as a seed treatment and as a foliar application on cucurbits and tomato based on new seed leaching study submitted to EFED.**

TO: **Meredith Laws, Chief**
Insecticide/Rodenticide Branch
Registration Division (7505)

Thomas Harris
Insecticide/Rodenticide Branch
Registration Division (7505)

FROM: **Ibrahim Abdel-Saheb, Environmental Scientist**
Environmental Risk Branch II
Environmental Fate and Effects Division

THRU: **Dana Spatz, Senior Chemist**
Environmental Risk Branch II
Environmental Fate and Effects Division

Tom Bailey, Branch Chief
Environmental Risk Branch II
Environmental Fate and Effects Division

INTRODUCTION

EFED has reviewed the submitted study measuring the availability of abamectin to leach from treated seeds, (MRID# 47000503, DER will follow shortly), and has updated the estimated drinking water concentrations to incorporate a revised seeding rate, a follow up foliar treatment of up to 3 applications at 0.019 lb ai/A, and the results from the seed leaching study. Results from this study showed that about 6% of the abamectin on the treated tomato seed actually desorbed from the

seed, and thus became available for leaching or runoff. In order to account for this lower availability (the original drinking water assessment assumed that 100% of the abamectin would be desorbed from the seed) the label application rates (i.e., 0.12 and 0.066 lb ai/acre) were multiplied by 6% and used in the modeling.

CONCLUSIONS

A screening assessment of estimated environmental concentrations (EECs) for abamectin and its major soil degradate (a mixture of a 8-α-hydroxy and a ring opened aldehyde derivative) in drinking water was conducted. The available cucumber scenario was used to represent cucurbits. The product considered was Agri-Mek ® 0.15 EC (EPA Reg.No. 100-898) containing the active ingredient abamectin, which itself is a mixture of abamectins containing ≥80% abamectin B_{1a} (5-0-demethyl abamectin A_{1a}) and ≤20% abamectin B_{1b} (5-0-demethyl-25-de(l-methylpropyl)-25-(I-methylethyl) abamectin A_{1a})]. Screening models were used to determine estimated concentrations in ground water and surface water. Regional PCAs of 0.38 (Florida) and 0.56 (California) were used in order to better reflect the expected exposures from these proposed localized uses.

Based on PRZM/EXAMS modeling, the surface water Expected Environmental Concentrations (EEC) of abamectin and its major degradate (a mixture of a 8-α-hydroxy and a ring opened aldehyde derivative) for the use on cucumber and tomato are shown in table 1.

Table 1. Estimated drinking water concentrations to be used for exposure to Abamectin and its major degradate (a mixture of a 8-•-hydroxy and a ring opened aldehyde derivative) in drinking water derived from surface water and ground water.

Crop	Model EEC Value (•g/L)			Use Modeled	PCA Modeled
	Acute	One-in-10 year annual mean	36 year overall mean		
FL-Tomato	0.198	0.092	0.070	One seed treatment @ 0.12 lbai/A, followed by 3 aerial applications @ 0.019 lb ai/A; application intervals: between appl. 1 and 2- 14 d interval, between appl. 2 and appl .3- 7 day interval.	0.38
	0.454	0.211	0.161		0.87 (national)
	0.080	0.058	0.049	One seed treatment @ 0.066 lbai/A, followed by 3 aerial applications @ 0.019 lb ai/A; application intervals of 14, 7 days.	0.38
	0.35	0.133	0.111		0.87 (national)
CA-Tomato	0.187	0.044	0.038	One seed treatment @ 0.12 lbai/A, followed by 3 aerial applications @ 0.019 lb ai/A; application intervals of 14, 7 days.	0.56
	0.290	0.067	0.059		0.87 (national)
	0.186	0.044	0.038	One seed treatment @ 0.066 lbai/A, followed by 3 aerial applications @ 0.019 lb ai/A; application intervals of 14, 7 days.	0.56
	0.288	0.068	0.059		0.87 (national)
FL-Cucumber	0.203	0.083	0.063	Cucumber in Florida; one seed treatment @ 0.066 lbai/A, followed by 3 aerial applications @ 0.019 lb ai/A; application intervals of 7 days.	0.38
	0.464	0.190	0.144		0.87 (national)
Groundwater	0.00184	one seed treatment @ 0.066 lbai/A, and 3 aerial applications @ 0.019 lb ai/A			None

SCI-GROW has no capability to accommodate a pesticide applied by two different methods, thus this assessment used the total application rate (i.e. 3x(0.019) + (0.066*0.06) = 0.061 lb ai/A).

BACKGROUND

Abamectin (also known as Abamectin) is the active ingredient in the miticide/insecticide Agrimek ® 0.15, which is proposed for control of a number of insect pests, specifically mites and leafminers in leafy vegetables, fruiting vegetables, and tree crops.

Groundwater and surface water monitoring data are not available to the Environmental Fate and

Effects Division (EFED) for abamectin at this time. Screening models were used to determine estimated concentrations for abamectin in groundwater and surface water for the proposed uses.

SURFACE WATER

PRZM-EXAMS simulations were conducted for abamectin use on cucumber to evaluate the cumulative probability distribution for peak and annual mean EECs. Selective PRZM/EXAMS modeling inputs are shown in Table 2. The input and output files for these runs are in Appendix I.

Table 2. Selected Surface Water Exposure Inputs for PRZM/EXAMS for Parent Abamectin and its major degradate (a mixture of a 8-•-hydroxy and a ring opened aldehyde derivative)

MODEL INPUT VARIABLE	INPUT VALUE	COMMENTS
Application rate (lb ai/A) Field Corn Sweet Corn	 0.0201 0.0241	EPA Reg. No. 100-1204; Rate multiplied by 86.8% (amount of abamectin desorped from seed in desorption study; MRID# 47000503).
K_d (mL/g)	82 (average)	MRID 40856301; no data for degradate; Input parameter guidance, 2002
Aerobic Soil Metabolic Half-life (days)	150	90% upper-bound confidence limit of mean half-life.
Is the pesticide wetted-in?	No	EPA Reg.No. 100-898
Depth of Incorporation (in.)	0; and 0.5 for treated seeds	EPA Reg.No. 100-898
Spray Drift Fraction	1%	For ground
Solubility (•g/L)	78	10x reported value; no data for degradate.
Aerobic Aquatic Metabolic Half-life (days)	300	No acceptable aerobic aquatic metabolism data were available. 2x aerobic soil metabolism half-life was used (Input parameter guidance, 2002).
Hydrolysis (pH 7) half-life (days)	0	Stable. No MRID available. Review dated 4/18/83; no data for degradate.
Photolysis Half-life (days)	0.5	Dark-control adjusted half-life. Ku and Jacob, 1983, No MRID available, Review dated 3/28/84; no data for degradate.

GROUND WATER

The SCI-GROW model is based on scaled ground water concentration from ground water monitoring studies, environmental fate properties (aerobic soil half-lives and organic carbon partitioning coefficients-K_{oc}'s) and application rates. The model is based on permeable soils that are vulnerable to leaching and on shallow ground water (10-30 feet). SCI-GROW version 2.3 (executable file dated 08/05/2003) was used to estimate concentrations of abamectin and its major degradate (a mixture of a 8-α-hydroxy and a ring opened aldehyde derivative) that could be found in drinking water derived from ground water, using the input values listed in the table 3.

Table 3. Ground Water Exposure Inputs for SCI-GROW for parent abamectin and its major degradate (a mixture of a 8-•-hydroxy and a ring opened aldehyde derivative).

MODEL INPUT VARIABLE	INPUT VALUE	COMMENTS
Application Rate (lbs. ai/A)	0. 061 (seed treatment plus foliar)	EPA Reg.No. 100-898
Maximum No. of Applications	1	EPA Reg.No. 100-898
K_{oc}	2,531	Median non-sand. MRID 40856301; no data for degradate; Input parameter guidance, 2002.
Aerobic Soil Metabolic Half-life (days)	101	Mean of 101 days from cumulative half-lives of 53.5, 49.4, 169.9, and 133.3 days. Ku and Jacob, 1983, No MRID available, Review dated 3/28/84; Input parameter guidance, 2002.

Results from the SCI-GROW screening model predict that the maximum chronic and acute concentration of parent abamectin and its major degradate (a mixture of a 8-α-hydroxy and a ring opened aldehyde derivative) in shallow ground water is not expected to exceed 0.00184 µg/L for the current maximum seasonal use rate on cucumber.

APPENDIX I

IR-PCA PRZM/EXAMS INPUT & OUTPUT FILES

FL Cucumber (General Vegetable Scenario)

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FL Cucumber (General Vegetable Scenario)

"Collier and Hendry Counties; MLRA: 156B; Metfile: W12842.dvf
(old: Met156B.met),"
*** Record 3:
    0.78       0       0      33       1       1
*** Record 6 -- ERFLAG
       4
*** Record 7:
    0.03     0.2       1   172.8                4       1     600
*** Record 8
       1
*** Record 9
       1    0.15      50      80       3  91  87  88       0
 30
*** Record 9a-d
       1      27
0101 1601 0102 1602 0103 1603 0104 1604 0105 1505 1605 2505 0106
1606 0107 1607
.813 .830 .846 .859 .870 .878 .881 .881 .880 .836 .849 .938 .840
.572 .285 .177
.011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011
.011 .011 .011
0108 1008 1608 0109 1609 0110 1610 0111 1611 0112 1612
.162 .210 .291 .422 .547 .636 .683 .715 .743 .768 .793
.011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011
*** Record 10 -- NCPDS, the number of cropping periods
      30
*** Record 11
  101061  051261  101261       1
  101062  051262  101262       1
  101063  051263  101263       1
  101064  051264  101264       1
  101065  051265  101265       1
  101066  051266  101266       1
  101067  051267  101267       1
  101068  051268  101268       1
  101069  051269  101269       1
  101070  051270  101270       1
  101071  051271  101271       1
  101072  051272  101272       1
  101073  051273  101273       1
  101074  051274  101274       1
  101075  051275  101275       1
  101076  051276  101276       1
  101077  051277  101277       1
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  101078   051278   101278          1
  101079   051279   101279          1
  101080   051280   101280          1
  101081   051281   101281          1
  101082   051282   101282          1
  101083   051283   101283          1
  101084   051284   101284          1
  101085   051285   101285          1
  101086   051286   101286          1
  101087   051287   101287          1
  101088   051288   101288          1
  101089   051289   101289          1
  101090   051290   101290          1
*** Record 12 -- PTITLE
Avrmctn - 3 applications @ 0.0213 kg/ha (foliar) & one seed
treat. @ 0.004 lbai/acr
*** Record 13
    117    1         0    0
*** Record 15 -- PSTNAM
Avrmctn
*** Record 16
  250961  0 8  1.30.004   0.99  0.01
  050562  0 2  0.00.0213  0.95  0.16
  120562  0 2  0.00.0213  0.95  0.16
  260562  0 2  0.00.0213  0.95  0.16
  250962  0 8  1.30.004   0.99  0.01
  050563  0 2  0.00.0213  0.95  0.16
  120563  0 2  0.00.0213  0.95  0.16
  260563  0 2  0.00.0213  0.95  0.16
  250963  0 8  1.30.004   0.99  0.01
  050564  0 2  0.00.0213  0.95  0.16
  120564  0 2  0.00.0213  0.95  0.16
  260564  0 2  0.00.0213  0.95  0.16
  250964  0 8  1.30.004   0.99  0.01
  050565  0 2  0.00.0213  0.95  0.16
  120565  0 2  0.00.0213  0.95  0.16
  260565  0 2  0.00.0213  0.95  0.16
  250965  0 8  1.30.004   0.99  0.01
  050566  0 2  0.00.0213  0.95  0.16
  120566  0 2  0.00.0213  0.95  0.16
  260566  0 2  0.00.0213  0.95  0.16
  250966  0 8  1.30.004   0.99  0.01
  050567  0 2  0.00.0213  0.95  0.16
  120567  0 2  0.00.0213  0.95  0.16
  260567  0 2  0.00.0213  0.95  0.16
  250967  0 8  1.30.004   0.99  0.01
  050568  0 2  0.00.0213  0.95  0.16
  120568  0 2  0.00.0213  0.95  0.16
  260568  0 2  0.00.0213  0.95  0.16
  250968  0 8  1.30.004   0.99  0.01
  050569  0 2  0.00.0213  0.95  0.16
```

120569	0	2	0.00.0213	0.95	0.16
260569	0	2	0.00.0213	0.95	0.16
250969	0	8	1.30.004	0.99	0.01
050570	0	2	0.00.0213	0.95	0.16
120570	0	2	0.00.0213	0.95	0.16
260570	0	2	0.00.0213	0.95	0.16
250970	0	8	1.30.004	0.99	0.01
050571	0	2	0.00.0213	0.95	0.16
120571	0	2	0.00.0213	0.95	0.16
260571	0	2	0.00.0213	0.95	0.16
250971	0	8	1.30.004	0.99	0.01
050572	0	2	0.00.0213	0.95	0.16
120572	0	2	0.00.0213	0.95	0.16
260572	0	2	0.00.0213	0.95	0.16
250972	0	8	1.30.004	0.99	0.01
050573	0	2	0.00.0213	0.95	0.16
120573	0	2	0.00.0213	0.95	0.16
260573	0	2	0.00.0213	0.95	0.16
250973	0	8	1.30.004	0.99	0.01
050574	0	2	0.00.0213	0.95	0.16
120574	0	2	0.00.0213	0.95	0.16
260574	0	2	0.00.0213	0.95	0.16
250974	0	8	1.30.004	0.99	0.01
050575	0	2	0.00.0213	0.95	0.16
120575	0	2	0.00.0213	0.95	0.16
260575	0	2	0.00.0213	0.95	0.16
250975	0	8	1.30.004	0.99	0.01
050576	0	2	0.00.0213	0.95	0.16
120576	0	2	0.00.0213	0.95	0.16
260576	0	2	0.00.0213	0.95	0.16
250976	0	8	1.30.004	0.99	0.01
050577	0	2	0.00.0213	0.95	0.16
120577	0	2	0.00.0213	0.95	0.16
260577	0	2	0.00.0213	0.95	0.16
250977	0	8	1.30.004	0.99	0.01
050578	0	2	0.00.0213	0.95	0.16
120578	0	2	0.00.0213	0.95	0.16
260578	0	2	0.00.0213	0.95	0.16
250978	0	8	1.30.004	0.99	0.01
050579	0	2	0.00.0213	0.95	0.16
120579	0	2	0.00.0213	0.95	0.16
260579	0	2	0.00.0213	0.95	0.16
250979	0	8	1.30.004	0.99	0.01
050580	0	2	0.00.0213	0.95	0.16
120580	0	2	0.00.0213	0.95	0.16
260580	0	2	0.00.0213	0.95	0.16
250980	0	8	1.30.004	0.99	0.01
050581	0	2	0.00.0213	0.95	0.16
120581	0	2	0.00.0213	0.95	0.16
260581	0	2	0.00.0213	0.95	0.16
250981	0	8	1.30.004	0.99	0.01

```
  050582   0 2   0.00.0213 0.95 0.16
  120582   0 2   0.00.0213 0.95 0.16
  260582   0 2   0.00.0213 0.95 0.16
  250982   0 8   1.30.004  0.99 0.01
  050583   0 2   0.00.0213 0.95 0.16
  120583   0 2   0.00.0213 0.95 0.16
  260583   0 2   0.00.0213 0.95 0.16
  250983   0 8   1.30.004  0.99 0.01
  050584   0 2   0.00.0213 0.95 0.16
  120584   0 2   0.00.0213 0.95 0.16
  260584   0 2   0.00.0213 0.95 0.16
  250984   0 8   1.30.004  0.99 0.01
  050585   0 2   0.00.0213 0.95 0.16
  120585   0 2   0.00.0213 0.95 0.16
  260585   0 2   0.00.0213 0.95 0.16
  250985   0 8   1.30.004  0.99 0.01
  050586   0 2   0.00.0213 0.95 0.16
  120586   0 2   0.00.0213 0.95 0.16
  260586   0 2   0.00.0213 0.95 0.16
  250986   0 8   1.30.004  0.99 0.01
  050587   0 2   0.00.0213 0.95 0.16
  120587   0 2   0.00.0213 0.95 0.16
  260587   0 2   0.00.0213 0.95 0.16
  250987   0 8   1.30.004  0.99 0.01
  050588   0 2   0.00.0213 0.95 0.16
  120588   0 2   0.00.0213 0.95 0.16
  260588   0 2   0.00.0213 0.95 0.16
  250988   0 8   1.30.004  0.99 0.01
  050589   0 2   0.00.0213 0.95 0.16
  120589   0 2   0.00.0213 0.95 0.16
  260589   0 2   0.00.0213 0.95 0.16
  250989   0 8   1.30.004  0.99 0.01
  050590   0 2   0.00.0213 0.95 0.16
  120590   0 2   0.00.0213 0.95 0.16
  260590   0 2   0.00.0213 0.95 0.16
  250990   0 8   1.30.004  0.99 0.01
*** Record 17
       0       1       0
*** Record 18
       0       0     0.5
*** Record 19 -- STITLE
Riviera Sand; HYDG: C

*** Record 20
     100            0   0   0   0   0   0   0   0   0
*** Record 26
       0       0       0
*** Record 33
       3
       1      10    1.65   0.073       0       0       0
        0.0046210.004621       0


                                  11
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```
          0.1     0.073     0.023     1.16       50
  2        62      1.65     0.073        0        0        0
   0.0046210.004621             0
            2     0.073     0.023     1.16       50
  3        28       1.7     0.211        0        0        0
   0.0046210.004621             0
            2     0.211     0.091    0.174       50
***Record 40
  0
        YEAR        10              YEAR       10            YEAR
 10    1
  1
  1   -----
  7     YEAR
   PRCP     TCUM    0    0
   RUNF     TCUM    0    0
   INFL     TCUM    1    1
   ESLS     TCUM    0    0   1.0E3
   RFLX     TCUM    0    0   1.0E5
   EFLX     TCUM    0    0   1.0E5
   RZFX     TCUM    0    0   1.0E5
```

Abamectin on FL cucumber (output file)

WATER COLUMN DISSOLVED CONCENTRATION (PPB)

YEAR	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
1961	0.016	0.015	0.012	0.009	0.008	0.002
1962	0.327	0.312	0.280	0.218	0.211	0.111
1963	0.341	0.326	0.281	0.242	0.222	0.158
1964	0.374	0.358	0.308	0.262	0.240	0.149
1965	0.340	0.326	0.274	0.231	0.204	0.131
1966	0.325	0.310	0.288	0.244	0.218	0.131
1967	0.362	0.347	0.293	0.245	0.232	0.165
1968	0.358	0.343	0.292	0.250	0.235	0.162
1969	0.400	0.383	0.328	0.283	0.258	0.196
1970	0.463	0.444	0.379	0.294	0.269	0.201
1971	0.366	0.351	0.298	0.257	0.228	0.148
1972	0.453	0.433	0.392	0.326	0.295	0.180
1973	0.479	0.459	0.403	0.359	0.337	0.197
1974	0.393	0.377	0.320	0.278	0.247	0.165
1975	0.434	0.415	0.359	0.300	0.271	0.149
1976	0.422	0.404	0.358	0.331	0.332	0.215
1977	0.455	0.444	0.407	0.341	0.323	0.219
1978	0.387	0.373	0.326	0.288	0.283	0.180
1979	0.503	0.480	0.415	0.329	0.288	0.176
1980	0.359	0.344	0.292	0.253	0.236	0.147
1981	0.835	0.795	0.659	0.481	0.417	0.235
1982	0.389	0.374	0.331	0.297	0.285	0.214
1983	0.538	0.520	0.441	0.365	0.346	0.221
1984	0.539	0.518	0.444	0.404	0.369	0.212

1985	0.369	0.354	0.303	0.257	0.231	0.137
1986	0.376	0.359	0.305	0.249	0.221	0.151
1987	0.372	0.356	0.326	0.280	0.255	0.151
1988	0.341	0.326	0.274	0.235	0.208	0.133
1989	0.343	0.328	0.283	0.239	0.210	0.144
1990	0.447	0.429	0.376	0.346	0.325	0.213

SORTED FOR PLOTTING

PROB	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
0.032	0.835	0.795	0.659	0.481	0.417	0.235
0.065	0.539	0.520	0.444	0.404	0.369	0.221
0.097	0.538	0.518	0.441	0.365	0.346	0.219
0.129	0.503	0.480	0.415	0.359	0.337	0.215
0.161	0.479	0.459	0.407	0.346	0.332	0.214
0.194	0.463	0.444	0.403	0.341	0.325	0.213
0.226	0.455	0.444	0.392	0.331	0.323	0.212
0.258	0.453	0.433	0.379	0.329	0.295	0.201
0.290	0.447	0.429	0.376	0.326	0.288	0.197
0.323	0.434	0.415	0.359	0.300	0.285	0.196
0.355	0.422	0.404	0.358	0.297	0.283	0.180
0.387	0.400	0.383	0.331	0.294	0.271	0.180
0.419	0.393	0.377	0.328	0.288	0.269	0.176
0.452	0.389	0.374	0.326	0.283	0.258	0.165
0.484	0.387	0.373	0.326	0.280	0.255	0.165
0.516	0.376	0.359	0.320	0.278	0.247	0.162
0.548	0.374	0.358	0.308	0.262	0.240	0.158
0.581	0.372	0.356	0.305	0.257	0.236	0.151
0.613	0.369	0.354	0.303	0.257	0.235	0.151
0.645	0.366	0.351	0.298	0.253	0.232	0.149
0.677	0.362	0.347	0.293	0.250	0.231	0.149
0.710	0.359	0.344	0.292	0.249	0.228	0.148
0.742	0.358	0.343	0.292	0.245	0.222	0.147
0.774	0.343	0.328	0.288	0.244	0.221	0.144
0.806	0.341	0.326	0.283	0.242	0.218	0.137
0.839	0.341	0.326	0.281	0.239	0.211	0.133
0.871	0.340	0.326	0.280	0.235	0.210	0.131
0.903	0.327	0.312	0.274	0.231	0.208	0.131
0.935	0.325	0.310	0.274	0.218	0.204	0.111
0.968	0.016	0.015	0.012	0.009	0.008	0.002
1/10	0.534	0.514	0.438	0.365	0.345	0.219

MEAN OF ANNUAL VALUES = 0.166

STANDARD DEVIATION OF ANNUAL VALUES = 0.045

UPPER 90% CONFIDENCE LIMIT ON MEAN = 0.179

CA Tomato (seed treatment @0.0072 & 3 foliar applications @ 0.019 lbai/A)

```
CAtomato -- California central valley tomatoes

"Central valley, CA, nominally San Joaquin county MLRA 17;
Metfile: W93193.dvf (old: Met18.met or Met17.met),
*** Record 3:
     0.7    0.55       0      17       1       1
*** Record 6 -- ERFLAG
       4
*** Record 7:
    0.24    0.26       1   172.8                1    0.25     600
*** Record 8
       1
*** Record 9
       1     0.1      90      90       1  91  87  88        0
 30
*** Record 9a-d
       1      25
0101 1601 0102 1602 0103 1603 0104 1604 0105 1605 0106 1606 0107
1607 0108 1608
.069 .082 .195 .252 .255 .218 .138 .077 .065 .054 .043 .057 .035
.035 .035 .035
.023 .023 .023 .023 .023 .023 .023 .023 .023 .023 .023 .023 .023
.023 .023 .023
0109 1609 0110 1010 1610 0111 1611 0112 1612
.035 .035 .036 .099 .103 .112 .127 .147 .168
.023 .023 .023 .023 .023 .023 .023 .023 .023
*** Record 10 -- NCPDS, the number of cropping periods
       30
*** Record 11
  010361  010761  010961       1
  010362  010762  010962       1
```

```
  010363  010763  010963        1
  010364  010764  010964        1
  010365  010765  010965        1
  010366  010766  010966        1
  010367  010767  010967        1
  010368  010768  010968        1
  010369  010769  010969        1
  010370  010770  010970        1
  010371  010771  010971        1
  010372  010772  010972        1
  010373  010773  010973        1
  010374  010774  010974        1
  010375  010775  010975        1
  010376  010776  010976        1
  010377  010777  010977        1
  010378  010778  010978        1
  010379  010779  010979        1
  010380  010780  010980        1
  010381  010781  010981        1
  010382  010782  010982        1
  010383  010783  010983        1
  010384  010784  010984        1
  010385  010785  010985        1
  010386  010786  010986        1
  010387  010787  010987        1
  010388  010788  010988        1
  010389  010789  010989        1
  010390  010790  010990        1
*** Record 12 -- PTITLE
abamectin - 3 applications @ 0.0213 kg/ha and one seed treatment
@ 0.0081 kg/ha
*** Record 13
     120        1        0        0
*** Record 15 -- PSTNAM
abamectin
*** Record 16
  010361  0 8  1.30.0081 1.00 0.000
  140361  0 2  0.00.0213 0.95 0.16
  280361  0 2  0.00.0213 0.95 0.16
  040461  0 2  0.00.0213 0.95 0.16
  010362  0 8  1.30.0081 1.00 0.000
  140362  0 2  0.00.0213 0.95 0.16
  280362  0 2  0.00.0213 0.95 0.16
  040462  0 2  0.00.0213 0.95 0.16
  010363  0 8  1.30.0081 1.00 0.000
  140363  0 2  0.00.0213 0.95 0.16
  280363  0 2  0.00.0213 0.95 0.16
  040463  0 2  0.00.0213 0.95 0.16
  010364  0 8  1.30.0081 1.00 0.000
  140364  0 2  0.00.0213 0.95 0.16
  280364  0 2  0.00.0213 0.95 0.16
```

040464	0	2	0.00.0213	0.95	0.16
010365	0	8	1.30.0081	1.00	0.000
140365	0	2	0.00.0213	0.95	0.16
280365	0	2	0.00.0213	0.95	0.16
040465	0	2	0.00.0213	0.95	0.16
010366	0	8	1.30.0081	1.00	0.000
140366	0	2	0.00.0213	0.95	0.16
280366	0	2	0.00.0213	0.95	0.16
040466	0	2	0.00.0213	0.95	0.16
010367	0	8	1.30.0081	1.00	0.000
140367	0	2	0.00.0213	0.95	0.16
280367	0	2	0.00.0213	0.95	0.16
040467	0	2	0.00.0213	0.95	0.16
010368	0	8	1.30.0081	1.00	0.000
140368	0	2	0.00.0213	0.95	0.16
280368	0	2	0.00.0213	0.95	0.16
040468	0	2	0.00.0213	0.95	0.16
010369	0	8	1.30.0081	1.00	0.000
140369	0	2	0.00.0213	0.95	0.16
280369	0	2	0.00.0213	0.95	0.16
040469	0	2	0.00.0213	0.95	0.16
010370	0	8	1.30.0081	1.00	0.000
140370	0	2	0.00.0213	0.95	0.16
280370	0	2	0.00.0213	0.95	0.16
040470	0	2	0.00.0213	0.95	0.16
010371	0	8	1.30.0081	1.00	0.000
140371	0	2	0.00.0213	0.95	0.16
280371	0	2	0.00.0213	0.95	0.16
040471	0	2	0.00.0213	0.95	0.16
010372	0	8	1.30.0081	1.00	0.000
140372	0	2	0.00.0213	0.95	0.16
280372	0	2	0.00.0213	0.95	0.16
040472	0	2	0.00.0213	0.95	0.16
010373	0	8	1.30.0081	1.00	0.000
140373	0	2	0.00.0213	0.95	0.16
280373	0	2	0.00.0213	0.95	0.16
040473	0	2	0.00.0213	0.95	0.16
010374	0	8	1.30.0081	1.00	0.000
140374	0	2	0.00.0213	0.95	0.16
280374	0	2	0.00.0213	0.95	0.16
040474	0	2	0.00.0213	0.95	0.16
010375	0	8	1.30.0081	1.00	0.000
140375	0	2	0.00.0213	0.95	0.16
280375	0	2	0.00.0213	0.95	0.16
040475	0	2	0.00.0213	0.95	0.16
010376	0	8	1.30.0081	1.00	0.000
140376	0	2	0.00.0213	0.95	0.16
280376	0	2	0.00.0213	0.95	0.16
040476	0	2	0.00.0213	0.95	0.16
010377	0	8	1.30.0081	1.00	0.000
140377	0	2	0.00.0213	0.95	0.16

```
280377   0 2   0.00.0213 0.95 0.16
040477   0 2   0.00.0213 0.95 0.16
010378   0 8   1.30.0081 1.00 0.000
140378   0 2   0.00.0213 0.95 0.16
280378   0 2   0.00.0213 0.95 0.16
040478   0 2   0.00.0213 0.95 0.16
010379   0 8   1.30.0081 1.00 0.000
140379   0 2   0.00.0213 0.95 0.16
280379   0 2   0.00.0213 0.95 0.16
040479   0 2   0.00.0213 0.95 0.16
010380   0 8   1.30.0081 1.00 0.000
140380   0 2   0.00.0213 0.95 0.16
280380   0 2   0.00.0213 0.95 0.16
040480   0 2   0.00.0213 0.95 0.16
010381   0 8   1.30.0081 1.00 0.000
140381   0 2   0.00.0213 0.95 0.16
280381   0 2   0.00.0213 0.95 0.16
040481   0 2   0.00.0213 0.95 0.16
010382   0 8   1.30.0081 1.00 0.000
140382   0 2   0.00.0213 0.95 0.16
280382   0 2   0.00.0213 0.95 0.16
040482   0 2   0.00.0213 0.95 0.16
010383   0 8   1.30.0081 1.00 0.000
140383   0 2   0.00.0213 0.95 0.16
280383   0 2   0.00.0213 0.95 0.16
040483   0 2   0.00.0213 0.95 0.16
010384   0 8   1.30.0081 1.00 0.000
140384   0 2   0.00.0213 0.95 0.16
280384   0 2   0.00.0213 0.95 0.16
040484   0 2   0.00.0213 0.95 0.16
010385   0 8   1.30.0081 1.00 0.000
140385   0 2   0.00.0213 0.95 0.16
280385   0 2   0.00.0213 0.95 0.16
040485   0 2   0.00.0213 0.95 0.16
010386   0 8   1.30.0081 1.00 0.000
140386   0 2   0.00.0213 0.95 0.16
280386   0 2   0.00.0213 0.95 0.16
040486   0 2   0.00.0213 0.95 0.16
010387   0 8   1.30.0081 1.00 0.000
140387   0 2   0.00.0213 0.95 0.16
280387   0 2   0.00.0213 0.95 0.16
040487   0 2   0.00.0213 0.95 0.16
010388   0 8   1.30.0081 1.00 0.000
140388   0 2   0.00.0213 0.95 0.16
280388   0 2   0.00.0213 0.95 0.16
040488   0 2   0.00.0213 0.95 0.16
010389   0 8   1.30.0081 1.00 0.000
140389   0 2   0.00.0213 0.95 0.16
280389   0 2   0.00.0213 0.95 0.16
040489   0 2   0.00.0213 0.95 0.16
010390   0 8   1.30.0081 1.00 0.000
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  140390   0 2   0.00.0213 0.95 0.16
  280390   0 2   0.00.0213 0.95 0.16
  040490   0 2   0.00.0213 0.95 0.16
*** Record 17
       0        1        0
*** Record 18
       0        0      0.5
*** Record 19 -- STITLE
"Stockton clay  Hyd Grp D, Egbert (grp C/D) might be better but
no data available from char. Database."
*** Record 20
     180            0    0    0    0    0    2    0    0    0
*** Record 26
       0        0        0
*** Record 27 -- irrigation
       2      0.4     0.55     0.15
*** Record 28 - Furrow irrigation paramters
  0.0025     0.12        2    0.005     0.02      300       -1
*** Record 29 - more furrow irrigation parameters
      0.2      100
*** Record 33
       3
       1       10      1.3     0.38        0        0        0
         0.0046210.004621         0
                0.1     0.38     0.25     0.95       82
       2        8      1.3     0.38        0        0        0
         0.0046210.004621         0
                1     0.38     0.25     0.95       82
       3      162      1.4     0.25        0        0        0
         0.0046210.004621         0
               16.2     0.19     0.25      0.4       82
***Record 40
       0
             YEAR       10             YEAR       10             YEAR
     10    1
       1
       1   -----
       7    YEAR
    PRCP    TCUM    0    0
    RUNF    TCUM    0    0
    INFL    TCUM    1    1
    ESLS    TCUM    0    0  1.0E3
    RFLX    TCUM    0    0  1.0E5
    EFLX    TCUM    0    0  1.0E5
    RZFX    TCUM    0    0  1.0E5
```

Abamectin on CA tomatoes @ (0.0072 & 3X 0.019 lbai/A) output file

abamectin on ca tomato (hi rate)

WATER COLUMN DISSOLVED CONCENTRATION (PPB)

YEAR	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
1961	0.299	0.283	0.229	0.169	0.141	0.052
1962	0.314	0.297	0.243	0.182	0.153	0.072
1963	0.351	0.343	0.314	0.245	0.208	0.095
1964	0.330	0.313	0.260	0.198	0.168	0.078
1965	0.320	0.304	0.253	0.192	0.163	0.070
1966	0.312	0.295	0.242	0.180	0.152	0.064
1967	0.332	0.323	0.272	0.207	0.176	0.074
1968	0.311	0.295	0.241	0.180	0.152	0.062
1969	0.332	0.317	0.262	0.196	0.166	0.070
1970	0.310	0.294	0.241	0.181	0.152	0.065
1971	0.314	0.298	0.245	0.184	0.156	0.065
1972	0.310	0.294	0.241	0.180	0.152	0.063
1973	0.314	0.297	0.244	0.182	0.153	0.064
1974	0.317	0.300	0.247	0.185	0.156	0.065
1975	0.325	0.309	0.255	0.192	0.161	0.065
1976	0.308	0.293	0.241	0.181	0.152	0.061
1977	0.308	0.292	0.238	0.178	0.151	0.061
1978	0.318	0.305	0.252	0.191	0.161	0.066
1979	0.317	0.301	0.248	0.187	0.157	0.064
1980	0.317	0.301	0.248	0.187	0.158	0.066
1981	0.331	0.314	0.260	0.197	0.166	0.071
1982	0.397	0.377	0.323	0.239	0.202	0.087
1983	0.334	0.317	0.264	0.205	0.176	0.073
1984	0.310	0.294	0.241	0.180	0.152	0.062
1985	0.310	0.294	0.240	0.179	0.151	0.062
1986	0.328	0.312	0.259	0.198	0.167	0.070
1987	0.311	0.295	0.242	0.180	0.152	0.062
1988	0.309	0.293	0.241	0.183	0.156	0.064
1989	0.330	0.313	0.259	0.194	0.163	0.069
1990	0.317	0.300	0.247	0.186	0.161	0.070

SORTED FOR PLOTTING

PROB	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
0.032	0.397	0.377	0.323	0.245	0.208	0.095
0.065	0.351	0.343	0.314	0.239	0.202	0.087
0.097	0.334	0.323	0.272	0.207	0.176	0.078
0.129	0.332	0.317	0.264	0.205	0.176	0.074
0.161	0.332	0.317	0.262	0.198	0.168	0.073
0.194	0.331	0.314	0.260	0.198	0.167	0.072
0.226	0.330	0.313	0.260	0.197	0.166	0.071
0.258	0.330	0.313	0.259	0.196	0.166	0.070
0.290	0.328	0.312	0.259	0.194	0.163	0.070
0.323	0.325	0.309	0.255	0.192	0.163	0.070
0.355	0.320	0.305	0.253	0.192	0.161	0.070
0.387	0.318	0.304	0.252	0.191	0.161	0.069
0.419	0.317	0.301	0.248	0.187	0.161	0.066
0.452	0.317	0.301	0.248	0.187	0.158	0.066

0.484	0.317	0.300	0.247	0.186	0.157	0.065
0.516	0.317	0.300	0.247	0.185	0.156	0.065
0.548	0.314	0.298	0.245	0.184	0.156	0.065
0.581	0.314	0.297	0.244	0.183	0.156	0.065
0.613	0.314	0.297	0.243	0.182	0.153	0.064
0.645	0.312	0.295	0.242	0.182	0.153	0.064
0.677	0.311	0.295	0.242	0.181	0.152	0.064
0.710	0.311	0.295	0.241	0.181	0.152	0.064
0.742	0.310	0.294	0.241	0.180	0.152	0.063
0.774	0.310	0.294	0.241	0.180	0.152	0.062
0.806	0.310	0.294	0.241	0.180	0.152	0.062
0.839	0.310	0.294	0.241	0.180	0.152	0.062
0.871	0.309	0.293	0.241	0.180	0.152	0.062
0.903	0.308	0.293	0.240	0.179	0.151	0.061
0.935	0.308	0.292	0.238	0.178	0.151	0.061
0.968	0.299	0.283	0.229	0.169	0.141	0.052
1/10	0.334	0.322	0.271	0.207	0.176	0.078

MEAN OF ANNUAL VALUES = 0.068

STANDARD DEVIATION OF ANNUAL VALUES = 0.008

UPPER 90% CONFIDENCE LIMIT ON MEAN = 0.070

CA Tomato (seed treatment @0.004& 3 foliar applications @ 0.019 lbai/A)

```
CAtomato -- California central valley tomatoes

"Central valley, CA, nominally San Joaquin county MLRA 17;
Metfile: W93193.dvf (old: Met18.met or Met17.met),
*** Record 3:
     0.7    0.55       0      17       1       1
*** Record 6 -- ERFLAG
       4
*** Record 7:
    0.24    0.26       1   172.8                1    0.25      600
*** Record 8
       1
*** Record 9
       1     0.1      90      90       1  91  87  88        0
 30
*** Record 9a-d
       1      25
0101 1601 0102 1602 0103 1603 0104 1604 0105 1605 0106 1606 0107
1607 0108 1608
.069 .082 .195 .252 .255 .218 .138 .077 .065 .054 .043 .057 .035
.035 .035 .035
.023 .023 .023 .023 .023 .023 .023 .023 .023 .023 .023 .023 .023
.023 .023 .023
0109 1609 0110 1010 1610 0111 1611 0112 1612
.035 .035 .036 .099 .103 .112 .127 .147 .168
.023 .023 .023 .023 .023 .023 .023 .023 .023
*** Record 10 -- NCPDS, the number of cropping periods
      30
*** Record 11
  010361  010761  010961       1
  010362  010762  010962       1
  010363  010763  010963       1
  010364  010764  010964       1
  010365  010765  010965       1
  010366  010766  010966       1
  010367  010767  010967       1
  010368  010768  010968       1
  010369  010769  010969       1
  010370  010770  010970       1
  010371  010771  010971       1
  010372  010772  010972       1
  010373  010773  010973       1
  010374  010774  010974       1
  010375  010775  010975       1
  010376  010776  010976       1
  010377  010777  010977       1
  010378  010778  010978       1
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  010379  010779  010979        1
  010380  010780  010980        1
  010381  010781  010981        1
  010382  010782  010982        1
  010383  010783  010983        1
  010384  010784  010984        1
  010385  010785  010985        1
  010386  010786  010986        1
  010387  010787  010987        1
  010388  010788  010988        1
  010389  010789  010989        1
  010390  010790  010990        1
*** Record 12 -- PTITLE
abamectin - 3 applications @ 0.0213 kg/ha and one seed treatment
@ 0.0045 kg/ha
*** Record 13
     120        1        0        0
*** Record 15 -- PSTNAM
abamectin
*** Record 16
  010361  0 8  1.30.0045 1.00 0.000
  140361  0 2  0.00.0213 0.95 0.16
  280361  0 2  0.00.0213 0.95 0.16
  040461  0 2  0.00.0213 0.95 0.16
  010362  0 8  1.30.0045 1.00 0.000
  140362  0 2  0.00.0213 0.95 0.16
  280362  0 2  0.00.0213 0.95 0.16
  040462  0 2  0.00.0213 0.95 0.16
  010363  0 8  1.30.0045 1.00 0.000
  140363  0 2  0.00.0213 0.95 0.16
  280363  0 2  0.00.0213 0.95 0.16
  040463  0 2  0.00.0213 0.95 0.16
  010364  0 8  1.30.0045 1.00 0.000
  140364  0 2  0.00.0213 0.95 0.16
  280364  0 2  0.00.0213 0.95 0.16
  040464  0 2  0.00.0213 0.95 0.16
  010365  0 8  1.30.0045 1.00 0.000
  140365  0 2  0.00.0213 0.95 0.16
  280365  0 2  0.00.0213 0.95 0.16
  040465  0 2  0.00.0213 0.95 0.16
  010366  0 8  1.30.0045 1.00 0.000
  140366  0 2  0.00.0213 0.95 0.16
  280366  0 2  0.00.0213 0.95 0.16
  040466  0 2  0.00.0213 0.95 0.16
  010367  0 8  1.30.0045 1.00 0.000
  140367  0 2  0.00.0213 0.95 0.16
  280367  0 2  0.00.0213 0.95 0.16
  040467  0 2  0.00.0213 0.95 0.16
  010368  0 8  1.30.0045 1.00 0.000
  140368  0 2  0.00.0213 0.95 0.16
  280368  0 2  0.00.0213 0.95 0.16
```

```
040468   0 2   0.00.0213 0.95 0.16
010369   0 8   1.30.0045 1.00 0.000
140369   0 2   0.00.0213 0.95 0.16
280369   0 2   0.00.0213 0.95 0.16
040469   0 2   0.00.0213 0.95 0.16
010370   0 8   1.30.0045 1.00 0.000
140370   0 2   0.00.0213 0.95 0.16
280370   0 2   0.00.0213 0.95 0.16
040470   0 2   0.00.0213 0.95 0.16
010371   0 8   1.30.0045 1.00 0.000
140371   0 2   0.00.0213 0.95 0.16
280371   0 2   0.00.0213 0.95 0.16
040471   0 2   0.00.0213 0.95 0.16
010372   0 8   1.30.0045 1.00 0.000
140372   0 2   0.00.0213 0.95 0.16
280372   0 2   0.00.0213 0.95 0.16
040472   0 2   0.00.0213 0.95 0.16
010373   0 8   1.30.0045 1.00 0.000
140373   0 2   0.00.0213 0.95 0.16
280373   0 2   0.00.0213 0.95 0.16
040473   0 2   0.00.0213 0.95 0.16
010374   0 8   1.30.0045 1.00 0.000
140374   0 2   0.00.0213 0.95 0.16
280374   0 2   0.00.0213 0.95 0.16
040474   0 2   0.00.0213 0.95 0.16
010375   0 8   1.30.0045 1.00 0.000
140375   0 2   0.00.0213 0.95 0.16
280375   0 2   0.00.0213 0.95 0.16
040475   0 2   0.00.0213 0.95 0.16
010376   0 8   1.30.0045 1.00 0.000
140376   0 2   0.00.0213 0.95 0.16
280376   0 2   0.00.0213 0.95 0.16
040476   0 2   0.00.0213 0.95 0.16
010377   0 8   1.30.0045 1.00 0.000
140377   0 2   0.00.0213 0.95 0.16
280377   0 2   0.00.0213 0.95 0.16
040477   0 2   0.00.0213 0.95 0.16
010378   0 8   1.30.0045 1.00 0.000
140378   0 2   0.00.0213 0.95 0.16
280378   0 2   0.00.0213 0.95 0.16
040478   0 2   0.00.0213 0.95 0.16
010379   0 8   1.30.0045 1.00 0.000
140379   0 2   0.00.0213 0.95 0.16
280379   0 2   0.00.0213 0.95 0.16
040479   0 2   0.00.0213 0.95 0.16
010380   0 8   1.30.0045 1.00 0.000
140380   0 2   0.00.0213 0.95 0.16
280380   0 2   0.00.0213 0.95 0.16
040480   0 2   0.00.0213 0.95 0.16
010381   0 8   1.30.0045 1.00 0.000
140381   0 2   0.00.0213 0.95 0.16
```

```
 280381   0 2   0.00.0213 0.95 0.16
 040481   0 2   0.00.0213 0.95 0.16
 010382   0 8   1.30.0045 1.00 0.000
 140382   0 2   0.00.0213 0.95 0.16
 280382   0 2   0.00.0213 0.95 0.16
 040482   0 2   0.00.0213 0.95 0.16
 010383   0 8   1.30.0045 1.00 0.000
 140383   0 2   0.00.0213 0.95 0.16
 280383   0 2   0.00.0213 0.95 0.16
 040483   0 2   0.00.0213 0.95 0.16
 010384   0 8   1.30.0045 1.00 0.000
 140384   0 2   0.00.0213 0.95 0.16
 280384   0 2   0.00.0213 0.95 0.16
 040484   0 2   0.00.0213 0.95 0.16
 010385   0 8   1.30.0045 1.00 0.000
 140385   0 2   0.00.0213 0.95 0.16
 280385   0 2   0.00.0213 0.95 0.16
 040485   0 2   0.00.0213 0.95 0.16
 010386   0 8   1.30.0045 1.00 0.000
 140386   0 2   0.00.0213 0.95 0.16
 280386   0 2   0.00.0213 0.95 0.16
 040486   0 2   0.00.0213 0.95 0.16
 010387   0 8   1.30.0045 1.00 0.000
 140387   0 2   0.00.0213 0.95 0.16
 280387   0 2   0.00.0213 0.95 0.16
 040487   0 2   0.00.0213 0.95 0.16
 010388   0 8   1.30.0045 1.00 0.000
 140388   0 2   0.00.0213 0.95 0.16
 280388   0 2   0.00.0213 0.95 0.16
 040488   0 2   0.00.0213 0.95 0.16
 010389   0 8   1.30.0045 1.00 0.000
 140389   0 2   0.00.0213 0.95 0.16
 280389   0 2   0.00.0213 0.95 0.16
 040489   0 2   0.00.0213 0.95 0.16
 010390   0 8   1.30.0045 1.00 0.000
 140390   0 2   0.00.0213 0.95 0.16
 280390   0 2   0.00.0213 0.95 0.16
 040490   0 2   0.00.0213 0.95 0.16
*** Record 17
       0       1       0
*** Record 18
       0       0     0.5
*** Record 19 -- STITLE
"Stockton clay  Hyd Grp D, Egbert (grp C/D) might be better but
no data available from char. Database."
*** Record 20
     180            0   0   0   0   0   2   0   0   0
*** Record 26
       0       0       0
*** Record 27 -- irrigation
       2     0.4    0.55    0.15
```

```
*** Record 28 - Furrow irrigation paramters
  0.0025    0.12       2   0.005    0.02     300      -1
*** Record 29 - more furrow irrigation parameters
     0.2     100
*** Record 33
       3
       1      10     1.3     0.38       0        0        0
        0.0046210.004621        0
             0.1    0.38     0.25    0.95       82
       2       8     1.3     0.38       0        0        0
        0.0046210.004621        0
               1    0.38     0.25    0.95       82
       3     162     1.4     0.25       0        0        0
        0.0046210.004621        0
            16.2    0.19     0.25      0.4       82
***Record 40
       0
            YEAR       10             YEAR       10             YEAR
     10   1
       1
       1  -----
       7    YEAR
    PRCP    TCUM    0    0
    RUNF    TCUM    0    0
    INFL    TCUM    1    1
    ESLS    TCUM    0    0  1.0E3
    RFLX    TCUM    0    0  1.0E5
    EFLX    TCUM    0    0  1.0E5
    RZFX    TCUM    0    0  1.0E5
```

Abamectin on CA tomatoes @ (0.004 & 3X 0.019 lbai/A) output file

WATER COLUMN DISSOLVED CONCENTRATION (PPB)

YEAR	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
1961	0.300	0.284	0.230	0.169	0.142	0.053
1962	0.313	0.297	0.243	0.182	0.153	0.072
1963	0.351	0.343	0.314	0.245	0.208	0.095
1964	0.330	0.313	0.260	0.198	0.168	0.078
1965	0.320	0.304	0.253	0.192	0.163	0.070
1966	0.312	0.295	0.242	0.180	0.152	0.064
1967	0.332	0.323	0.272	0.207	0.176	0.074
1968	0.311	0.295	0.241	0.180	0.152	0.062
1969	0.332	0.317	0.262	0.196	0.166	0.070

1970	0.310	0.294	0.241	0.180	0.152	0.065
1971	0.314	0.298	0.245	0.184	0.156	0.065
1972	0.310	0.294	0.241	0.180	0.152	0.063
1973	0.314	0.297	0.243	0.182	0.153	0.064
1974	0.316	0.300	0.246	0.185	0.156	0.064
1975	0.325	0.309	0.255	0.192	0.161	0.065
1976	0.308	0.293	0.241	0.181	0.152	0.061
1977	0.308	0.292	0.238	0.178	0.151	0.061
1978	0.317	0.304	0.251	0.190	0.160	0.066
1979	0.317	0.301	0.248	0.186	0.157	0.064
1980	0.316	0.301	0.247	0.186	0.158	0.065
1981	0.331	0.314	0.260	0.197	0.166	0.070
1982	0.396	0.376	0.322	0.238	0.201	0.087
1983	0.330	0.314	0.261	0.202	0.173	0.072
1984	0.310	0.294	0.241	0.180	0.152	0.062
1985	0.310	0.294	0.240	0.179	0.151	0.062
1986	0.328	0.312	0.259	0.198	0.167	0.070
1987	0.311	0.295	0.242	0.180	0.152	0.062
1988	0.309	0.293	0.241	0.183	0.156	0.064
1989	0.328	0.310	0.257	0.192	0.162	0.068
1990	0.317	0.300	0.247	0.186	0.161	0.069

SORTED FOR PLOTTING

PROB	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
0.032	0.396	0.376	0.322	0.245	0.208	0.095
0.065	0.351	0.343	0.314	0.238	0.201	0.087
0.097	0.332	0.323	0.272	0.207	0.176	0.078
0.129	0.332	0.317	0.262	0.202	0.173	0.074
0.161	0.331	0.314	0.261	0.198	0.168	0.072
0.194	0.330	0.314	0.260	0.198	0.167	0.072
0.226	0.330	0.313	0.260	0.197	0.166	0.070
0.258	0.328	0.312	0.259	0.196	0.166	0.070
0.290	0.328	0.310	0.257	0.192	0.163	0.070
0.323	0.325	0.309	0.255	0.192	0.162	0.070
0.355	0.320	0.304	0.253	0.192	0.161	0.069
0.387	0.317	0.304	0.251	0.190	0.161	0.068
0.419	0.317	0.301	0.248	0.186	0.160	0.066
0.452	0.317	0.301	0.247	0.186	0.158	0.065
0.484	0.316	0.300	0.247	0.186	0.157	0.065
0.516	0.316	0.300	0.246	0.185	0.156	0.065
0.548	0.314	0.298	0.245	0.184	0.156	0.065
0.581	0.314	0.297	0.243	0.183	0.156	0.064
0.613	0.313	0.297	0.243	0.182	0.153	0.064
0.645	0.312	0.295	0.242	0.182	0.153	0.064
0.677	0.311	0.295	0.242	0.181	0.152	0.064
0.710	0.311	0.295	0.241	0.180	0.152	0.064
0.742	0.310	0.294	0.241	0.180	0.152	0.063
0.774	0.310	0.294	0.241	0.180	0.152	0.062
0.806	0.310	0.294	0.241	0.180	0.152	0.062
0.839	0.310	0.294	0.241	0.180	0.152	0.062
0.871	0.309	0.293	0.241	0.180	0.152	0.062
0.903	0.308	0.293	0.240	0.179	0.151	0.061
0.935	0.308	0.292	0.238	0.178	0.151	0.061
0.968	0.300	0.284	0.230	0.169	0.142	0.053

1/10	0.332	0.322	0.271	0.207	0.176	0.078

MEAN OF ANNUAL VALUES = 0.068

STANDARD DEVIATION OF ANNUAL VALUES = 0.008

UPPER 90% CONFIDENCE LIMIT ON MEAN = 0.070

FL Tomato (seed treatment @0.007 & 3 foliar applications @ 0.019 lbai/A)

```
          "FL Tomato (General Vegetable Scenario): MLRA 155,
Metfile: W12844.dvf, (West Palm Beach),
          "Manatee (#1 in FL), Collier (#2 in FL) and Lee (#3 in
FL) Counties; MLRA: 155"
          *** Record 3:
          0.78       0        0      33       1       1
          *** Record 6 -- ERFLAG
          4
          *** Record 7:
          0.03     0.2        1   172.8                4       1
  600
          *** Record 8
          1
          *** Record 9
          1     0.1       90      50       3  91  87  88        0
   150
          *** Record 9a-d
          1      27
          0101 1601 0102 1602 0103 1603 0104 1604 0105 1505 1605
2505 0106 1606 0107 1607
          .813 .830 .846 .859 .870 .878 .881 .881 .880 .836 .849
.938 .840 .572 .285 .177
          .011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011
.011 .011 .011 .011 .011
          0108 1008 1608 0109 1609 0110 1610 0111 1611 0112 1612
          .162 .210 .291 .422 .547 .636 .683 .715 .743 .768 .793
          .011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011
          *** Record 10 -- NCPDS, the number of cropping periods
          30
          *** Record 11
          100161  300361  050461       1
          100162  300362  050462       1
          100163  300363  050463       1
          100164  300364  050464       1
          100165  300365  050465       1
          100166  300366  050466       1
          100167  300367  050467       1
          100168  300368  050468       1
          100169  300369  050469       1
          100170  300370  050470       1
          100171  300371  050471       1
          100172  300372  050472       1
          100173  300373  050473       1
          100174  300374  050474       1
          100175  300375  050475       1
          100176  300376  050476       1
          100177  300377  050477       1
          100178  300378  050478       1
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100179  300379  050479        1
100180  300380  050480        1
100181  300381  050481        1
100182  300382  050482        1
100183  300383  050483        1
100184  300384  050484        1
100185  300385  050485        1
100186  300386  050486        1
100187  300387  050487        1
100188  300388  050488        1
100189  300389  050489        1
100190  300390  050490        1
*** Record 12 -- PTITLE
abamectin - 3 applications @ 0.0213 kg/ha & one seed
treat. @0.1344 kg/ha
*** Record 13
120        1        0        0
*** Record 15 -- PSTNAM
abamectin
*** Record 16
010161  0 8  1.30.1344 1.000.000
050461  0 2  0.00.0213 0.950.16
190461  0 2  0.00.0213 0.950.16
260461  0 2  0.00.0213 0.950.16
010162  0 8  1.30.1344 1.000.000
050462  0 2  0.00.0213 0.950.16
190462  0 2  0.00.0213 0.950.16
260462  0 2  0.00.0213 0.950.16
010163  0 8  1.30.1344 1.000.000
050463  0 2  0.00.0213 0.950.16
190463  0 2  0.00.0213 0.950.16
260463  0 2  0.00.0213 0.950.16
010164  0 8  1.30.1344 1.000.000
050464  0 2  0.00.0213 0.950.16
190464  0 2  0.00.0213 0.950.16
260464  0 2  0.00.0213 0.950.16
010165  0 8  1.30.1344 1.000.000
050465  0 2  0.00.0213 0.950.16
190465  0 2  0.00.0213 0.950.16
260465  0 2  0.00.0213 0.950.16
010166  0 8  1.30.1344 1.000.000
050466  0 2  0.00.0213 0.950.16
190466  0 2  0.00.0213 0.950.16
260466  0 2  0.00.0213 0.950.16
010167  0 8  1.30.1344 1.000.000
050467  0 2  0.00.0213 0.950.16
190467  0 2  0.00.0213 0.950.16
260467  0 2  0.00.0213 0.950.16
010168  0 8  1.30.1344 1.000.000
050468  0 2  0.00.0213 0.950.16
190468  0 2  0.00.0213 0.950.16
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260468  0 2  0.00.0213 0.950.16
010169  0 8  1.30.1344 1.000.000
050469  0 2  0.00.0213 0.950.16
190469  0 2  0.00.0213 0.950.16
260469  0 2  0.00.0213 0.950.16
010170  0 8  1.30.1344 1.000.000
050470  0 2  0.00.0213 0.950.16
190470  0 2  0.00.0213 0.950.16
260470  0 2  0.00.0213 0.950.16
010171  0 8  1.30.1344 1.000.000
050471  0 2  0.00.0213 0.950.16
190471  0 2  0.00.0213 0.950.16
260471  0 2  0.00.0213 0.950.16
010172  0 8  1.30.1344 1.000.000
050472  0 2  0.00.0213 0.950.16
190472  0 2  0.00.0213 0.950.16
260472  0 2  0.00.0213 0.950.16
010173  0 8  1.30.1344 1.000.000
050473  0 2  0.00.0213 0.950.16
190473  0 2  0.00.0213 0.950.16
260473  0 2  0.00.0213 0.950.16
010174  0 8  1.30.1344 1.000.000
050474  0 2  0.00.0213 0.950.16
190474  0 2  0.00.0213 0.950.16
260474  0 2  0.00.0213 0.950.16
010175  0 8  1.30.1344 1.000.000
050475  0 2  0.00.0213 0.950.16
190475  0 2  0.00.0213 0.950.16
260475  0 2  0.00.0213 0.950.16
010176  0 8  1.30.1344 1.000.000
050476  0 2  0.00.0213 0.950.16
190476  0 2  0.00.0213 0.950.16
260476  0 2  0.00.0213 0.950.16
010177  0 8  1.30.1344 1.000.000
050477  0 2  0.00.0213 0.950.16
190477  0 2  0.00.0213 0.950.16
260477  0 2  0.00.0213 0.950.16
010178  0 8  1.30.1344 1.000.000
050478  0 2  0.00.0213 0.950.16
190478  0 2  0.00.0213 0.950.16
260478  0 2  0.00.0213 0.950.16
010179  0 8  1.30.1344 1.000.000
050479  0 2  0.00.0213 0.950.16
190479  0 2  0.00.0213 0.950.16
260479  0 2  0.00.0213 0.950.16
010180  0 8  1.30.1344 1.000.000
050480  0 2  0.00.0213 0.950.16
190480  0 2  0.00.0213 0.950.16
260480  0 2  0.00.0213 0.950.16
010181  0 8  1.30.1344 1.000.000
050481  0 2  0.00.0213 0.950.16
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190481   0 2   0.00.0213 0.950.16
260481   0 2   0.00.0213 0.950.16
010182   0 8   1.30.1344 1.000.000
050482   0 2   0.00.0213 0.950.16
190482   0 2   0.00.0213 0.950.16
260482   0 2   0.00.0213 0.950.16
010183   0 8   1.30.1344 1.000.000
050483   0 2   0.00.0213 0.950.16
190483   0 2   0.00.0213 0.950.16
260483   0 2   0.00.0213 0.950.16
010184   0 8   1.30.1344 1.000.000
050484   0 2   0.00.0213 0.950.16
190484   0 2   0.00.0213 0.950.16
260484   0 2   0.00.0213 0.950.16
010185   0 8   1.30.1344 1.000.000
050485   0 2   0.00.0213 0.950.16
190485   0 2   0.00.0213 0.950.16
260485   0 2   0.00.0213 0.950.16
010186   0 8   1.30.1344 1.000.000
050486   0 2   0.00.0213 0.950.16
190486   0 2   0.00.0213 0.950.16
260486   0 2   0.00.0213 0.950.16
010187   0 8   1.30.1344 1.000.000
050487   0 2   0.00.0213 0.950.16
190487   0 2   0.00.0213 0.950.16
260487   0 2   0.00.0213 0.950.16
010188   0 8   1.30.1344 1.000.000
050488   0 2   0.00.0213 0.950.16
190488   0 2   0.00.0213 0.950.16
260488   0 2   0.00.0213 0.950.16
010189   0 8   1.30.1344 1.000.000
050489   0 2   0.00.0213 0.950.16
190489   0 2   0.00.0213 0.950.16
260489   0 2   0.00.0213 0.950.16
010190   0 8   1.30.1344 1.000.000
050490   0 2   0.00.0213 0.950.16
190490   0 2   0.00.0213 0.950.16
260490   0 2   0.00.0213 0.950.16
*** Record 17
0       1       0
*** Record 18
0       0     0.5
*** Record 19 -- STITLE
Riviera Sand; HYDG: C
*** Record 20
100             0   0   0   0   0   0   0   0   0
*** Record 26
0       0       0
*** Record 33
3
1      10    1.65    0.073        0        0        0
```

```
          0.0067960.006796        0
          0.1    0.073    0.023     1.16       82
          2       62     1.65    0.073         0         0         0
          0.0067960.006796        0
          2    0.073    0.023     1.16       82
          3       28      1.7    0.211         0         0         0
          0.0067960.006796        0
          2    0.211    0.091    0.174       82
          ***Record 40
          0
          YEAR       10              YEAR       10              YEAR
   10    1
          1
          1   -----
          7     YEAR
          PRCP      TCUM    0    0
          RUNF      TCUM    0    0
          INFL      TCUM    1    1
          ESLS      TCUM    0    0  1.0E3
          RFLX      TCUM    0    0  1.0E5
          EFLX      TCUM    0    0  1.0E5
          RZFX      TCUM    0    0  1.0E5
```

Abamectin on FL tomatoes (0.007 & 3X 0.019 lbai/A) output file

WATER COLUMN DISSOLVED CONCENTRATION (PPB)

YEAR	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
1961	0.430	0.416	0.350	0.284	0.263	0.148
1962	0.377	0.361	0.308	0.248	0.220	0.164
1963	0.433	0.415	0.358	0.286	0.252	0.177
1964	0.399	0.382	0.354	0.296	0.263	0.161
1965	0.372	0.355	0.302	0.242	0.211	0.130
1966	0.350	0.334	0.281	0.226	0.204	0.123
1967	0.369	0.353	0.304	0.251	0.222	0.159
1968	0.425	0.407	0.352	0.285	0.248	0.167
1969	0.431	0.415	0.366	0.314	0.286	0.217
1970	0.507	0.486	0.428	0.353	0.316	0.207
1971	0.411	0.394	0.349	0.287	0.252	0.153
1972	0.394	0.376	0.339	0.312	0.292	0.189
1973	0.644	0.618	0.524	0.445	0.411	0.243
1974	0.476	0.457	0.416	0.345	0.310	0.187
1975	0.390	0.374	0.321	0.299	0.272	0.161
1976	0.472	0.453	0.398	0.353	0.331	0.244
1977	0.451	0.434	0.379	0.326	0.314	0.237
1978	0.470	0.452	0.396	0.329	0.293	0.216

1979	0.469	0.450	0.400	0.359	0.329	0.211
1980	0.413	0.396	0.347	0.288	0.254	0.157
1981	0.705	0.672	0.561	0.414	0.360	0.231
1982	0.511	0.491	0.435	0.365	0.325	0.230
1983	0.524	0.503	0.440	0.390	0.356	0.243
1984	0.455	0.436	0.383	0.347	0.340	0.219
1985	0.401	0.384	0.331	0.276	0.244	0.145
1986	0.417	0.400	0.344	0.287	0.259	0.186
1987	0.382	0.366	0.312	0.259	0.238	0.152
1988	0.388	0.372	0.318	0.256	0.224	0.143
1989	0.392	0.375	0.346	0.280	0.247	0.154
1990	0.388	0.372	0.318	0.303	0.296	0.209

SORTED FOR PLOTTING

PROB	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
0.032	0.705	0.672	0.561	0.445	0.411	0.244
0.065	0.644	0.618	0.524	0.414	0.360	0.243
0.097	0.524	0.503	0.440	0.390	0.356	0.243
0.129	0.511	0.491	0.435	0.365	0.340	0.237
0.161	0.507	0.486	0.428	0.359	0.331	0.231
0.194	0.476	0.457	0.416	0.353	0.329	0.230
0.226	0.472	0.453	0.400	0.353	0.325	0.219
0.258	0.470	0.452	0.398	0.347	0.316	0.217
0.290	0.469	0.450	0.396	0.345	0.314	0.216
0.323	0.455	0.436	0.383	0.329	0.310	0.211
0.355	0.451	0.434	0.379	0.326	0.296	0.209
0.387	0.433	0.416	0.366	0.314	0.293	0.207
0.419	0.431	0.415	0.358	0.312	0.292	0.189
0.452	0.430	0.415	0.354	0.303	0.286	0.187
0.484	0.425	0.407	0.352	0.299	0.272	0.186
0.516	0.417	0.400	0.350	0.296	0.263	0.177
0.548	0.413	0.396	0.349	0.288	0.263	0.167
0.581	0.411	0.394	0.347	0.287	0.259	0.164
0.613	0.401	0.384	0.346	0.287	0.254	0.161
0.645	0.399	0.382	0.344	0.286	0.252	0.161
0.677	0.394	0.376	0.339	0.285	0.252	0.159
0.710	0.392	0.375	0.331	0.284	0.248	0.157
0.742	0.390	0.374	0.321	0.280	0.247	0.154
0.774	0.388	0.372	0.318	0.276	0.244	0.153
0.806	0.388	0.372	0.318	0.259	0.238	0.152
0.839	0.382	0.366	0.312	0.256	0.224	0.148
0.871	0.377	0.361	0.308	0.251	0.222	0.145
0.903	0.372	0.355	0.304	0.248	0.220	0.143
0.935	0.369	0.353	0.302	0.242	0.211	0.130
0.968	0.350	0.334	0.281	0.226	0.204	0.123
1/10	0.522	0.501	0.439	0.388	0.354	0.243

MEAN OF ANNUAL VALUES = 0.185

STANDARD DEVIATION OF ANNUAL VALUES = 0.037

UPPER 90% CONFIDENCE LIMIT ON MEAN = 0.196

FL Tomato (seed treatment @0.004 & 3 foliar applications @ 0.019 lbai/A)

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"FL Tomato (General Vegetable Scenario): MLRA 155, Metfile:
W12844.dvf, (West Palm Beach),
"Manatee (#1 in FL), Collier (#2 in FL) and Lee (#3 in FL)
Counties; MLRA: 155"
*** Record 3:
    0.78        0        0       33        1        1
*** Record 6 -- ERFLAG
        4
*** Record 7:
    0.03      0.2        1   172.8                 4        1      600
*** Record 8
        1
*** Record 9
        1      0.1       90       50        3   91   87   88        0
150
*** Record 9a-d
        1       27
0101 1601 0102 1602 0103 1603 0104 1604 0105 1505 1605 2505 0106
1606 0107 1607
.813 .830 .846 .859 .870 .878 .881 .881 .880 .836 .849 .938 .840
.572 .285 .177
.011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011
.011 .011 .011
0108 1008 1608 0109 1609 0110 1610 0111 1611 0112 1612
.162 .210 .291 .422 .547 .636 .683 .715 .743 .768 .793
.011 .011 .011 .011 .011 .011 .011 .011 .011 .011 .011
*** Record 10 -- NCPDS, the number of cropping periods
       30
*** Record 11
   100161   300361   050461        1
   100162   300362   050462        1
   100163   300363   050463        1
   100164   300364   050464        1
   100165   300365   050465        1
   100166   300366   050466        1
   100167   300367   050467        1
   100168   300368   050468        1
   100169   300369   050469        1
   100170   300370   050470        1
   100171   300371   050471        1
   100172   300372   050472        1
   100173   300373   050473        1
   100174   300374   050474        1
   100175   300375   050475        1
   100176   300376   050476        1
   100177   300377   050477        1
   100178   300378   050478        1
   100179   300379   050479        1
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  100180  300380  050480        1
  100181  300381  050481        1
  100182  300382  050482        1
  100183  300383  050483        1
  100184  300384  050484        1
  100185  300385  050485        1
  100186  300386  050486        1
  100187  300387  050487        1
  100188  300388  050488        1
  100189  300389  050489        1
  100190  300390  050490        1
*** Record 12 -- PTITLE
abamectin - 3 applications @ 0.0213 kg/ha & one seed treat.
@0.0045 kg/ha
*** Record 13
     120        1        0        0
*** Record 15 -- PSTNAM
abamectin
*** Record 16
  010161  0 8  1.30.0045 1.000.000
  050461  0 2  0.00.0213 0.950.16
  190461  0 2  0.00.0213 0.950.16
  260461  0 2  0.00.0213 0.950.16
  010162  0 8  1.30.0045 1.000.000
  050462  0 2  0.00.0213 0.950.16
  190462  0 2  0.00.0213 0.950.16
  260462  0 2  0.00.0213 0.950.16
  010163  0 8  1.30.0045 1.000.000
  050463  0 2  0.00.0213 0.950.16
  190463  0 2  0.00.0213 0.950.16
  260463  0 2  0.00.0213 0.950.16
  010164  0 8  1.30.0045 1.000.000
  050464  0 2  0.00.0213 0.950.16
  190464  0 2  0.00.0213 0.950.16
  260464  0 2  0.00.0213 0.950.16
  010165  0 8  1.30.0045 1.000.000
  050465  0 2  0.00.0213 0.950.16
  190465  0 2  0.00.0213 0.950.16
  260465  0 2  0.00.0213 0.950.16
  010166  0 8  1.30.0045 1.000.000
  050466  0 2  0.00.0213 0.950.16
  190466  0 2  0.00.0213 0.950.16
  260466  0 2  0.00.0213 0.950.16
  010167  0 8  1.30.0045 1.000.000
  050467  0 2  0.00.0213 0.950.16
  190467  0 2  0.00.0213 0.950.16
  260467  0 2  0.00.0213 0.950.16
  010168  0 8  1.30.0045 1.000.000
  050468  0 2  0.00.0213 0.950.16
  190468  0 2  0.00.0213 0.950.16
  260468  0 2  0.00.0213 0.950.16
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010169   0 8   1.30.0045 1.000.000
050469   0 2   0.00.0213 0.950.16
190469   0 2   0.00.0213 0.950.16
260469   0 2   0.00.0213 0.950.16
010170   0 8   1.30.0045 1.000.000
050470   0 2   0.00.0213 0.950.16
190470   0 2   0.00.0213 0.950.16
260470   0 2   0.00.0213 0.950.16
010171   0 8   1.30.0045 1.000.000
050471   0 2   0.00.0213 0.950.16
190471   0 2   0.00.0213 0.950.16
260471   0 2   0.00.0213 0.950.16
010172   0 8   1.30.0045 1.000.000
050472   0 2   0.00.0213 0.950.16
190472   0 2   0.00.0213 0.950.16
260472   0 2   0.00.0213 0.950.16
010173   0 8   1.30.0045 1.000.000
050473   0 2   0.00.0213 0.950.16
190473   0 2   0.00.0213 0.950.16
260473   0 2   0.00.0213 0.950.16
010174   0 8   1.30.0045 1.000.000
050474   0 2   0.00.0213 0.950.16
190474   0 2   0.00.0213 0.950.16
260474   0 2   0.00.0213 0.950.16
010175   0 8   1.30.0045 1.000.000
050475   0 2   0.00.0213 0.950.16
190475   0 2   0.00.0213 0.950.16
260475   0 2   0.00.0213 0.950.16
010176   0 8   1.30.0045 1.000.000
050476   0 2   0.00.0213 0.950.16
190476   0 2   0.00.0213 0.950.16
260476   0 2   0.00.0213 0.950.16
010177   0 8   1.30.0045 1.000.000
050477   0 2   0.00.0213 0.950.16
190477   0 2   0.00.0213 0.950.16
260477   0 2   0.00.0213 0.950.16
010178   0 8   1.30.0045 1.000.000
050478   0 2   0.00.0213 0.950.16
190478   0 2   0.00.0213 0.950.16
260478   0 2   0.00.0213 0.950.16
010179   0 8   1.30.0045 1.000.000
050479   0 2   0.00.0213 0.950.16
190479   0 2   0.00.0213 0.950.16
260479   0 2   0.00.0213 0.950.16
010180   0 8   1.30.0045 1.000.000
050480   0 2   0.00.0213 0.950.16
190480   0 2   0.00.0213 0.950.16
260480   0 2   0.00.0213 0.950.16
010181   0 8   1.30.0045 1.000.000
050481   0 2   0.00.0213 0.950.16
190481   0 2   0.00.0213 0.950.16
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  260481   0 2   0.00.0213 0.950.16
  010182   0 8   1.30.0045 1.000.000
  050482   0 2   0.00.0213 0.950.16
  190482   0 2   0.00.0213 0.950.16
  260482   0 2   0.00.0213 0.950.16
  010183   0 8   1.30.0045 1.000.000
  050483   0 2   0.00.0213 0.950.16
  190483   0 2   0.00.0213 0.950.16
  260483   0 2   0.00.0213 0.950.16
  010184   0 8   1.30.0045 1.000.000
  050484   0 2   0.00.0213 0.950.16
  190484   0 2   0.00.0213 0.950.16
  260484   0 2   0.00.0213 0.950.16
  010185   0 8   1.30.0045 1.000.000
  050485   0 2   0.00.0213 0.950.16
  190485   0 2   0.00.0213 0.950.16
  260485   0 2   0.00.0213 0.950.16
  010186   0 8   1.30.0045 1.000.000
  050486   0 2   0.00.0213 0.950.16
  190486   0 2   0.00.0213 0.950.16
  260486   0 2   0.00.0213 0.950.16
  010187   0 8   1.30.0045 1.000.000
  050487   0 2   0.00.0213 0.950.16
  190487   0 2   0.00.0213 0.950.16
  260487   0 2   0.00.0213 0.950.16
  010188   0 8   1.30.0045 1.000.000
  050488   0 2   0.00.0213 0.950.16
  190488   0 2   0.00.0213 0.950.16
  260488   0 2   0.00.0213 0.950.16
  010189   0 8   1.30.0045 1.000.000
  050489   0 2   0.00.0213 0.950.16
  190489   0 2   0.00.0213 0.950.16
  260489   0 2   0.00.0213 0.950.16
  010190   0 8   1.30.0045 1.000.000
  050490   0 2   0.00.0213 0.950.16
  190490   0 2   0.00.0213 0.950.16
  260490   0 2   0.00.0213 0.950.16
*** Record 17
       0        1        0
*** Record 18
       0        0      0.5
*** Record 19 -- STITLE
Riviera Sand; HYDG: C

*** Record 20
     100             0   0   0   0   0   0   0   0   0
*** Record 26
       0        0        0
*** Record 33
       3
       1       10     1.65    0.073        0        0        0
```

```
         0.0067960.006796         0
              0.1    0.073    0.023     1.16       82
        2      62     1.65    0.073        0        0         0
         0.0067960.006796         0
                2    0.073    0.023     1.16       82
        3      28      1.7    0.211        0        0         0
         0.0067960.006796         0
                2    0.211    0.091    0.174       82
***Record 40
        0
              YEAR       10              YEAR       10              YEAR
     10    1
       1
       1   -----
       7     YEAR
    PRCP     TCUM    0    0
    RUNF     TCUM    0    0
    INFL     TCUM    1    1
    ESLS     TCUM    0    0  1.0E3
    RFLX     TCUM    0    0  1.0E5
    EFLX     TCUM    0    0  1.0E5
    RZFX     TCUM    0    0  1.0E5
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Abamectin on FL tomatoes @ (0.004 & 3X 0.019 lbai/A) output file

abamectin on FL tomato (low rate)

WATER COLUMN DISSOLVED CONCENTRATION (PPB)

YEAR	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
1961	0.315	0.306	0.258	0.228	0.208	0.105
1962	0.348	0.333	0.280	0.220	0.192	0.124
1963	0.371	0.355	0.301	0.234	0.205	0.125
1964	0.354	0.338	0.304	0.247	0.216	0.120
1965	0.345	0.329	0.276	0.216	0.188	0.103
1966	0.334	0.319	0.266	0.210	0.185	0.101
1967	0.340	0.325	0.276	0.221	0.193	0.118
1968	0.361	0.345	0.292	0.228	0.198	0.117
1969	0.356	0.346	0.298	0.246	0.217	0.137
1970	0.402	0.384	0.334	0.270	0.236	0.143
1971	0.360	0.345	0.299	0.237	0.207	0.113
1972	0.342	0.326	0.286	0.250	0.228	0.133
1973	0.494	0.474	0.402	0.334	0.303	0.165
1974	0.379	0.363	0.332	0.266	0.236	0.133
1975	0.350	0.334	0.281	0.250	0.222	0.120
1976	0.354	0.339	0.286	0.247	0.228	0.148
1977	0.367	0.351	0.298	0.248	0.230	0.149
1978	0.369	0.353	0.299	0.236	0.210	0.130

1979	0.367	0.353	0.310	0.266	0.237	0.133
1980	0.356	0.340	0.292	0.232	0.204	0.114
1981	0.441	0.422	0.355	0.265	0.233	0.160
1982	0.402	0.386	0.332	0.267	0.237	0.152
1983	0.396	0.379	0.325	0.280	0.249	0.153
1984	0.367	0.351	0.298	0.261	0.249	0.144
1985	0.353	0.337	0.286	0.229	0.201	0.107
1986	0.348	0.332	0.278	0.225	0.197	0.115
1987	0.347	0.331	0.278	0.224	0.200	0.112
1988	0.345	0.330	0.276	0.215	0.187	0.102
1989	0.345	0.329	0.303	0.240	0.208	0.117
1990	0.349	0.333	0.281	0.249	0.238	0.150

SORTED FOR PLOTTING

PROB	PEAK	96 HOUR	21 DAY	60 DAY	90 DAY	YEARLY
0.032	0.494	0.474	0.402	0.334	0.303	0.165
0.065	0.441	0.422	0.355	0.280	0.249	0.160
0.097	0.402	0.386	0.334	0.270	0.249	0.153
0.129	0.402	0.384	0.332	0.267	0.238	0.152
0.161	0.396	0.379	0.332	0.266	0.237	0.150
0.194	0.379	0.363	0.325	0.266	0.237	0.149
0.226	0.371	0.355	0.310	0.265	0.236	0.148
0.258	0.369	0.353	0.304	0.261	0.236	0.144
0.290	0.367	0.353	0.303	0.250	0.233	0.143
0.323	0.367	0.351	0.301	0.250	0.230	0.137
0.355	0.367	0.351	0.299	0.249	0.228	0.133
0.387	0.361	0.346	0.299	0.248	0.228	0.133
0.419	0.360	0.345	0.298	0.247	0.222	0.133
0.452	0.356	0.345	0.298	0.247	0.217	0.130
0.484	0.356	0.340	0.298	0.246	0.216	0.125
0.516	0.354	0.339	0.292	0.240	0.210	0.124
0.548	0.354	0.338	0.292	0.237	0.208	0.120
0.581	0.353	0.337	0.286	0.236	0.208	0.120
0.613	0.350	0.334	0.286	0.234	0.207	0.118
0.645	0.349	0.333	0.286	0.232	0.205	0.117
0.677	0.348	0.333	0.281	0.229	0.204	0.117
0.710	0.348	0.332	0.281	0.228	0.201	0.115
0.742	0.347	0.331	0.280	0.228	0.200	0.114
0.774	0.345	0.330	0.278	0.225	0.198	0.113
0.806	0.345	0.329	0.278	0.224	0.197	0.112
0.839	0.345	0.329	0.276	0.221	0.193	0.107
0.871	0.342	0.326	0.276	0.220	0.192	0.105
0.903	0.340	0.325	0.276	0.216	0.188	0.103
0.935	0.334	0.319	0.266	0.215	0.187	0.102
0.968	0.315	0.306	0.258	0.210	0.185	0.101
1/10	0.402	0.385	0.333	0.269	0.248	0.153

MEAN OF ANNUAL VALUES = 0.128

STANDARD DEVIATION OF ANNUAL VALUES = 0.018

UPPER 90% CONFIDENCE LIMIT ON MEAN = 0.133

SCIGROW
VERSION 2.3
ENVIRONMENTAL FATE AND EFFECTS DIVISION
OFFICE OF PESTICIDE PROGRAMS
U.S. ENVIRONMENTAL PROTECTION AGENCY
SCREENING MODEL
FOR GROUND WATER

SciGrow version 2.3
chemical:abamectin
time is 3/ 1/2007 14:13:21

Application rate (lb/acre)	Number of Aerobic applications	Total Use (lb/acre/yr)	Koc (ml/g)	Soil metabolism (days)
0.061	1.0	0.061	2.53E+03	101.0

groundwater screening cond (ppb) = 1.84E-03

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