

US EPA ARCHIVE DOCUMENT

**MEMORANDUM**

**SUBJECT:** Drinking water assessment for Spinosad (PC CODE: 110003)

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**DATE:** February 23, 1998

In response to your request by cc-mail on February 5, 1998, we have evaluated other uses including fruiting vegetables, cotton, almonds, citrus and leafy vegetables. Among these uses, cotton and citrus uses produce higher values than apples and cole crops as presented in EFED SWAT Team Report (dated June 20, 1997).

For the ground water drinking water concentration as predicted by SCI-GROW, the apple use value of 0.009 ug/L represents the highest value due to its highest seasonal rate.

The tier 2 approach with PRZM/EXAMS was used to calculate the surface water drinking water concentrations. They are listed below, for comparison purpose, the values in SWAT Team Report are also included.

Use	Rate/Application	Seasonal Rate	Acute Value	Chronic Value
apples	0.16 lb ai	0.45 lb ai	0.364 ug/L	0.059 ug/L
cole crops	0.13 lb ai	0.45 lb ai	0.459 ug/L	0.092 ug/L
cotton	0.11 lb ai	0.45 lb ai	0.441 ug/L	0.065 ug/L
citrus	0.16 lb ai	0.45 lb ai	0.527 ug/L	0.075 ug/L

Please contact us if you have any questions.

**Compound:** Spinosad  
**Use:** Cotton  
**Site:** MLRA - 133A: Southern Coastal Plain  
**Rate:** 4 @ 0.11 lb ai/ac (w/ 5% drift)  
**Soil Type:** Loring Silt Loam (HSG: C)  
**Soil Half-life:** 20.5 days  
**Foliar Half-life:** 4.5 days  
**Soil Koc:** 5990 L/Kg

**Contributions to the standard farm pond -**

Runoff	Erosion	Spray Drift
18.07%	14.18%	67.74%

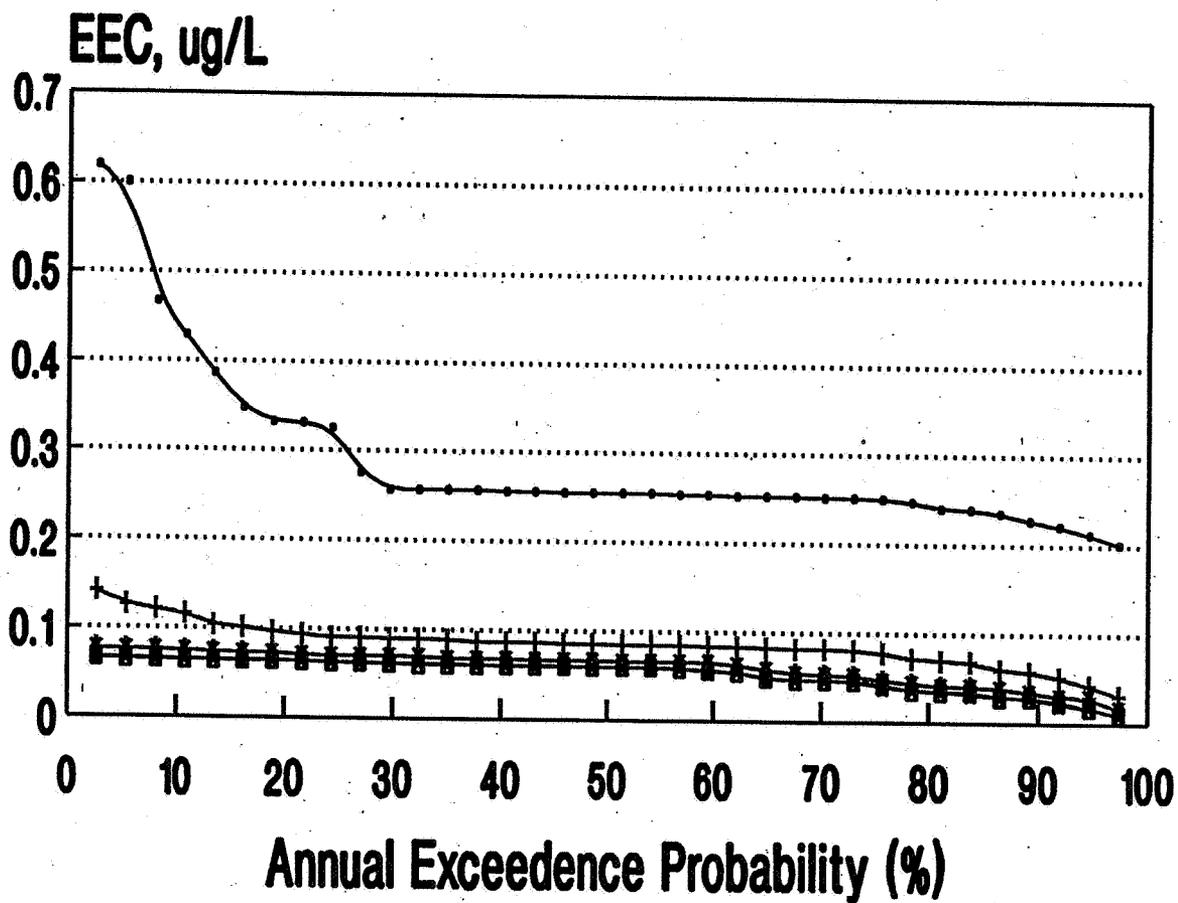
The spray drift component contributes the most to the EECs.

**Upper 10th percentile EECs (ug/L) -**

peak	96-hour	21-day	60-day	90-day	yearly
0.441	0.117	0.075	0.066	0.065	0.061

**Mean of annual value:** 0.048 ug/L  
**Standard deviation of annual value:** 0.016  
**Upper 90% confidence limit of mean:** 0.052

**EEC Plot - Spinosad Use on Cotton  
MLRA 133A: Southern Coastal Plain  
Cowarts Sandy Loam**



—●— Instantaneous      —+— 96-hour average      —\*— 21-day average  
 —□— 60-day average      —x— 90-day average

**Compound:** Spinosad  
**Use:** Citrus  
**Site:** MLRA - 156A: Florida Everglades and Associated Areas  
**Rate:** 3 aerial applications @ 0.16 lb ai/ac (w/ 5% drift)  
**Soil Type:** Adamsville Sand Clay (HSG: C)  
**Soil Half-life:** 20.5 days  
**Foliar Half-life:** 4.5 days  
**Soil Koc:** 5990 L/Kg

**Contributions to the standard farm pond -**

Runoff	Erosion	Spray Drift
31.93%	0.87%	67.20%

The spray drift component contributes the most to the EECs.

**Upper 10th percentile EECs (ug/L) -**

peak	96-hour	21-day	60-day	90-day	yearly
0.527	0.144	0.094	0.078	0.075	0.068

**Mean of annual value:** 0.052 ug/L  
**Standard deviation of annual value:** 0.018  
**Upper 90% confidence limit of mean:** 0.057

# EEC Plot - Spinosad Use on Citrus MLRA 156A: Florida Everglades Adamsville Sand

