Section II
Foliage and Seed Feeding & Mining Insects

ALIGN EC (AZADIRACHTIN) FOLIAR SPRAYS FOR CONTROL OF COLORADO POTATO BEETLES IN IDAHO - 1993

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ALIGN EC (ATI-720F) is a newly developed formulation based on azadirachtin derived from neem seed oil. 1993 is the third year we have evaluated azadirachtin formulations for controlling Colorado potato beetle in Idaho. Tests were conducted at the UI Caldwell R & E Center in russet burbank potatoes planted 5-6 May. Eight treatments including industry standard and UTC were replicated 4 times in a RCB design begun on 21 June 1993. Replicates were 4 rows wide by 25 ft long. Treatments were applied using a CO2 backpack sprayer with X-10 hollow cone nozzles at 50 gallons of spray per acre.

Evaluation: Control was evaluated by counting CPB egg masses, small larvae, large larvae and adults weekly from 21 June through 9 August. Percent defoliation estimates were begun at 22 days and continued weekly through 9 August.

Treatments: ATI-720F = ALIGN EC KDF = New formulation

1. ATI-720F	5 g ai/A	applied every 7 days
2. ATI-720F	10 g ai/A	applied twice weekly
3. KDF	10 g ai/A	applied every 14 days
4. KDF	10 g ai/A	applied every 21 days
5. KDF	20 g ai/A	applied every 14 days
6. KDF	20 g ai/A	applied every 21 days
7. Ambush 2E	0.1 lb ai/A	applied 1 time only (day 0)
8. Untreated Control	No applications	

Results and Conclusions:

1. Adult beetles: There were no significant differences in adult beetle numbers until 22 day counts, when adult numbers were lower in all ATI and KDF treatments. Adult numbers were consistently lower in Treatment 2 (twice weekly application, but the differences were not always significant from other ATI and KDF treatments. There was consistently heavy adult fly-in pressure throughout the 7 week test.

2. Egg Masses: There were only slight and non-significant differences in CPB egg mass numbers from week to week.

3. Small Larvae: Treatment 2 usually had fewer small larvae although the differences were not significant from treatments 1 and 5 in most counts.

4. Large Larvae: Treatments 1,2,3, and 5 generally were lower than other treatments especially after 22 day counts.

5. Defoliation: Treatment 2 showed the least defoliation in week by week evaluations although not significantly better than treatments 3 and 5 in most weeks. Treatments 1 and 2 consistently appeared in the best condition in overall appearance. Treatment 8 (UTC) was heavily defoliated after 2-3 weeks with little foliate remaining to attract beetles.

6. Phytotoxicity: None observed.