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BLACKBERRY: *Rubus* hybrid, 'Apache'

CONTROL OF BROWN STINK BUGS, 2004

Barb A. Lewis

Agri Bldg 311, Department of Entomology
University of Arkansas
Fayetteville, AR 72701
Phone: (479) 575-2501
Fax: (479) 575-2452
E-mail: dtjohnso@uark.edu

Jackie McKern

Donn T. Johnson

Brown Stink Bug (BSB): *Euschistus servus* (Say)

No compounds are registered against BSB on blackberry so it is necessary to evaluate other formulations for efficacy against this pest on blackberry. In Conway, AR, each treatment plot had five blackberry crowns spaced 0.3 m apart in rows 4.2 m apart in a RCB design with four replicates. On 6 Jul, 1300 BSB were collected from this blackberry planting. Prior to spraying on 7 Jul, 3 fiberglass window screen cages (15.2 cm × 15.2 cm) per plot were placed over one fruiting cluster and then 10 BSB were placed inside each cage. The treatments included: Actara, Avaunt, Calypso, Novaluron 10EC, SpinTor 2SC, and an untreated check. These treatments were applied to the foliage and caged BSB at a rate of 100 gal/acre sprayed to achieve runoff using a Solo hand pump sprayer. Counts of the number live and dead BSB per cage and number of dead BSB on the ground beneath each treated plot were made on 9 and 13 Jul or 2 and 6 days after treatment (DAT), respectively. Data are presented as the mean percent BSB mortality and the mean number of dead BSB on the ground and analyzed using ANOVA and means were separated using WD t-test ($P \leq 0.05$).

At 2 DAT, the percent BSB mortality in the cages caused by Actara, SpinTor and Calypso was significantly higher (> 72%) than that for Novaluron or the untreated check (< 21%). Calypso and Avaunt provided intermediate level of BSB mortality (between 47 and 69%). Avaunt and Actara had significantly more dead BSB (> 29 BSB) on the ground beneath the treated plants than did Novaluron (all < 19 BSB) that significantly differed from the untreated check (0.8 BSB). Calypso and SpinTor had similar counts of dead BSB on the grounds (> 18 BSB) that were significantly greater than that for Novaluron (< 16.5 BSB). At 6 DAT, > 85% BSB mortality was achieved by Actara, SpinTor, Avaunt and Calypso that were significantly different than that for Novaluron and the untreated check (check had exceeded the standard 20% allowed for efficacy studies). By 6 DAT, the count of BSB on the ground in treatment plots had dropped nearly 3-fold to < 10 BSB, but Avaunt, Actara and Calypso all had significantly more BSB on the ground than did the other treatments and the untreated check.

Treatment/ formulation	Rate amt product/acre	% BSB mortality		No. dead BSB on ground	
		9 Jul 2 DAT	13 Jul 6 DAT	9 Jul 2 DAT	13 Jul 6 DAT
Actara 25WG	4.0 oz	96.7a	100.0a	29.5ab	9.8a
SpinTor 2SC	6.0 fl oz	84.2ab	95.0a	22.8bcd	3.0bc
Calypso 480SC	4.0 fl oz	72.5abc	92.5a	24.8bc	8.8a
Avaunt 30WDG	4.0 oz	68.3bc	92.5a	32.3a	10.5a
Novaluron 10EC	14.0 fl oz	20.8de	55.0c	10.3f	2.0bc
Untreated check	---	19.2e	50.0c	0.8g	0.3c

Means for each date followed by the same letter are not significantly different (WD t-test; $P > 0.05$).