TECHNICAL DATA SHEET

VectoPrime™ FG

Complete Single-Brood Control

Post-Flood Applications

In post-flood applications, efficacy was demonstrated against immature floodwater mosquitoes including *Aedes taeniorhynchus* and *Aedes vexans* at rates ranging from 1.25 to 5 pounds per acre. Efficacy against immature *Culex pipiens* and *Culex tarsalis* was also demonstrated at rates from 2.5 to 10 pounds per acre, and the impact of water depth was evaluated in a study with *Culex quinquefasciatus*.

Results

All VectoPrime FG treatments resulted in significant reductions in larval densities relative to the untreated control. Post-flood applications of VectoPrime resulted in 88–100% reduction of *Ae. vexans* larvae at rates of 1.25 to 5 pounds per acre at 48 hours post-treatment and 96–100% suppression of adult development (% reduction plus %EI) at those rates. Complete (100%) control of *Cx. pipiens* was observed at rates of 2.5 to 10 pounds per acre. Greater than 95% control of *Ae. taeniorhynchus* was observed 48 hours post-treatment at the 5 pound per acre rate, and complete (100%) suppression of adult development (based on zero pupal development) was observed at that rate as well. A rate effect was observed in the *Aedes vexans* study. Efficacy >95% was observed in the *Culex quinquefasciatus* at 5 pounds per acre in water depths up to 24 inches.

LOCATION	SPECIES	RATE (LBS/ACRE)	TEST SYSTEM	TEST CONDITIONS	FIGURE NO.	% LARVAL REDUCTION POST-APPLICATION	% PUPAL REDUCTION 144+ HOURS
Washington	*Ae. vexans*	1.25	Microcosm	Flooded; 3rd instar	2	88% (48 hrs)	96%
		2.5				97% (48 hrs)	98%
		5.0				100% (48 hrs)	100%
California	*Ae. taeniorhynchus*	5.0	Microcosm	Flooded; 3rd instar	3	98.5% (48 hrs)	100% (no pupae developed)
Washington	*Cx. pipiens*	2.5	Microcosm	Flooded; all instar stages	4	99% (48 hrs)	100%
		5.0				100% (48 hrs)	100%
California	*Cx. quinquefasciatus*	5.0	Microcosm	Flooded; all instar stages; 12" depth	5	99.5% (48 hrs)	99.7%
				Flooded; all instar stages; 24" depth	5	96.3% (48 hrs)	97.6%
Utah	*Cx. tarsalis*	5.0	Field	Flooded; small pools; 3rd-4th instar	6	100% (24 hrs)	100%

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Pre-Flood Applications

In pre-flood applications, efficacy was demonstrated against immature floodwater mosquitoes including *Aedes taeniorhynchus*, *Aedes vexans* and *Aedes dorsalis* at rates ranging from 10 to 20 pounds per acre. Pre-flood treatment intervals of 2, 3, 4 and 7 days were evaluated.

Results

At both 10 and 20 pounds per acre, the 2- and 7-day pre-flood treatments in the California study resulted in complete (100%) control of *Ae. taeniorhynchus* at 96 hours.

In the 3-day pre-flood test in Washington against *Aedes vexans* at 10 and 20 pounds per acre, a 100% reduction in larvae was observed at 48 hours.

In the Utah field efficacy study at 19 pounds per acre, a 4-day pre-flood treatment resulted in complete (100%) emergence inhibition of *Ae. dorsalis* for 7 days post-flood.

LOCATION	SPECIES	RATE (LBS/ACRE)	TEST SYSTEM	TEST CONDITIONS	FIGURE NO.	% EMERGENCE INHIBITION
Utah	*Aedes dorsalis*	19 lbs/ac	Field	4 day pre-flood; 1st instar	7	100% (96 hrs)

LOCATION	SPECIES	RATE (LBS/ACRE)	TEST SYSTEM	TEST CONDITIONS	FIGURE NO.	% LARVAL REDUCTION POST INFESTATION
Washington	*Aedes vexans*	10 lbs/ac	Microcosm	3 day pre-flood; 1st–2nd instar	8	100% (48 hrs)
		20 lbs/ac	Microcosm	3 day pre-flood; 1st–2nd instar		100% (48 hrs)
California	*Aedes taeniorhynchus*	10 lbs/ac	Microcosm	2 day pre-flood; 2nd instar	9	100% (96 hrs)
			Microcosm	7 day pre-flood; 2nd instar		100% (96 hrs)
		20 lbs/ac	Microcosm	2 day pre-flood; 2nd instar		100% (96 hrs)
			Microcosm	7 day pre-flood; 2nd instar		100% (96 hrs)

VectoPrime FG pre-flood applications are most effective when applied to habitats with predictable flooding patterns. Weather events/conditions such as rain that do not cause habitat to flood or very high/consistent humidity may reduce the effectiveness of VectoPrime FG pre-flood applications. VectoPrime FG has not been tested in all habitats/conditions for pre-flood capacity. It is recommended to evaluate VectoPrime FG on a small scale to determine the pre-flood rate necessary to achieve desired results. Consult your local Valent BioSciences technical representative for further advice on pre-flood applications with VectoPrime FG.

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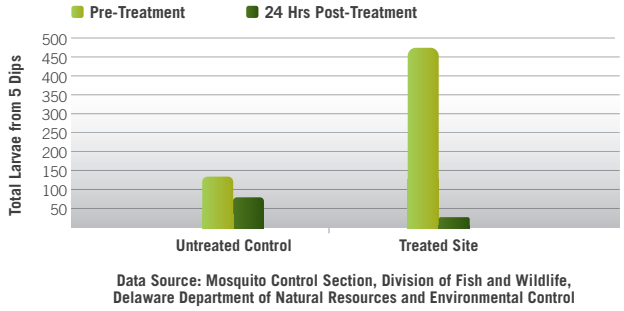
Post-Flood Field Efficacy

Fig. 1 — Larval reduction of *Aedes solicitans* after direct application (4 lbs/acre) to floodwater habitats in Delaware



Data Source: Mosquito Control Section, Division of Fish and Wildlife, Delaware Department of Natural Resources and Environmental Control

Fig. 2 — Percent control of *Aedes vexans* after direct application to microcosms in Washington

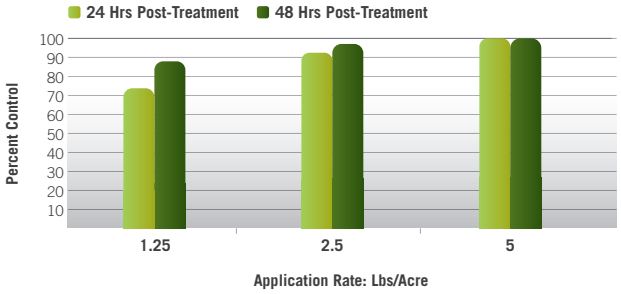


Fig. 3 — Larval reduction of *Aedes taeniorhynchus* after direct application (5 lbs/acre) to microcosms in California

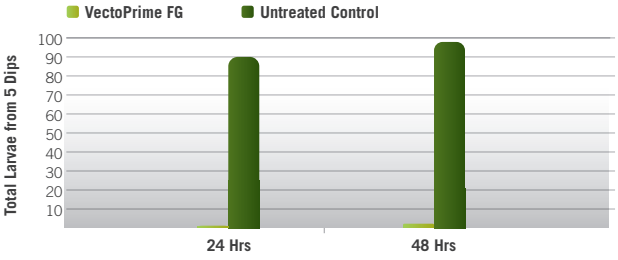


Fig. 4 — Percent control of *Culex pipiens* after direct application (2.5–10 lbs/acre) to microcosms in Washington

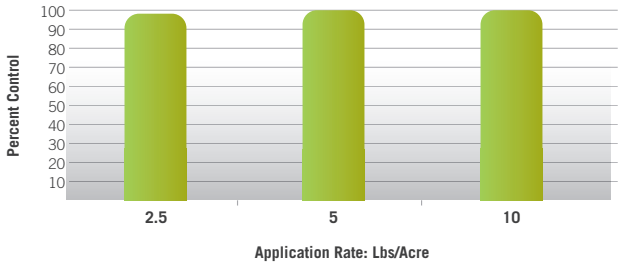


Fig. 5 — Percent larval reduction of *Culex quinquefasciatus* after direct application (5 lbs/acre) to microcosms in California

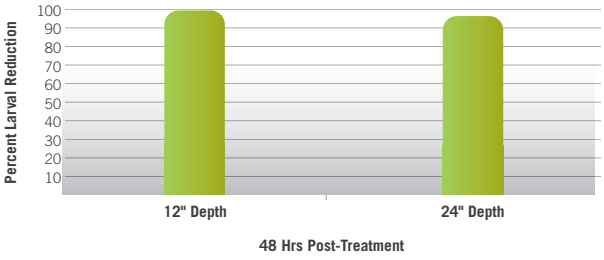
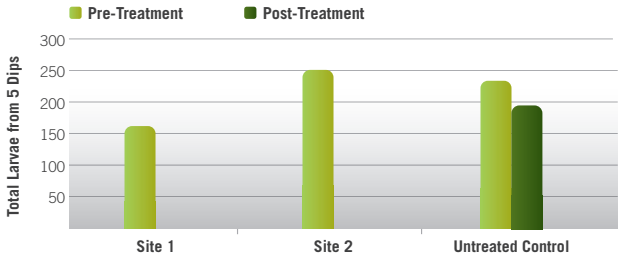


Fig. 6 — Larval reduction of *Culex tarsalis* after direct application (5 lbs/acre) to marshes in Utah



Data Source: Salt Lake City Mosquito Abatement District

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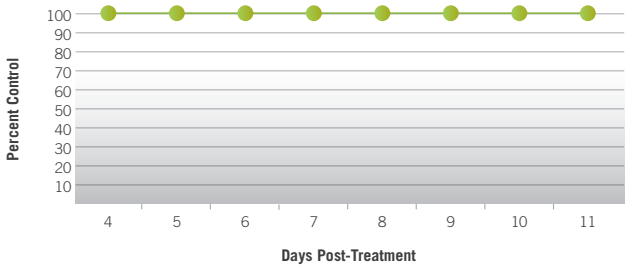
Pre-Flood Field Efficacy

Fig. 7 — Percent control of *Aedes dorsalis* after pre-flood applications (19 lbs/acre) to marshes in Utah



Application Rate: 19 lbs/acre, 4 days pre-flood
Data Source: Salt Lake City Mosquito Abatement District

Fig. 8 — Larval reduction of *Aedes vexans* after 3-day pre-flood application (10 and 20 lbs/acre) to microcosms in Washington

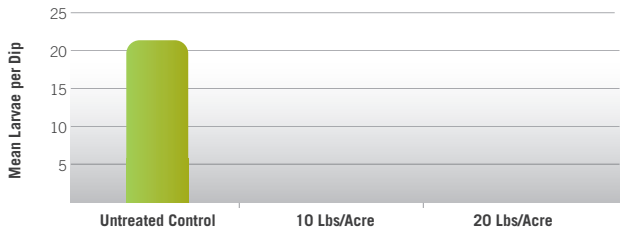
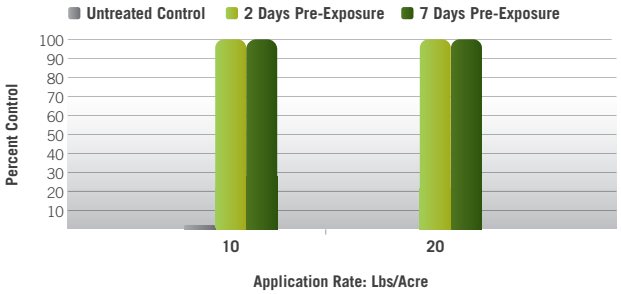


Fig. 9 — Percent control of *Aedes taeniorhynchus* after pre-flood application (10 and 20 lbs/acre) to microcosms in California



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