

**Mountain Pine Beetle
BeetleBlock-Verbenone
3 Year Test Results**

**Lodgepole, Whitebark and Ponderosa Pine Protection by ChemTica
Verbenone Dispensers**

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Tests were conducted in 2004, 2006 and 2007 in Montana in areas with active MPB populations. Treatments were (1) control (no verbenone) and two (2) ChemTica verbenones dispensers per tree, one on the west side and one on the east side of each treated tree, placed in late May or early June. There were 40 trees in each treatment and treated trees were at least 130 feet apart making the test blocks at least 4 acres each. Test blocks were separated by at least 165 ft. Verbenone dispensers were stapled to trees as high as could be reached on the east side of each tree. In addition to verbenone dispensers, a MPB-attractant pheromone (tree bait) were placed on each stake 10-15 feet from each verbenone treated tree and each control tree to assure equal beetle pressure.

Statistical Analysis

Numbers of trees with mass attack are summarized by treatment. The percentage of trees in each stand, treated and control, were analyzed for mass attack (September each year) which is the tree killing action of the beetles.

Results and Discussion

In 2004 ChemTica Verbenone dispensers successfully protected lodgepole pine trees from MPB. There were significantly more control trees mass attacked than in the verbenone treatment (Table 1).

Table 1 2004 Tests - Protection of Lodgepole Pine with ChemTica Verbenone dispensers

Location	Tree Species	% Verbenone treated trees attacked	% Control Trees Attacked
Corona Ridge, Planes, Montana	Lodgepole Pine	(4/40) 10%	(28/40) 55.5%
Fisher Peak, Bonners Ferry, Idaho	Whitebark Pine	(5/40) 22.5%	(31/40) 87.5%

Verbenone dispensers placed in Lodgepole pine June 17-18, 2004. Trees evaluated September 23, 2004. Verbenone dispensers placed in Whitebark pine June 21-23, 2004. Trees evaluated September 21, 2004.

In 2006 ChemTica Verbenone dispensers successfully protected whitebark pine trees from MPB. There were significantly more control trees mass attacked than in the verbenone treatment (Table 2).

Table 2 2006 Tests - Protection of Pine with ChemTica Verbenone dispensers

Location	Tree Species	% Verbenone treated trees attacked	% Control Trees Attacked
Mount Edith, Townsend, Montana	Whitebark Pine	(11/40) 27.5%	(33/40) 82.5%
Lime Lilln Basin, Butte, Montana	Lodgepole Pine	(9/40) 22.5%	(31/40) 77.5%

Verbenone dispensers placed in Whitebark pine May 30-31, 2006. Trees evaluated September 18-19, 2006. Verbenone dispensers placed in Lodgepole pine June 27-28, 2006. Trees evaluated September 25-26, 2006.

In 2007 ChemTica Verbenone dispensers successfully protected whitebark and ponderosa pine trees from MPB. There were significantly more control trees mass attacked than in the verbenone treatment (Table 3).

Table 3 2007 Tests Protection of Pine with ChemTica Verbenone dispensers

Location	Tree Species	% Verbenone treated trees attacked	% Control Trees Attacked
Kings Hill, Great Falls, Montana	Whitebark Pine	(5/40) 12.5%	(35/40) 87.5%
Monarch Mountain, Great Falls, Montana	Ponderosa Pine	(4/40) 10%	(22/40) 55%

Verbenone pouches placed in Ponderosa pine June 25-26, 2007. Verbenone dispensers placed in Whitebark pine June 18-19, 2007. All trees evaluated September 25, 2007.

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