

MAPLE (*Acer palmatum* 'Sango Kaku')
 Bacterial Blight; *Pseudomonas syringae* pv. *syringae*

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INITIAL EXPERIMENTS TO CONTROL BACTERIAL BLIGHT OF MAPLE, 2001 - 2002: The objective of the trial was to compare control of copper resistant *Pseudomonas syringae* pv. *syringae* with different bactericides and a cultural disease control method of covering trees with plastic. Plastic (6 mil) was used to cover 4 sets of 2 adjacent, randomly selected trees on 6 Nov 01. The plastic was supported by 18 foot pvc tubing arched over plants. These open ended Quonset style structures covered the top and sides of the trees down to the ground. Bactericide and cultural treatments were arranged in a randomized complete block design in a block of 'Sango Kaku' maples planted in 1999 on a 5 x 20 ft spacing. Each bactericide treatment consisted of 4 double tree replicates (8 trees/treatment). Messenger was applied using a solo backpack sprayer at a concentration of 8 oz/100gal water. This treatment was applied on 15 Oct 01 and 2 Nov 01 when leaves were still on trees. All other bactericides were applied on 9 Nov 01 using a solo backpack sprayer. All treatments were applied to runoff with approximately 1.5 gal of a spray suspension applied to each set of 8 trees. All trees in the block were inoculated on 19 Nov 01 with an equal part mixture of 3 pathogenic, copper resistant, streptomycin sensitive strains of *Pseudomonas syringae* pv. *syringae* isolated in 1992 and 1993 from diseased 'Sango Kaku' maples (14A92, 115A93 and 123B93). Inoculum was applied using a solo backpack sprayer at a concentration of 1×10^8 cfu/ml and a rate of 0.21 qt/tree giving a final inoculum dose of 2×10^{10} cfu/tree. The first killing frost was on 7-9 Nov 01 with a low temperature of 29°F. Incidence of bacterial blight was evaluated on 27 Mar 02 by recording the number of shoots (that grew last year) that had turned black.

The dormant season rainfall was 4.15 inches above normal, however, rainfall during the growing season was well below normal. Dormant conditions were mild with a low temperature of 26°F by Jan 02. Lowest dormant season temperature was 24 F recorded on 17 Jan 02. Bacterial blight was first generally observed around 1 Feb 02 as a black dieback of normally red shoots. Very little disease developed during either the dormant or growing seasons. There was no significant difference in disease development among the various treatments. The only exception was a single tree under one of the plastic tents with extensive bacterial blight development. This tree showed no symptoms in December 01 but extensive canker development in January 02. This same tree was also discovered to have symptoms of *Verticillium* wilt (dark streaking of the vascular tissue near the base of the tree) during the spring.

Treatment & Rate/100 gal	Ave. number of blighted 1 year old shoots per tree*
	27 Mar 02
Nontreated	0.6
Plastic Shelters	0.5
Agri-mycin 17 WP 1 lb	0.1
Kocide 2000 T/N/O DF 0.75 lb	0.9
Junction DF 1 lb	0.8
Messenger 8 oz	0.6

* Means were not differ significantly based on Fisher's protected LSD (P=0.05).