

**Bactericides for management of bacterial blight of lilac, 2011.  
 Efficacy of Management Tools for Bacteria – IR-4 Ornamental Protocol Number 10-008.**

Bactericide treatments were arranged in a randomized complete block design in a block of 'Ellen Willmott' lilacs planted in 1993 on a 5 x 15 ft spacing. Each bactericide treatment consisted of 4 single shrub replicates. Nontreated, noninoculated bushes were on either side of inoculated, treated bushes. All bactericides were applied using a hydraulic handgun sprayer at 100 psi such that 1 gal of a spray suspension was applied per 4 bushes (145 gal/A). Treatments were applied on 3 Mar 11 (buds swollen), 11 Mar 11 (bud break), 18 Mar 11 (0.5 to 1 inch growth), 24 Mar 11 (1 to 3 inch growth), and 31 Mar 11 (6 inch shoot growth). A set of nontreated and all bactericide treated bushes were inoculated on 17 Mar 11 (just before the 3<sup>rd</sup> bactericide application) with  $5 \times 10^7$  cfu/ml of *Pseudomonas syringae* pv. *syringae* originally isoalted from lilac. Bacteria were applied using a Stihl SG 20 backpack pump style sprayer. Another set of 4 nontreated bushes were not inoculated. All bushes were severely pruned (50% old wood removed) and hedged 19 Aug 10 to encourage new growth. No fertilizer, insecticides or herbicides were applied to this block of lilacs. Incidence of bacterial blight was evaluated on 5 and 22 Apr and 5 May by examining 100 arbitrarily selected shoots per bush. Incidence of bacterial blight was also evaluated on 22 Apr and 5 May by recording all shoots on each bush that had 50% or more of the leaves blighted. The height of each bush was recorded on 1 Apr 11 and 25 May 11.

Early spring conditions during bud break and early shoot growth was characterized as cool and wet. Small water soaked spots were observed on 21 Mar on some inoculated plants. Necrotic spots were observed in abundance on both inoculated and non-inoculated nontreated bushes on 28 Mar. Whole leaves and petioles were collapsing on 11 Apr with entire shoot collapse by 19 Apr. Nontreated, non-inoculated bushes were diseased indicating abundant natural inoculum. Inoculated nontreated bushes did not have significantly more disease than non-inoculated bushes. Although many bactericide treated bushes, such as A91800A, Citrex, HM-0736, CG100 and Regalia, had more disease than nontreated bushes they were not significantly different. Lowest amount of disease was found on bushes treated with the high rate of Kasumin, however, by 5 May bushes treated with the low rate of Kasumin or Nu-Cop were not significantly different. The change in height on these same bushes was also significantly more than nontreated bushes. No phytotoxicity was observed on any treated bushes. CG100 was viscous and difficult to work with during low spring temperatures.

Table 1. Bacterial blight incidence and change in plant height.

Treatment and rate/100 gal	Bacterial Blight (% Shoots)*			Change in Plant Height (cm)*
	5 Apr	22 Apr	5 May	
Nontreated, Non-inoculated.....	12.5	48.5 abc	86.5 ab	7.0 c
Nontreated, Inoculated.....	15.5	46.5 abc	80.0 ab	9.0 c
A91800A WG at 1 oz .....	21.0	78.3 a	94.3 a	12.0 c
Citrex at 18.2 fl oz.....	19.3	58.3 ab	97.5 a	9.5 c
HM-0736 at 14.4 fl oz.....	13.5	56.5 ab	93.8 a	11.0 c
Kasumin at 45 fl oz.....	1.8	18.3 cd	32.0 c	37.5 a
Kasumin at 64 fl oz.....	4.5	8.5 d	21.3 c	33.3 ab
CG100 at 38.4 fl oz.....	17.0	49.0 abc	93.8 a	13.3 c
Regalia at 1 gal .....	20.3	74.3 a	96.5 a	4.5 c
Aliette at 12.8 oz .....	12.3	30.0 bcd	70.8 b	20.0 bc
Nu-Cop 50 DF at 1 lb .....	25.5	35.8 bcd	31.5 c	39.5 a

\* Means followed by the same letter do not differ significantly based on Fisher's protected LSD (P=0.05). Means without letters do not differ significantly.

Table 2. Bacterial blight severity with incidence of shoots with  $\geq 50\%$  blight.

Treatment and rate/100 gal	Bacterial Blight (shoots/bush with $\geq 50\%$ blight)*			
	22 Apr		5 May	
	Mean	Significance	Mean	Significance
Nontreated, Noninoculated.....	16.5	abcd	47.5	abc
Nontreated, Inoculated.....	11.8	bcd	41.3	bc
A91800A WG at 1 oz .....	30.0	a	72.3	a
Citrex at 18.2 fl oz.....	27.5	ab	74.5	a
HM-0736 at 14.4 fl oz.....	24.3	abc	56.8	abc
Kasumin at 45 fl oz.....	2.3	d	12.0	d
Kasumin at 64 fl oz.....	1.5	d	6.0	d
CG100 at 38.4 fl oz.....	17.0	abcd	58.8	ab
Regalia at 1 gal.....	31.3	a	66.5	ab
Aliette at 12.8 oz .....	6.5	cd	30.0	cd
Nu-Cop 50 DF at 1 lb .....	8.0	cd	12.3	d

\* Means followed by the same letter do not differ significantly based on Fisher's protected LSD (P=0.05).

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