IMPATIENS (*Impatiens walleriana* 'Accent Premium Red')
Downy mildew; *Plasmopara obducens*

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Evaluation of fungicide applications for control of downy mildew of impatiens in the greenhouse, 2020.

Bedding impatiens 'Accent Premium Red' were sown into 288-cell flats and transplanted into 4-in. plastic pots containing a soilless media (Suremix, MI Grower Products Inc, Galesburg MI) on 1 Jul. Plants were fertilized weekly with 200 ppm of Peters 20-20-20 water soluble fertilizer (ICL Specialty Fertilizers, Dublin, OH). Four replications per treatment, with one plant per replication, were arranged in a completely randomized design. Plants were approximately 6-in. tall at the initiation of the trial. Temperatures averaged 81.2°F, with a high of 97.6°F and a low of 68.2°F. Fungicides were applied as a drench (ca. 3 fl oz/pot) or foliar spray with a compressed air sprayer until runoff on 22 Jul. A sporangial suspension was prepared by placing impatiens leaves sporulating with downy mildew into distilled water and agitating to release spores. Plants were placed into translucent bags before the inoculum suspension was sprayed on 23 Jul using a janitorial spray bottle; the bags were immediately closed following inoculation. Bags containing plants were opened on 28 Jul and closed again on 1 Aug to induce sporulation. Untreated inoculated plants served as control. On 6 Aug, disease incidence (% leaves with sporulating *P. obducens*) was estimated for each plant. Data were analyzed using SAS PROC GLM and statistical differences were compared using the Fisher's Protected Least Significant Differences test (P=0.05).

Disease pressure was high in this trial with the untreated control plants averaging 76.5% of their leaves with the sporulating downy mildew pathogen. All treatments provided significantly better disease control than the untreated inoculated control. Subdue MAXX and both rates of Picarbutrazox SC provided significantly better control of downy mildew than Broadform SC. There was not an observed rate response to Picarbutrazox SC. Phytotoxicity was not observed on any of the treated impatient plants in this trial.

Treatment and rate/100 gal	Application method	Leaves w/sporulating *P. obducens* (%)	
Untreated inoculated control	--	76.5	c*
Broadform SC 8 oz	spray	11.4	b
Subdue MAXX 1 fl oz	drench	0.0	a
Picarbutrazox SC 13.9 fl oz	spray	0.0	a
Picarbutrazox SC 27.7 fl oz	spray	0.0	a

*Column means with a letter in common are not significantly different (Fisher's Protected LSD; P=0.05).