

Products in Review—Milstop

Milstop has been known as a powdery mildew product for quite a few years. The active ingredient is potassium bicarbonate and was sold for a time as FirstStep by Cleary Chemical. Currently, one of these products is sold by BioWorks. There is a very long list of diseases listed on the MilStop label, although little research has been published.

In February, at the SAF Pest Management Conference I presented a summary of research experience with MilStop. Tests on Botrytis blight, downy mildew and scab (poinsettia) each showed some control. Powdery mildew trials were best with very good to excellent control. Myrothecium leaf spot control was poor with MilStop. In addition, reports in **Fungicide and Nematode Tests** on control of black spot on rose and Entomosporium leaf spot on Photinia showed no control with MilStop. Control of powdery mildew was reported as some to good.

Over the past year, we have been testing the limits of Milstop. We tested three rates (1.25, 2.5 and 5 lbs/100 gal) on Botrytis (pansy and primrose), powdery mildew (Gerber daisy), downy mildew (stock), rust (geranium) and Pseudomonas leaf spot (snapdragon). The table shows the results of these six trials. We evaluated efficacy and safety (in parenthesis). Most trials were preventative but we did do one Botrytis trial on primrose with a moderate infection when we started.

MilStop gave good to very good control of Botrytis on pansy flowers at 2.5 and 5 lb/100 gal but caused leaf burn at both rates. It gave some control of Botrytis on primrose and was safe at all rates tested. Downy mildew

Disease	Host plant	Preventative or Curative	1.25 lb/100 gal	2.5 lb/100 gal	5 lb/100 gal
Botrytis	Pansy flowers	Preventative	Some (phyto)	Good (phyto)	Very good (phyto)
Botrytis	Primrose leaves/flowers	Curative	Some (safe)	Some (safe)	Some (safe)
Downy mildew	Stock	Preventative	Not tested	Very good (safe)	Excellent (phyto)
Powdery mildew	Gerber daisy	Preventative	Good (safe)	Good (safe)	Excellent (safe)
Pseudomonas leaf spot	Snapdragon	Preventative	None (safe)	None (safe)	None (safe)
Rust	Geranium	Preventative	Good (safe)	Very good-excellent (safe)	Excellent (safe)

on stock (*Matthiola incanae*) is caused by *Peronospora parasitica*. Control with MilStop was very good to excellent at 2.5 or 5 lbs/100 gal. Leaf distortion did occur on stock sprayed with the 5 lb rate. Powdery mildew on Gerber daisy was effectively controlled with all rates tested, although control was best with the 5 lb rate. All rates were safe on this crop. Rust (*Puccinia*) on geranium was also effectively controlled with higher rates giving the best control. All rates were safe on geranium.

Finally, I was interested to see if MilStop would control bacterial leaf spot. We tested prevention of Pseudomonas leaf spot on snapdragons. Unfortunately, the product had no effect on this bacterial leaf spot.

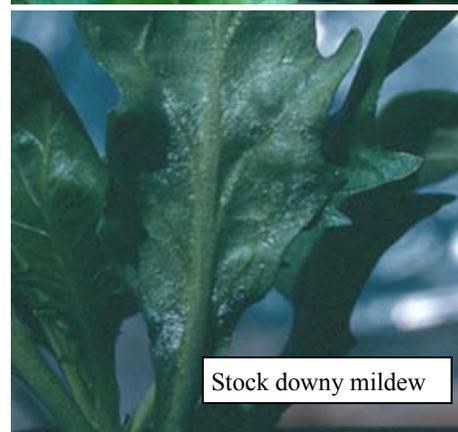
It remains to be seen whether or not MilStop can provide acceptable levels of control of all of the diseases on the label. Our recent trials do show that this fungicide can provide good control of more than just powdery mildew, including Botrytis, downy mildew and rust.



Geranium rust



Gerber daisy powdery mildew



Stock downy mildew

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