

**Control of Dill Blight on Dill (*Anethum graveolens* L.)
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Dill blight is caused by the fungus *Cercosporidium punctum* (Lacr.) Deighton or *Passalora puncta* (Delacr.) and is also known as Phoma blight. The disease affects dill, parsley and fennel. The fungus overwinters on dead plant residues from the previous year, and primary infection takes place from ascospores released in the spring. The secondary infection, produced by conidia, continue the infection throughout the remainder of the growing season (Petzoldt, 1989). Symptoms include small olive brown spots on the leaves and stem and a blighting of the foliage. Significant reduction in essential oil yield results from dill blight infection.

'Mammoth' dill was planted at the Western Agricultural Research Center, Corvallis MT (WARC) on May 8, 2001, and at the Steve Street farm, Kalispell MT on May 9. Dill was planted in plots 10 ft long at 40 seeds/linear foot with four replications. Fungicidal treatments were as in Table 1. A nontreated control was also included. Foliar fungicides were applied twice, at WARC on June 20 and July 4, and at the Street farm on June 21 and July 5.

Ten plants per plot were sampled at WARC on August 3 and at the Street farm on August 8. Plants were rated on a scale of 0 (no disease) to 4 (severe) for foliar blight and stem lesions. Leaf and stem ratings were combined for statistical analysis.

Table 1. Summary of products and rates used

Fungicide	Active Ingredient	Manufacturer	Rate (product/a or cwt)	Dill Registration
Folicur 3.6F	tebuconazole	Bayer	7.2 fl oz/a	no
Benlate	benomyl	DuPont	1 lb/a	withdrawn
Headline	pyraclostrobin	BASF	12.2 fl oz/a +0.25% crop oil concentrate	no
Quadris	azoxystrobin	Syngenta	15.4 fl oz/a	no
Manzate 200*	mancozeb	Griffin	3 lb/a	no
Champ 2	copper hydroxide	Nufarm Americas	1.75 pt/a	Phoma blight, dill
Tilt	propiconazole	Syngenta	4 fl oz/a	no
Sovran	kresoxim-methyl	BASF	6.4 oz/a	no
Maxim 4FS	fludioxonil	Syngenta	0.08 fl oz/cwt	dill seed treatment
Baytan 30	triadimenol	Gustafson	1.5 fl oz/cwt	no
Raxil/Thiram	tebuconazole/thiram	Gustafson	3.5 fl oz/cwt	no
Raxil MD	tebuconazole/metalaxyl	Gustafson	5 fl oz/cwt	no
Extra	/imazalil			
Thiram 42S	thiram	Gustafson	6 fl oz/cwt	all vegetable seeds
Dividend XL	difenoconazole	Syngenta	1 fl oz/cwt	no

* Manzate 200 is not a US formulation. Manzate DF has 24(c) for dill for seed in WA only.

None of the seed treatments differed from the nontreated control in severity of dill blight (Table 2). Several foliar treatments, including the registered product Champ (copper hydroxide), protected plants from early infection. Disease pressure was equally severe at both locations and there was no treatment by location interaction. None of the fungicidal treatments protected plants for the entire season, with harvest maturity about September 5. The presence of a nontreated control and many ineffective treatments provided sufficient inoculum to maintain the disease throughout the season.

Table 2. Fungicide treatment effects on dill blight, cultivar 'Mammoth.'

Fungicide Treatment	Foliar/seed	Rating (0-4)		
		WARC	Street	Average
Folicur 3.6F	foliar	1.9	2.3	2.1 *
Benlate	foliar	1.7	2.7	2.2 *
Headline	foliar	2.0	2.8	2.4 *
Quadris	foliar	2.4	2.6	2.5 *
Manzate 200	foliar	2.5	2.7	2.6 *
Champ	foliar	2.4	3.0	2.7 *
Tilt	foliar	2.6	3.0	2.8 *
Sovran	foliar	2.8	3.0	2.9
Maxim 4FS	seed	2.8	3.3	3.0
Baytan 30	seed	2.9	3.0	3.0
Raxil/Thiram	seed	3.0	3.2	3.1
Raxil MD	seed	3.1	3.2	3.1
Thiram 42S	seed	3.4	3.1	3.3
Dividend XL	seed	3.5	3.3	3.4
Control	nontreated	3.3	3.4	3.4
LSD (0.05)				0.5

* designates treatments that are different from the control by LSD (P=0.05)

References

Petzoldt, S. 1989. Zur biologie, epidemiologie, und schadwirkung des erregers der blattund stengelanthraknose (*Mycosphaerella anthi* Petr.) am fenichel (*Foeniculum vulgare* Mill.) 1. Mitteilung. Drogenreport 3:49-65.