

SNOW MOLD INVESTIGATIONS IN EASTERN WASHINGTON

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"Snow mold of turf" in the Pacific Northwest must include both *Fusarium* Patch caused by *Calonectria graminicola* (Berk and Br.) (conidial stage *Fusarium nivale* (Fr.) CES.), and Gray snow mold caused by *Typhula itoana* Imai, which occur together to give a disease complex. Snow mold of turf is the most destructive disease in many parts of the Northwest. It is very common in eastern Washington, northcentral Idaho, and western Montana where snow covers the turf for long periods. Attempts to control snow mold on turf in this region have been only partially successful. Tests were undertaken to determine the rate and kind of chemicals that would provide the best control of snow mold. This is a report on these tests.

The fungicide tests were conducted on golf greens at Spokane and Pullman, Washington. All tests were conducted on three replicated plots 5 x 10 feet in size. The fungicides were applied as a spray with water as diluent at the rate of 5 or 10 gallons per 1,000 square feet. The nozzle pressure was approximately 30 psi. The materials were applied in three applications (October, November, January) or in one application on one of the above dates.

Results of Fungicide tests are shown in Table No. 1 and Table No. 2.

Three applications of any of the materials provided efficient control even of severe infections; two applications of Tag (PMA), Panogen, Calo-clor, or Cadminate provided adequate control at both locations. One application in October or November of Tag, Panogen, Calo-clor, or Cadminate resulted in a low percentage of snow mold at Pullman. One application of Tag gave little control at Spokane (Table No. 2).

Panogen was the only chemical that did not cause any discoloration of the turf. Tag and Calo-clor produced the greatest damage on turf in the October treatments. Cadminate treatments showed some temporary injury to turf in the October treatments.

The results would indicate that 2 ounces of Tag (PMA) or 3 ounces of Panogen (Methylmercury dicyandiamide) in two or three applications will give good control at both Pullman and Spokane. The results also indicate Cadminate and Calo-clor in three applications are best for the Spokane area. It appears that Cadminate and Calo-clor are more effective against *Typhula itoana*, the dominant organism in the Spokane area, and less effective against *Fusarium nivale*, which is more common in Pullman.

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TABLE 1. The Effect of Three Applications of Fungicides on Snow Mold at Pullman and Spokane in 1960-61

Treatment	Dosage ^a	Amount of Water per 1,000 sq. ft. gallons	Per cent control	
	per 1000 sq. ft. ounces		Pullman	Spokane
Tag (10% Phenyl mercury acetate)	2	5	96	95
	2	10	92	93
Panogen (Methylmercury dicyandiamide)	3	5	92	98
	3	10	97	96
Cadminate (60% organic Cadmium)	3	5	93	99
	3	10	93	100
Calo-clor (Mercurous chloride 60% and Mercuric Chloride 30%)	3	5	84	98
	3	10	93	100

^aTotal amount of material at each date (Oct. 20, Nov. 17, and Jan. 10).

TABLE 2. The Effect of One Application of Fungicides at Different Dates on Snow Mold at Pullman and Spokane in 1960-61

Treatment	Dosage ^a per 1000 sq. ft.	Per cent control					
		Oct.	Pullman Nov.	Jan.	Oct.	Spokane Nov.	Jan.
Tag	2	91	93	77	69	82	75
Panogen	3	95	89	77	91	91	87
Calo-clor	3	99.4	91	73	98	82	68
Cadminate	3	100	86	72	99.9	81	75

^aTotal amount of material in one application in five gallons of water.