

Heritage for Control of *Microdochium nivale* (pink snow mold)

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Summary: Heritage provided 89% control of patches in the treated area compared to the non-treated check area. No phytotoxicity or other negative turf quality effects were observed. Heritage applied as described below was effective for control of *Microdochium nivale* (fusarium patch, pink snow mold) in Southern California.

Materials and Methods: A newly sodded green was treated using a bicycle sprayer equipped with a calibrated speedometer. Heritage at 0.4 oz/1000 sq ft was delivered in 2.1 gal water/1000 sq ft using 8004VS flat fan nozzles on 20 inch spacing, 17 inches above the turf powered by CO₂ at 40 psi boom pressure. Boom speed was 2 mph. The treated area was approximately 3,000 sq ft in size and the adjacent non-treated area was approximately 1,000 sq ft.

Previous strip trials conducted by PTRI indicate that Heritage requires vigorous agitation to maintain a suspension. Some residue remained in the bottom of the 5 gal spray tank after the application was

made even though agitation was vigorous at the initiation of the spray. The only application was made on 3/7/96. A single rating was made on 3/18/96. Ratings were conducted by counting the number of patches in three sod widths across the entire green in the treated and non-treated areas before application and 11 days after treatment (dat). Evaluations utilized the same areas before treatment and 11 dat. Correction for reduction in patches that naturally occur as weather conditions improve to favor the turfgrass over the pathogen were calculated by estimating the percent patch recovery in the non-treated area and adjusting the number of expected patches in the treated area.

Results: Table 1 reports the raw data and estimated control corrected for natural patch recovery (see calculation below). Heritage provided 88.6% control of fusarium patch when natural recovery was included in the calculation. Surface sterilization of plants collected prior to application in 5% sodium hypochlorite and plating onto water agar plus 100 ppm streptomycin resulted in production of septate mycelia and lunate single septate conidia ranging between from 20 and 35 um (26 ± 2 um) that are typical for *Microdochium nivale*.

Table 1. Summary of results and corrections for natural recovery

Heritage rate (oz/1000 sq ft)	Patches (3/7/96)	Patches (3/18/96)	Percent Recovery	Percent Control
0.0	24	12	50	0 (assumed)
0.4	35	2	50 (estimated)	88.6

$$\text{Percent Control} = \frac{100 \times TP_f}{\left(\frac{NP_f}{NP_i}\right) \times TP_i}$$

NP_i = non-treated initial number of patches

NP_f = non-treated final number of patches

TP_i = treated initial number of patches

TP_f = treated final number of patches.