

Leaf Spots on *Prunus laurocerasus*, 'Otto Luyken' Relative to Leaf Wetness

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Nature of Work: To achieve a better understanding of the role leaf wetness has on the development of fungal leaf spots in nursery environments, leaf wetness sensors were placed among leaves of 'Otto Luyken' laurel. Leaf wetness was recorded continuously using three data acquisition systems. Leaf spots were counted on May 12, June 22, July 23, August 25 and October 22, 1998 on 25 leaves of each of six plants located in sun or partial shade (50%). The average number of lesions per leaf was calculated along with standard deviations to determine any differences.

Results and Discussion: There were no initial differences in the number of lesions on plants in May. The plants in 50% shade had more lesions in June, July, and August than they did in May, whereas the plants in full sun only had more lesions in August. The greatest increase in lesion numbers occurred between May and June in both sun and shade.

Leaf wetness averaged 229 hours per month (Davis system) to 294 hours (Campbell system) under sunny locations. This is equivalent to 25-30% of the total time. The sensor in the shade failed over several months, thereby providing insufficient data for comparison. Since the number of lesions did not differ statistically between sun and shade locations within any given month, there probably was not sufficient differences in hours of leaf wetness between sun and shade. Experiments planned for 1999 will be designed to provide greater extremes in leaf wetness hours.

Significance to Industry: Monitoring the environments at the plant level provides information useful in designing and adjusting watering schedules to minimize disease development since many fungal pathogens require moisture for spore production and germination. Managing plant health by manipulating growing conditions is an important aspect to any production system.

Table 1. Average number of lesions per leaf on 'Otto Luyken' cherry laurel at Center for Applied Nursery Research (1998)

	Month					
Location	May	June	July	August	September	October
Sun: (18 plants: 450 leaves)	1.0	1.7	2.1	2.3	NA	1.4
Shade: (12 plants: 300 leaves)	0.6	1.3	1.8	1.9	NA	1.4

NA - Data Not Available