

Leaf Spot Development on *Prunus laurocerusus* Under Drip and Overhead Irrigation

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Although two leaf spot susceptible species were exposed to overhead watering and drip irrigation at CANR in 1999, only sufficient numbers were recorded on the 'Otto Luyken' laurel foliage to demonstrate differences between the two watering systems.

The number of lesions on twenty leaves of five plants exposed to the two irrigation systems were counted on June 14, July 19, August 16 and September 15. Spectrum leaf wetness sensors were installed adjacent to the containerized plants and data recorded at 30 minute intervals for the season. The hours of leaf wetness for each period between the leaf spot counts are shown in the accompanying table.

Since a wetness sensor failed under one drip system, only a comparison of the hours wetness is provided for the two different systems which operated continuously.

The overhead system provided leaf wetness 32% of the time from April 5 through September 15 whereas the drip irrigation system or precipitation resulted in leaf wetness 25% of the time.

The number of lesions per leaf on 'Otto Luyken' under overhead irrigation exceeded the average number under drip irrigation on each of the four counting dates. The mean number for the season was approximately 29% greater under overhead than under drip.

An advantage of the leaf wetness sensors is that temperatures as well as moisture and precipitation periods can be logged into a computer program that provides the nurserymen and scientists a record of environmental conditions in the plant canopy. Lengthy periods of moisture or dryness can be recorded easily with these sensors.

Table 1. Number of hours of leaf wetness on 'Otto Luyken' laurel during 1999 season under two irrigation systems and number of leaf lesions.

PERIOD	DRIP			OVERHEAD		
	Hrs. wet	% time	Number lesions per leaf	Hrs. wet	% time	Number lesions per leaf
April 15 - June 14 ¹	233.0	20.2	0.3	286.5	22.9	0.5
June 15 - July 18	244.5	30.9	0.7	369.0	45.2	0.7
July 19 - Aug 16	193.8	28.8	0.5	223.5	32.1	0.7
Aug 17 - Sept 9	159.0	22.4	0.5	198.0	34.4	0.6
Total (Avg.)	830.3	(24.9) ²	(0.5)	107.7	(32.9) ²	(0.6)

¹ Data not available for April 24 - May 5 and May 24 - June 3.

² Based on 3,327 and 3,336 hours, respectively.