Effect of Increasing Wind Velocities on the Rate of Transpiration of MarvaParvi Flora Plant

Abujbara, Nura

The aim of this experiment is to investigate the effect of increasing velocities of wind, being 5.5, 9.9. 10.8, and 11.7 kilometers/hour on the rate of transpiration of MarvaParvi Flora plants, using an anemometer placed at the distances the leaf is to be placed from a fan, to measure these wind velocities. This is done by placing a fan, at a constant speed, at different distances away, being 152, 114, 76, and 38 centimeters, from the leaf of a Marva Parvi Flora plant, and then using a potometer to calculate the rate of transpiration.The distances moved by the air bubble recorded every 120 seconds for 600 seconds, in the potometer (mm) due to the transpiration of the MarvaParvi Flora leaf is calculatedin table 4 and graph 2. The rate of transpiration measured per surface area (cm3·s-1·cm-2) of the leaf increases gradually, as the leaf is exposed to increasing wind velocities. From the leaf being exposed to no wind (0.00 km/hr) to it being exposed to 5.5 km/h, the rate of transpiration calculated after 600 seconds increases from 1.27 to 1.69 cm3·s-1·cm-2, calculated to an average of a 33.07% increase. In conclusion, the hypothesis suggested was correct; the rate of transpiration did increase as the wind velocity increased. Also the highest rate of transpiration induced from the five velocities was that of the closest fan distance (highest wind velocity) and the lowest was that of the farthest fan distance.

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