LOGARITHMIC SYSTEMS FOR MEASURING SEVERITY OF ANTHRACNOSE AND SCAB IN AVOCADO FRUITS

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Scab (*Elsinoe perseae*) and anthracnose (*Glomerella cingulata*) are the major diseases of avocado fruit (*Persea americana*) in Michoacan, Mexico, reducing the fruit acceptability for national and export markets. This research presents two logarithmic diagrammatic scales based on the Horsfall-Barratt principle for the study of the *E. perseae* and *G. cingulata* pathosystems in avocado fruit. These scales provide a precise, accurate, and reproducible evaluation of each disease. The scales were generated calculating the ratio of diseased tissue on fruits with different severity levels using digital-image analysis and a software used to generate disease severity values for an evaluation system based on classes. Linear regression analyses of estimated and actual data from 30 evaluators were used to estimate precision (r^2), accuracy (b_1) and reproducibility (t-test of r^2 and b_1 of two trials). The precision and accuracy achieved during the validation of these measurement systems showed the scales to be reliable for field use ($r^2 > 0.8$ and $b_1 > 0.8$, respectively).