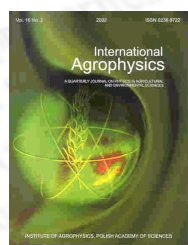




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Watermelon epicuticle changes related to friction test parameters

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abstract A surface friction method was used to apply a mechanical load to the watermelon fruit's epicuticle. By varying the degree of abrasion intensity, four increasingly larger degrees of epicuticle were identified. These altered stages were related to unique features on the friction force vs. displacement curve, marks on the watermelon, and marks on the abrasive surface. Failure threshold distance and epicuticle layer removal distance were good indicators of resistance to abrasion and were affected by roughness of the abrasive surface, sliding speed, normal force and measurement location on the sample. The magnitude of changes in the fruit's epicuticle structure varied with harvest date and between the two watermelon cultivars.

keywords abrasion, friction, watermelon, wax, resistance

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