



### Abstract

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Mathematical Modeling of Tomato Terminal Velocity in Water

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### Abstract:

In this study, the terminal velocity of tomato (*cv. Rio grands*) was theoretically formulated and then determined experimentally using a water column. Some characters of tomato affecting its terminal velocity were determined using standard methods. The best model for terminal velocity of tomato as a function of water and tomato densities, shape factor and volume was modeled with determination coefficient of 0.84. Based on statistical analysis, fruit density created a considerable influence on terminal velocity while the parameter of fruit volume shape factor had small effect on terminal velocity. It can be concluded that in sorting systems, difference in terminal velocities of tomatoes could be addressed as a crucial factor for designing sorting systems.

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