Metode deteksi kelapa kopyor jenis genjah berdasarkan impact force response = Kopyor coconut of genjah variety detection based on impact force response

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Abstrak

ABSTRACT
Kelapa kopyor merupakan kelapa mutan yang nilai ekonominya sangat tinggi dipasar sehingga perlu dideteksi dan dipisah dari kelapa biasa. Cara konvensional yang dilakukan adalah dengan mengguncang dan mengetuk kelapa namun terkadang masih terjadi kesalahan deteksi yang menyebabkan kelapa biasa terdeteksi sebagai kelapa kopyor. Pada penelitian kali ini dilakukan dua metode percobaan berdasarkan impact force response masing-masing bernama energy absorption test dan force-time parameters test yang diharapkan dapat mendeteksi kelapa kopyor dari kelapa biasa. Pada energy absorption test kelapa dijatuhkan dari ketinggian 0.7 meter dan diukur tinggi pantulnya sedangkan pada force-time parameters test kelapa dijatuhkan dari ketinggian 0.7 meter terhadap force sensor untuk diukur impuls dan gaya puncak yang dialami kelapa. Hasilnya menunjukkan bahwa hanya metode force-time parameters test yang berhasil memberikan indikator pembeda antara kelapa kopyor dan kelapa biasa yaitu berupa gaya puncak yang dibagi dengan massa kelapa yang bersangkutan meskipun masih terdapat sedikit kejanggalan data pada salah satu kelapa. Adapun kejanggalan tersebut disebabkan karena metode tersebut sangat dipengaruhi oleh berbagai faktor seperti bentuk dan umur kelapa sehingga metode yang diuji pada penelitian kali ini belum ada yang mampu mendeteksi kelapa kopyor secara sempurna.
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ABSTRACT
Kopyor coconut are mutant coconuts which have a high economic value in market, therefore need to be detected and separated from common coconut. Conventional method currently used is by shaking and knocking the coconut, however this sometimes still results in misdetection resulting in common coconut being detected as kopyor coconut. In this research two experiment methods based on impact force response named energy absorption test and force time parameters test which we hope to be able to detect kopyor coconut from common coconut were done. In energy absorption test coconut were dropped from a height of 0.7 meters and the bounce height were measured while in force time parameters test the coconut were dropped from a height of 0.7 meters into a force sensor and the impulse and peak force experienced by the coconut were measured. The result shows that force time parameters test is the only method that can produce distinguishing indicator between kopyor coconut and common coconut despite a tiny existence of data oddity on one of the coconut. As for the data oddity, it was because the method is vulnerable to many factors such as coconut rsquo s size and age therefore non of the methods tested in this research were able to detect kopyor coconut perfectly.In this research two experiment methods based on impact force response named energy absorption test and force time parameters test were done in order to detect kopyor coconut from common coconut. The result shows that both methods can produce differentiator indicator between kopyor coconut and common coconut despite a tiny existence of data oddity on one of the coconut.