ANALISIS KONTRAS OPTIS LAPISAN LILIN LEBAH PADA BUAH TOMAT DENGAN METODE *LASER SPECKEL IMAGING*

ABSTRAK

Analisis kontras optis lapisan lilin lebah pada buah tomat dengan metoda *Laser Speckle Imaging* (LSI) telah dilakukan. Penelitian ini dilakukan untuk mengamati perubahan pola spekel akibat pengaruh variasi konsentrasi lilin lebah. Pola spekel dianalisis menggunakan *software ImageJ* dan Matlab, sehingga diperoleh karakteristik histogram distribusi intensitas serta ukuran bulir spekel. Penyinaran dilakukan pada sampel sebelum dan setelah dilapisi lilin lebah dengan variasi konsentrasi 2%, 4%, 6%, 8%, 10% dan 12%. Hasil penelitian menunjukkan bahwa terdapat korelasi antara konsentrasi lapisan lilin lebah dengan nilai kontras dan ukuran bulir spekel. Semakin tinggi konsentrasi lapisan lilin lebah, maka nilai kontras dan ukuran bulir spekel akan semakin menurunan.

Kata kunci: pola spekel, kontras spekel, ukuran bulir spekel

ANALYSIS OPTICAL CONTRAST OF BEESWAX COATING OF TOMATO WITH LASER SPECKEL IMAGING

ABSTRACT

Optical contrast analysis of beeswax on tomato with laser speckle imaging methode hase been conducted. The research conducted to see change of speckle pattern due to influence of beeswax concentration variations. Speckle patterns was analyzed using ImageJ and Matlab, in order to obtain the characteristics of the intensity distribution histogram and size of speckle. The radiation was conducted on samples before and after being immersed with beeswax with various consentrations of 2%, 4%, 6%, 8%, 10% and 12%. The results show that there is a correlation between concentration of beeswax coating and contrast value and size of speckle. The higher the concentration of beeswax is given, then the contrast value and size of speckle will decrease.

Keywords: speckle pattern, kontras speckle, size of speckle