

عنوان مقاله:

Modeling Some Mechanical Properties Distributions of Almond Using Weibull Function

محل انتشار:

هجدهمین کنگره ملی صنایع غذایی (سال: 1387)

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خلاصه مقاله:

Determining the mechanical properties of kernel is necessary for design of an almond cracker, peeler machines and almond shaker. Therefore, the objective of this research was to model the statistical distribution of the puncture force (F), deformation (D) and modulus of elasticity (E) for almond nut (N) and almond kernel (K) by using two-parameter Weibull distribution function. This function gives the probability of an item operating for a certain amount of time without failure. The Weibull distribution is one of the most widely used lifetime distribution in reliability engineering. It is a versatile distribution that can take on the characteristics of other types of distributions, based on the value of the shape parameter (β) and scale parameter (η). The experimental data were compared with the predicted model in both nut and kernel of almond. Both η and β parameters of the force, deformation and modulus distributions were significantly influenced for kernels. In both almond kernels and almond nuts, the forces were better Weibull distributed than deformations and modules

کلمات کلیدی:

Almond, Mechanical properties, Modeling, Probability density, Weibull distribution

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