

عنوان مقاله:

Resistance of Potatoes to Airflow

محل انتشار:

مجله علوم و فناوری کشاورزی، دوره 10، شماره 1 (سال: 1386)

تعداد صفحات اصل مقاله: 9

نویسندگان:

F. Shahbazi - Lorestan University, Khoramabad, Islamic Republic of Iran

A. Rajabipour - Department of Agricultural Machinery, Tehran University, Karaj, Islamic Republic of Iran

خلاصه مقاله:

Knowledge of airflow resistance is an important consideration in designing an appropriate ventilation system and for proper fan selection. An airflow resistance device was designed and fabricated to measure the airflow resistance of potatoes. The device the composed of an air compressor, a rotameter, a cylindrical bin to contain the potatoes and an inclined u-tube manometer. Airflow resistance of potatoes was measured as a relation-ship between the airflow rate and pressure drop per unit depth (Pa/m) at ۱۲ airflow rates of ۰.۰۸۵ to ۰.۵۵ m^۳/s/m^۲. Two airflow resistance models, namely, Shedd's and Hukill and Ives', were fitted to measured data by using PROC NLIN of SAS. The effect of potato size below ۱۲۰ g (small), at or above ۱۲۰ g (large) and unsorted (mixed size), and bed depths of ۲۵، ۵۰، ۷۵ and ۱۰۰ cm of potatoes on resistance to airflow was determined. Results showed that the airflow resistance of small size potatoes for a ۱۰۰ cm bed depth was ۱.۶ times higher than that for large size potatoes, and as the bed depth of potatoes was increased, the airflow resistance was increased.

کلمات کلیدی:

Airflow resistance, Bed depth, Potato size

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1817000>

