

Annotation

***Osokina N.M., Kostetska K.V., Gerasymchuk O.P., Yevchuk Y.V.
Physical and mechanical properties and quality indicator of corn***

The study was conducted during 2012–2015 in the Department of technology of storage and grain processing of Uman National University of Horticulture and on the production complex farm "Prolisok +" in Graniv village, Haysyn ditriect, Vinnytsia region.

The aim of the research is to study the physical and mechanical properties and quality of corn grain depending on weather conditions and properties of the variety.

Eligibility of grain for industry is characterized by its quality as a raw material for recycling. Comparing the geometric parameters of corn it was found that grain of DKS 4685×1390 and PR39B58 varieties have the elongated shape. Large linear dimensions are found in the corn grain of PR39B58 variety.

Corn grain of DKS 4685×1390 and PR39B58 varieties has marked peculiarities of type and variety, meets the requirements in terms of external geometric parameters, volume, area of the outer surface, sphericity, specific and volume weight, volume of surface layers of grains and mass fraction of endosperm starch, indicating its suitability for processing.

There was a tendency of changes in the geometric characteristics of the grain of the varieties studied under the influence of weather conditions of the year of study. Significant difference in physical indicators of grains of different growing years was recorded in the corn grain of DKS 4685×1390 variety in terms of thickness, volume, area of the outer surface; PR39B58 – thickness, volume, area of the outer surface, volume of surface layers.

Technological properties of corn grain are high enough. Grain moisture, content of waste and grain impurities are within acceptable standards.

Key words: grain, corn, variety, physical and mechanical properties, quality.