

**STRUCTURAL AND PERFORMANCE PROPERTIES OF NEW
VARIETIES OF COTTON FIBER**

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ABSTRACT

These studies are devoted to the study of the structural-sorption and operational properties of new varieties of cotton. A comparative analysis of new varieties of fine-staple cotton fiber Porlok-1 (P-1), Porlok-2 (P-2) with zoned fiber grade S-6524 was carried out. Using the methods of equilibrium sorption, X-ray diffraction analysis and obtaining an experimental batch of yarn from the studied fibrous raw material, it was found that the structure of the new breeding variety P-2 compared to P-1 has smaller pore sizes, is more densely packed and, accordingly, the strength is higher, and these indicators are confirmed by a relatively high degree of crystallinity. An assessment of the spinning and technological properties of the yarn showed that the yarn produced from the fiber of the experimental P-1, P-2 and control selection corresponded to the level of the I-grade, and C-6524 of the obtained data, the indicators of the II-grade.

KEYWORDS: *Gene Knockout, Quality, Cotton Fiber, Grade, Porlok, Current-Fiber Fiber, Pore Volume, Capillary Radius, X-Ray Analysis, Operational Properties, Deformation.*

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