



### ABSTRACT

Maize shows a significant genetic diversity, giving origin to a great number of varieties, hybrids, and genotypes. Recently, the pigmented corn varieties have received increased interest because of their anthocyanin contents. Although starch is the major component of the pigmented corn, only a few studies have been conducted on this constituent. The aim of this work was to evaluate the physicochemical properties and structural characteristics of starch isolated from six blue maize varieties grown in Mexico. The apparent amylose content ranged between 23.3 and 33.9%. The blue maize starches had an A-type X-ray diffraction pattern with similar crystallinity levels. Different gelatinization temperatures and enthalpy values were recorded, exhibiting different retrogradation tendencies (between 36.9 and 60.1%). The pasting parameters showed that the pasting temperature varied between 74.7 and 84.1°C, the maximum peak viscosity between 83.2 and 111.2 RVU units, and the setback viscosity between 26 and 38 RVU units. Structural differences were observed in the degree of branching, molar mass, and gyration radius. In view of their different physicochemical and structural characteristics, each of the blue maize starch varieties studied could have their own specific applications.

<http://onlinelibrary.wiley.com/doi/10.1002/star.201000023/abstract>

# CEPROBI - IPN

**Autores: Julián de la Rosa-Millán, Edith Agama-Acevedo\*, Antonio R. Jiménez-Aparicio, Luis A. Bello-Pérez.**