Maize masa (dough or flour that is soaked and cooked in an alkaline solution in the nixtamlization process)-based products have been consumed by humans worldwide for thousands of years. Still, there is not a comprehensive understanding of the chemical and physical properties of maize that contribute to masa quality. Starches and proteins effect the alkaline processing of maize but are seldom discussed in a holistic way to understand their individual and combined effects on masa production, particularly in the context of the entire food system from breeding to evaluation to product development and production.

A new review article, published in Crop Science, describes the food-grade maize production chain, including current breeding efforts and grain evaluation methods. The composition of starches and prolamin proteins are also discussed relative to their effect on masa properties. Understanding the interactions of grain endosperm components and final product quality of maize masa-based products will allow for more efficient breeding and food processing operations in the future.


White food-grade corn hybrid (left) and yellow food-grade corn hybrid (right). Photo by Mark Holmes.