

1. The races of maize of Colombia.

The agricultural program of Colombia has, since its inception, sponsored the collection of maize varieties throughout the country. In recent years it has had the cooperation of the National Research Council in this enterprise, Almost 2000 separate collections, representing all parts of Colombia, have now been assembled. These have been studied intensively from the standpoint of the characters of the ears and plantings of the principal types have been made in four different localities in Colombia and extensive field notes have been taken. During the past year particular attention has been given to identifying and describing the principal races of Colombia of which 19 are recognized.

Apparently maize in Colombia had its origin in trio races of pop corn known locally as Pira and Pollo. The former has a very slender and flexible cob and has given rise to two races at somewhat lower altitudes, Clavo and Puya, which exhibit this character to a somewhat less degree.

The race Pollo is unique in the number of grain colors which it exhibits. These include several pericarp colors, purple aleurone, bronze aleurone (apparently a higher allele at the brown aleurone locus), yellow and white endosperm and mid-cob color. Pollo has given rise to the two principal high-altitude races of Colombia, Sabonero and Cabuya. Each of those occurs in four different forms -- yellow flint, white flint, yellow flour and white flour. At lower altitudes two derivatives of Sabonero known as Cacao and Cariaca occur. Both are characterized by a floury endosperm and by segregation for alleles at the brown aleurone locus. The lower the altitude the lower the frequency of the bronze allele and the higher the frequency of the brown allele.

One of the larger-eared races grown at high altitudes, Montaña, is believed to be the product of hybridizing Clavo and Sabonero. Montaña has in turn given rise to a large-seeded race, Capio, at high altitudes and to Amagaceño at somewhat lower altitudes.

In addition to these eleven races of highland origin, there are in Colombia seven lowland races. The two most commonly grown are Commun, a principal maize of the watershed of the Magdalena River, and Costeño, principal maize of the north coastal region. Both of these occur in both yellow and white forms.

Chocoseño, the maize of the Colombian Choco, is perhaps the most unusual of all the Colombian races. It is highly tripsacoid in its vegetative characters, some of its plants tillering freely and resembling F_1 hybrids of maize and teosinte. Whatever introgression of *Tripsacum* Chocoseño contains must have come directly from that genus which is common in the Choco region for teosinte is unknown in Colombia.

The race Chocoseño occurs in five forms -- yellow and white flint yellow and white floury and red pericarp.

Four other lowland races -- Yucata, Negrito, Caqueteño and Imbricado -- are recognized, but collections of these are still too few to justify final conclusions.

A few collections of sweet corn similar to the sweet corn of Peru have been made in Colombia.

It was suggested several years ago by Birket-Smith, largely on the basis of linguistic evidence, that Colombia is the center of origin of maize. Our own recent studies suggest that although Colombia may not be the center of origin it is certainly one center of domestication and perhaps one of the centers of *Tripsacum* introgression. Colombia is certainly the center of alleles at the brown aleurone locus. These alleles diffuse out into the lowlands and are found in high frequency in the flour corn of Paraguay and Brazil as well as in the flour corn on the eastern slopes of the Bolivian Andes. Colombia may also be the center of a group of genes still not genetically analyzed affecting the glume color of the pistillate spikelets of the ear. Red glume color is common at the higher altitudes. Red pith color and internal red stalk color have also been observed.

The maize of Colombia has been spread both eastward and westward. Races resembling *Commun*, *Costeño*, *Clavo* and *Puya* occur in the Caribbean. These same types as well as *Sabonero*, *Montaña* and perhaps several others occur in Mexico and some of the countries of Central America.