

Discriminating between three pericarp colors: brown, red, and reddish-brown (Table 3) there was evidence in favor of a positive association of red pericarp and high score for imbrication. Studies within each Department for the same associations have been carried on, and will be published elsewhere. These data might serve to support the hypothesis that primitive corn in the highlands of Peru, which was highly imbricated, had a pigmented pericarp, probably red. This is also supported by findings of ears of corn in pre-Inca graves along the Peruvian coast, where red pericarp and high imbrication were dominant associations.

Table 3. Association between specific pericarp colors and imbrication.

Pericarp Color		Imbrication				
		0	-1	1	2	3
Red	Obs.	95	10	26	15	1
	Exp.	98.47	11.99	23.97	11.51	0.94
	Dev.	-3.47	-1.99	2.03	3.49	0.06
Brown	Obs.	283	27	57	27	3
	Exp.	266.07	32.39	64.77	31.11	2.54
	Dev.	16.93	-5.39	-7.77	-4.11	0.46
Reddish-brown	Obs.	41	14	19	7	0
	Exp.	54.47	6.63	13.26	6.37	0.52
	Dev.	-13.47	7.37	5.74	0.63	-0.52

$$\chi^2 = 19.808^{**} \quad \text{d.f.} = 8$$

3. Association between cob color and endosperm color and texture.

A high association between red cob color and yellow endosperm exists both for floury and flint highland Peruvian corn, the same being true for white cob and white endosperm. As for reddish brown and brown cob colors, they are well below expected zygotic frequencies when flint endosperm is present, but, on the other hand, their zygotic frequencies in association with floury endosperm are very high, regardless of endosperm color.

The significant deviation from randomness in the association of these characters might lead us to confirm the hypothesis that there is a high positive selection pressure (presumably human) in favor of some phenotypic associations.

Table 4. Association between cob color and endosperm color and texture. Percent increase over expected zygotic frequencies.

Cob Color	Endosperm			
	Flint		Floury	
	Yellow	White	Yellow	White
Red	50.0	-40.7	29.4	-22.0
White	-13.7	54.4	-32.1	1.6
Brown	-20.4	-32.7	15.3	13.5
Reddish-Brown	-59.8	-91.9	42.9	42.5

4. Studies on corn from archaeological findings.

A survey and study of archaeological corn material stored in public and private museums, as well as that from new digging, has been continued. It can be stated that, before the Spaniards arrived in Peru, the natives had at least the following recognized races under cultivation in the Coast: (a) Mochero, (b) Pagaladroga, (c) Confite Puneño, (d) Alazán. Alazán appeared in a later period, as did also an 8-rowed corn, either as a derivative of Pagaladroga or as an introduction from the highlands, via Tiahuanacoid influence, in pottery of whose period in the Coast, it has been found as mouldings.

Piricinco (Cutler's Coroico) a present-day jungle corn was found moulded in three pottery vases of the Muchik culture of the northern coast, indicating that this race was in existence at that time (before 800 A.D.) and was known, at least incidentally, to coastal people.

From their seeming resemblance to modern races, ancient coastal corn plants should have been rather short (around 1.50 meters), with one to two ears well covered with smooth soft husks, early (four months to maturity), and highly drought resistant.

All ear shape and size variants of coastal archaeological corn have been found in self pollinations made on the variety "Blanco Local de Lambayeque", a representative of the race Mochero.

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