

Tailed Grackle), which take insects and occasionally seed from the node of the plant.

The fruitcase of teosinte is so heavy that there is good reason for it to be limited to hillsides where downhill dispersal is gravity affected and the triangular shape prevents rolling and promotes settling in cracks or behind rocks. There also is a fruitcase polymorphism of medium-sized (as distinct from the large fruitcase types of the race Chalco) and smaller fruitcase types in the population. This polymorphism is not correlated with the vigor of the parent plant. It is true that large vigorous plants producing over a thousand seeds possess the larger seed, but so do some of the small plants producing less than a hundred seed per plant.

These observations lend support to the thesis that teosinte in the Balsas basin is a wild plant adapted to its surroundings and quite distinct from teosinte of maize fields in the Valley of Mexico or Central Plateau of Mexico.

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1. Common ancestry of the primitive races of maize indigenous to the Ayacucho area in Peru.

We have studied an important collection of archaeological cobs extending back almost 4000 years from several sites (Ac 100, Ac 117, Ac 244) at Ayacucho, Peru excavated by Dr. R. S. MacNeish. The material comes from the type locality of Confite Morocho, an ancient race that Grobman et al. (1961) consider to be the most primitive living race that is ancestral to the more advanced races of both North and South America.

A preliminary inspection of the cobs revealed that some of the cobs fit Grobman's taxonomic data for the primitive races Confite

Puneno, Confite Morocho and Morocho still grown in the area. However, at the time it seemed that a majority of the cobs should be classified as hybrid derivatives such as Confite Morocho introgressed by Confite Puneno on a basis of Grobman's data. But when the data on the age of the various levels in the excavations were received from Dr. Barbara Pickersgill, who gathered the plant remains from the dig, the reason for the intermediate nature of most of the cobs became apparent. The intermediate types extended back a thousand years further in this material to 4000 B.P. than the so-called primitive races. Thus it seems that the oldest cobs represent a common ancestor to these primitive races rather than being their hybrid derivative. We propose to name this ancestral race Ayacucho after the archaeological area. Grobman et al. (1961) had proposed an ancestral race, Confite Chavinense, suggested by some ceramic replicas, that led to Confite Puneno but their presumed race was fasciated and, thereby, unlike the oldest cobs from Ayacucho. Previously the race Confite Morocho has been considered as being close to the "wild state." It would now seem that the Ayacucho race was the more primitive and ancestral to several indigenous races in Peru.

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2. A heritable phenotype for two-ranked ears in maize allelic to the same trait in teosinte.

A mutation with a relatively stable phenotype for two-ranked ears was discovered in a single plant in the  $F_3$  from a cross between an old inbred line of Wilburs Flint and Siberian Red Flint. Unlike the depauperate phenocopies for two-ranked ear frequently found in stunted eight-rowed maize, this two-ranked type found in our "Waltham Flint" is relatively stable in phenotype and has been inherited through three generations. Although the trait is 100% heritable, some variations in the time of gene action are shown by a few ears with four-ranked butts immediately changing to the two-ranked phenotype.

The poorly programmed action of genes in maize controlling this and certain other teosinte-like traits (i.e., single female spikelets) indicates an unadapted genetic background. One result of such unstable