1. Races of maize in Peru.

The study of some 1,200 collections of Peruvian maize has been continued during the past year, aiming at the accumulation of biometricl [sic], cytological, morphological, genetical and agronomical data.

Most parts of the country are rather well represented in these collections, except small specific areas in which more collecting has to be done.

As in other countries of Latin America, the races fall into two more or less distinct groups: those of the highlands and those of the lowlands. The latter, in turn, comprise two distinct subgroups, one representing the maize of the western coastal lowlands and the other the maize of the eastern lowlands.

There appear to be approximately thirty more or less distinct races of maize in Peru, and the majority of these are indigenous. There is little evidence here, as there is in Mexico and Central America of the introduction of races of maize from other parts of the hemisphere. If corn did not originate in Peru, it has at least had a long history of independent evolution here.

Peru, like Mexico, has ancient indigenous races, of which there are three, or possibly four. All of these are popcorn, and are grown at high altitudes. One of these races, Confite Morocho, has a very slender, flexible cob and small, flinty grains which are sometimes round, sometimes pointed. Many ears have staminate tips. Some of the ears of this race have brown pericarp, in a rather pale form. This race could conceivably be the ancestor of the four ancient indigenous races of Mexico: Nal-Tel, Chapalote, Palomero Toluqueño, and Arrocillo Amarillo.

Another pop-corn - Confite Puneño - with small, slightly fasciated ears, seems to have originated a group of races with grenade-type ears in the Andean highlands.

Peru appears to be the home of pericarp colors in maize. In one department, Ancash, there occur all the pericarp colors, described by Emerson, Beadle, and Frazer [sic]. These colors are the product of three alleles at the A locus interacting with seven allelLes at the P locus. In Ancash, brown is the predominating pericarp color.

There is an abundance of archaeological material in Peru, not only actual specimens of ears, tassels, and plants., but also numerous representations in ceramics, and stone. We have received permission to study and describe all of the specimens at the National Archaeological Museum in Lima, and will have the opportunity to see and photograph specimens in other museums.

Data and observations already accumulated in the studies of corn of the Paracas and Nazca Coastal cultures (800 - B.C. and 400 - A.D. respectively), indicate that two or possibly three races of pop-corn were grown in the coast

of Peru long before the Spaniards arrived. Brown and red pericarp colors were universally present, although some cherry specimens have also been found. These two pop-corns are now found only in the highlands in living form, while the earliest distinctive coastal corn appears to be the product of hybridization accompanied by heterosis between these two highland races.

A form of pod corn, either the half-tunicate described by Mangelsdorf or the "semivestidos" reported by Andres, is quite common in some coastal varieties of Peru. We have picked up what appears to be an ear of true pod corn at the ruins of Pachacamac near Lima. A representation of a tiny ear which might well be pod corn is on display at the Museum in Cuzco. However, although present in Bolivia, modern true pod-corn, has not been found in any of our collections in Peru.

A tentative classification of the races of maize of Peru follows:

I. Ancient Indigenous races (Highland).

1. Confite puntiagudo, short plants, often tillering; leaves with the highest venation index, 3.26
Condensed tassels, with few ramifications; ears usually with no pericarp color, pointed kernels.

2. Confite morocho, short plants, ears with slightly pointed or round kernels, flexible cob, pale brown pericarp color.

3. Confite puneño, very short plantsp ears with round kernelsp fasciated, elliptically (grenade-like) shaped, pericarp and aleurone color often present.

II. Highland races

4. Huayleño, related to Confite Puneno.

5. Paro, related to Confite Puneño; prominent characteristic is pointed kernels, floury, spreading spikelets.

6. Chullpi, sweet corn, related to Confite Puneño.

7. Morocho, has ears similar to Confite Morocho, enlarged in size. Is related to Sabanero of Colombia and Northern Peru.

8. Cuzco, ears distinctly 8-rowed, floury or flinty kernels, with a large number of sub-races, of which Cuzco gigante is an extreme type as to size of kernel.

9. Kculli, ears with 8 rows of pointed, cherry colored kernels.

10. Huancavelicano, with ears-8-rowed, pointed; related to Kculli.

11. Ancashino, ears longer in size than any other highland race, except Cuzco gigante, conically shaped, kernels round, and frequently with brown pericarp color.

12. Shajatu, related to Aneashino. Ears smaller than the latter, with purple aleurone color.

13. Sabanero, found in Northern Peru and in Colombia.

III. Intermediate races

14. Arequipeño, an intermediate in altitude and type between highland flour and coastal types. Found in Southern Peru.

IV. Coastal races.

15. Pagaladroga, with slender ears, red pericarp, similar to prehistorical coastal.

16. Perla, group of tall, tropical flint corn, probably related to Pagaladroga and Chocoseño from Colombia.

17. Alazán, floury-corn, red pericarp, drought resistant.

18. Pardo, ears with 8 rows of large, floury, kernels, similar to Tabloncillo of Mexico, and related to Cuzco.

19. Huachano, related to Pardo.

20. Chaneavano, floury corn, has highland and coastal influence.

21. Jora, floury corn; shows highland and coastal influence.

22. Rienda, characterized by long, flexible ears, similar to jungle corn.

23. Coruca, found in southern Peru only, with resemblances to Pardo.

24. Mochero, early flour-corn with highland and coastal influence.

25. Arizona, introduced race similar to Tuxpeño, well established in the northern coast.

V. Jungle races.-

26. Alemán, dent corn introduced nearly 100 years ago.

27. Piricinco, floury, long-eared, highly colored corn related to Coroico of Bolivia.

28. Chuncho, large yellow and white dent corn, with big butt-ears, similar to Salpor of Guatemala.

29. Chimlos, similar to Colombian Clavo and Caribbean Chandelle corn.

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