



Ancestor-Hunting

See Front Cover

CORN has long been one of the greatest of botanical riddles. Nobody has known where it came from. Wild forms of most other grains are known, but corn has remained a botanical orphan. Not only does it lack any identified ancestors, but it has only two cousins in the Western Hemisphere: teosinte, which is a Mexican fodder plant, and a wild grass named *Tripsacum*.

Now come two Texas scientists, Dr. P. C. Mangelsdorf and Prof. R. G. Reeves, with strong evidence that the ancestor of corn is corn—a primitive type of grain known as pod corn, in which each grain is covered with a tiny individual husk of its own. Pod corn is unknown in the wild state, but even as a cultivated plant it has certain definitely “wild” characters.

One suggestion that has in the past had the support of some botanists, namely that teosinte is the ancestor of corn, they dispose of very neatly by adducing good genetical evidence that corn is one ancestor of teosinte, the other being the related grass *Tripsacum*. They hold that teosinte originated as a natural hybrid, probably when the migrating Mayas, about A.D. 600, carried corn into the natural range of *Tripsacum* in Mexico.

One difficulty about the wild pod

corn hypothesis is that the Peruvian Indians, who without much question originated corn culture, are the only ones who do not grow pod corn at all. But, reasoned the two scientists, not unlikely the Peruvians had carried their agriculture to such an advanced stage that they discarded pod corn long ago, while less advanced Indians still used it.

So they leafed through old manuscripts, examined effigy pottery from the

very earliest known Peruvian culture levels. Finally, at the Peabody Museum of Yale University, they found a faithful replica of a prehistoric ear of pod corn.

They do not feel that the wild form of corn is necessarily extinct. It may still exist, they think, in the little-explored unforested lowlands of southwestern Brazil, Bolivia, or Paraguay.

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AGRICULTURE

Research and Education Remedies for U.S. Soil Ills

UNCLE SAM, in the persons of Secretary Wallace and his fellow-scientists of the Department of Agriculture, look long and thoughtfully at the fields that raise America's food and clothing, in the new Yearbook of the U. S. Department of Agriculture. The whole book concentrates on one subject: the soil and problems arising out of its neglect and abuse. There is about its contents that which suggests a group of physicians in consultation.

Erosion by wind and water, the invisible erosion that is fertility exhaustion, too large crops and too low prices, share-cropping, pauper tenancy, overload of debt—these and other ails that have received much attention in public discussion are looked upon as symptoms behind which they are trying to go, seeking fundamental causes that may be treated with basic remedies.

The causes suggested are many, and most of them interlock—like concurrent pathological conditions in the human body. Our traditional land-tenure policy, like most of the rest of our national economic life, has been a natural outgrowth of eighteenth century liberalism—laissez-faire on the land. As an extension of that principle, we have been content to let every farmer work his land any way he pleases, with the idea that if he does so badly or ignorantly he takes the consequences. The trouble, however, has been that resulting bankruptcy hits not only the farmer but the soil itself, and thus becomes a matter of public concern.

Another contributing cause of sickness of the soil has had its focus in the pocketbook. Our systems of farm financing and land taxation have tended to bear more heavily just when they should have been lightened, so that the harassed owner and the still more harassed tenant

have been pressed into mining the soil, and plowing up sodlands that they usually knew should have been left unbroken, in order to meet fixed charges.

These are only a few of the symptoms looked at in the new yearbook. But the Department researchers are concerned even more with the search for remedies.

Characteristic of Secretary Wallace's perennial insistence upon the value of scientific research is the No. 1 position given to research and education in the list of things that need to be done. More facts must be found, even where the known facts stare one in the face like a clay-hill gully or a dust storm. Out there in the dark, beyond the horizon of things we know, may lie keys to difficulties that now baffle us.

But with facts discovered and told to the people through all educational means, the bridge to recovery may still be lacking. Just as it would be of no use to tell a tubercular patient to eat eggs and drink milk when he hasn't even the price of cornmeal, so it can be of little assistance to the farmer to tell him what's wrong and how it can be righted if he lacks the means to put good doctrine into practice.

Here is where the economists have their innings. Needed treatments they outline range all the way from quick palliatives in the form of direct monetary aid, through assistance in the enhancement of soil fertility and the stabilization of slopes, to programs for the long pull such as gradual retirement of submarginal lands and restoration of ecological balance to regions that have been indulging in maladapted cultivation practices.

The book bulks to more than 1200 pages, so that more than the sketchiest hint of its temper and drift can not be

• Radio

Every Friday at 7:30 p. m. EDT, 6:30 p. m. EST, 5:30 p. m. CST, 4:30 p. m. MST, or 3:30 p. m. PST, Science Service cooperates with the Columbia Broadcasting System in presenting over the Columbia coast to coast network a new series of “Adventures in Science” presenting dramatizations of important scientific advances and discussions by eminent scientists.