

AGRICULTURE

Yellow "White" Potato Made To Order Through Research

Small South American Tuber of Low Yield Has Become 500-Bushel-Per-Acre Potato Containing Vitamin A

NOW THAT the matter of producing sufficient food for the population is no longer a problem, the question of developing new food products to suit more closely the needs and tastes of consumers is receiving the attention of progressive farmers.

Uncle Sam, through the cooperative activities of the Bureau of Home Economics and other bureaus of the U. S. Department of Agriculture, aids in this new sort of consumer's research. The method he uses is described by the Secretary of Agriculture, Arthur M. Hyde, in the current issue of the *Journal of Home Economics*.

"In South America some time ago plant explorers of the Department of Agriculture discovered a new variety of potato," said Secretary Hyde. "It was no ordinary, corner-grocer store potato. It was yellow of flesh, yet was not a sweet potato. Except for that yellow flesh, it looked and tasted pretty much like our staple Irish potato.

"A yellow 'white potato' so to speak, aroused the curiosity of our nutrition experts. They wondered whether the yellow color indicated the presence of vitamin A. If it did, then the humble potato would make still another contribution to good nutrition and the problem of the low-cost diet would be that much easier to solve.

"The scientists satisfied their curiosity by establishing the fact that the yellow flesh of this new potato did in fact signify the presence of vitamin A. That was good news, but it was only the first step. Would this South American potato yield well in North America? Would it be resistant to disease? Would it have the qualities that attract consumers?

Crossed in America

"The newly discovered potato from South America thus became one in a series of investigations. The plant breeders crossed the newcomer with American varieties to create a potato that would rival our popular varieties in

yield and marketability and still retain that precious vitamin A."

Next will come tests in the laboratory to find out whether it meets the housewife's and the professional chef's requirements in the matter of cooking, keeping, and palatability.

"Here we have a complete case history of a farm product," Secretary Hyde said. "We can determine what variety, what environment, and what cultural practice will produce the most marketable potato. We can devise fairly specific standards—not only for size, but for flavor, mealiness, and other cooking qualities—and actually control our production to achieve those standards."

Egg or Butter Potato

The yellow potato referred to by Secretary Hyde is one which has appealed to all plant explorers who have visited the South American home of the potato. It was first brought to the United States for the Department of Agriculture in 1899 by David Fairchild, who was then making his maiden voyage as an explorer. This importation was the first potato brought in for the new Division of Foreign Plant Intro-

duction of the U. S. Department of Agriculture during the first year it existed as an independent office.

It has always been highly prized by the people of Peru, Bolivia, and Chile for its delicious flavor and bright yellow color. They call it the egg potato or butter potato. The chief drawbacks of the variety are that it has a very low yield, no matter what the conditions under which it is grown, and it has very deep-set eyes with prominent "eyebrows."

The new hybrid, developed by Dr. C. F. Clark of the Bureau of Plant Industry, has a smooth skin, good flavor, cream color, and an abundance of vitamin A. It has given the extraordinarily good yield of 500 bushels an acre on an experimental farm in Maine.

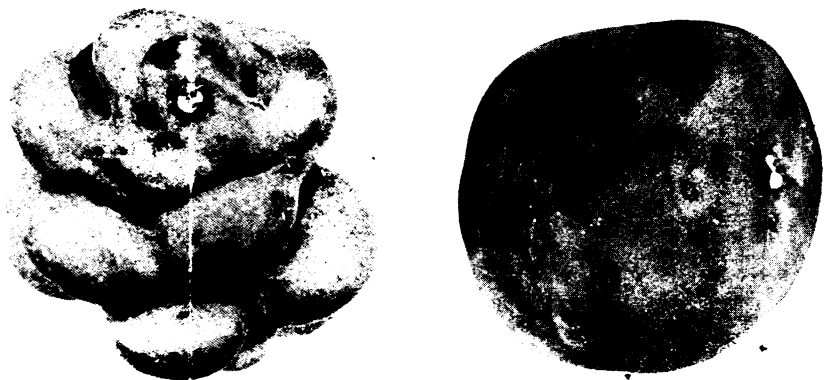
Science News Letter, February 11, 1933

ARCHAEOLOGY

Three Centuries Added To Assyrian History

LITTLE clay tablets unearthed at Tell Billa in Mesopotamia have added three hundred years to the history of ancient Assyria. This discovery has just been announced by the University of Pennsylvania Museum whose expedition, working jointly with the American Schools of Oriental Research, unearthed the important documents.

The tablets reveal that the old Assyrian system of naming each year in honor of an official was practised as early as 1300 B.C. These officials, known as eponyms, held office for a single year. The long lists of eponyms therefore provide historians with a com-



EVOLUTION OF A POTATO

The yellow "white" potato as grown on the ancient terrace farms of Peru, and as grown by scientists of the U. S. Department of Agriculture. On the left is a primitive variety of yellow potato with irregular shape, deep-set eyes, and overhanging "eyebrows." On the right is the new hybrid developed by Dr. C. F. Clark, of the Bureau of Plant Industry. The flesh of the hybrid is a cream yellow in color which adds a decorative note to the table as well as supplying the precious vitamin A.

plete Assyrian chronology, which has heretofore been carried back only to 963 B.C. These Assyrian name-years form the main basis for fixed dates in early Bible history.

All the cuneiform tablets found at Tell Billa are dated to the earlier eponyms, including King Shalmaneser the First, who reigned in the first quarter of the thirteenth century B.C.

The clay tablets were discovered last year under leadership of Dr. E. A. Speiser. They were so poorly preserved that at first he could decipher just enough to convince him of their importance. For eight months the tablets were set aside to dry, and then were sent to Dr. Edward Chiera of the Oriental Institute of the University of Chicago, who treated them by special processes so that they could be more clearly read. His reading now confirms and amplifies Dr. Speiser's brief examination.

Name Found

It is also announced that the Tell Billa expedition has discovered the ancient name of the city being unearthed. A bronze bowl bearing the name Shibaniba has been found. The expedition had thought this might prove to be the name of the city, for one of the gates of Nineveh, fifteen miles away, was called the Shibaniba gate. The gate faced north and opened directly to the road toward Tell Billa.

By identifying the ruins as Shibaniba, an important Assyrian province is added to the definitely known section of the old Assyrian Empire.

Science News Letter, February 11, 1933

▼ The Science Service radio address next week will be on the subject

R TRANSLANTING YOUR MIND

by

A Dr. A. T. Poffenberger

D Chairman of the Division of Anthropology and Psychology of the National Research Council and Professor of Psychology at Columbia University

I FRIDAY, FEB. 17

O at 1:15 P. M. Eastern Standard Time Over Stations of The Columbia Broadcasting System

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PHYSIOLOGY

Electrical Control of Cancer Suggested by Yale Professor

A METHOD for the control of cancerous growth, based on the knowledge of the electrical currents present in all living tissue, is suggested by Dr. Raymond Dodge, professor of psychology and a member of the Institute of Human Relations at Yale University, in the *Yale Journal of Biology and Medicine*. Experimental work thus far, Dr. Dodge says, supports his presumptions, which are published, he adds, so that investigators in the field of cancer research may substantiate or destroy his hypothesis.

This method of cancer control is still in the laboratory stage and has not reached the point where it can be used on actual cancer patients. Consequently do not let anyone sell you or your relatives an electrical cancer cure or diagnosis on the strength of Dr. Dodge's announcement. It will be years, probably, before any practical application of his theory can be made.

Current From Tissue

It is well known that any living tissue is internally electrically positive with reference to its surroundings, giving rise to a detectable negative current of action, Dr. Dodge says. When a direct current comes in contact with a tissue, he explains, there is a decrease in the metabolic activity at the positive, or anode end, causing death of the tissue if the current is of sufficient intensity.

"The obvious bearings of these facts on the study of cancer are three," Dr. Dodge says. "The negative current of action should provide a precise measure of the activity of the cancerous tissue. If, and when, any treatment is adequate to delay the growth, the negative current of action should be decreased or be reversed. If the growth is actually being decomposed by any necrotizing therapeutics the negative current of action should be transformed into a positive current. So far as I know, this should be the most precise and most reliable indication of the cancerous activity and its control. An appropriate electrical exploration of the regions should enable the experimenter to determine the margins of the growth and hypermetabolic activity by the points at

which the negative current of action ceases."

The fast rate of growth of cancerous tissue, producing a powerful positive charge giving rise to a strong negative current, depresses the metabolic activity of the surrounding cells, and actually kills them, a characteristic of all serious cancerous growths, Dr. Dodge says, in describing the electrical picture presented in cancer.

Electrical Control of Growth

"This gradient of electrical charge with corresponding currents gives the hint of an experimental attack on the treatment of cancer by the reversal of pathological currents. If a direct current is applied so that a positive superficial charge is superposed on the active area it should develop an anode block, producing depression of the metabolic activity or death of the cells within the area to which the current is applied, according to the amount and the direction of the current.

"If a corresponding positive charge is superposed on the immediate surroundings of the cancerous growth the disease gradient should be reversed and the normal activity of the surrounding tissue might be expected to be reinstated. The desired results and the magnitude of current employed might be kept under constant empirical control by the measurement of the metabolic activity of the cancerous region through its negative current of action. It should thus be possible at will merely to retard growth, to stop growth, or to produce necrosis of the growth, as circumstances seem desirable."

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HISTORY-ARCHAEOLOGY

De Soto's Famous Route To Mississippi Traced

PICKING up a cold track, almost 400 years old, science has traced with remarkable success the wanderings of that romantic Spanish adventurer Hernando De Soto.

Your school book history doubtless showed a rough sketch of the Spanish leader's wanderings. Thirst for gold