

AGRICULTURE

Crop Increases Possible

► **HALF-STARVED** peons hoeing half-cultivated fields of scrawny corn are not a necessary picture of tropical American agriculture at all. Food yields can be greatly increased in the countries to the south, declared Robert P. Russell, vice president of the International Basic Economy Corporation, in an address before the Massachusetts Institute of Technology Mid-Century Convocation on the Social Implications of Scientific Progress.

Improvement in food production in Latin-American lands is possible along many different lines, all mutually supporting the others, the speaker stated. One reason why food is scarce and dear at present is because labor is scarce and inefficient, and labor is in this bad case partly because of malaria and other diseases, partly because of malnutrition. Improve sanitation and health, and improvement in production will follow.

Again, cultivation methods are often antiquated and farm machinery, even of the simplest kinds, scarce or altogether lacking. Fertilizer has never been used on much

of the land, weeds are "so luxuriant as to be beyond the imaginative capacity of the U. S. dirt farmer, plus insects and plant diseases of a variety and virulence not encountered in more temperate climates."

It has already been proved, however, by progressive Latin-American farmers that vast improvements are possible. Corn yield per acre has been more than trebled in certain limited areas; and the speaker expressed his faith that this increase can be greatly extended through use of machine cultivation and harvesting methods, use of chemical weed-killers, and improved storage conditions.

In another place, two young farmers planted upland rice despite pessimistic prophecies of failure by their more conservative neighbors. They made free use of fertilizer on part of their land, and kept their few tractors going practically around the clock. News of their success has spread rapidly, and many of last year's doubters are this year's converts.

Success stories of this kind, Mr. Russell declared, are the best possible kind of propaganda for the use of modern production methods, and he concluded:

"We in the United States have a great opportunity to join with others and to share our vast resources of technological and managerial experience, in order to help others help themselves."

Science News Letter, April 9, 1949

ENGINEERING

Range-Finder Tested In Climate Chamber

► A **SPECIAL** set-up for the study of range-finder performance under various climatic conditions has been established at the National Bureau of Standards, with the cooperation of the Army Ordnance Department. This laboratory is the only one of its kind in the United States, and so far as is known, the most complete in the world.

The laboratory is equipped for the complete analysis of range-finder behavior under controlled conditions corresponding to a wide range of climate. A specially designed precision instrument which optically simulates a target at eight different ranges with elevations from 0 to 90 degrees is part of the equipment.

Optical range-finders which this laboratory will test are used by the Armed Forces to measure the distance from an observer to a target, and are among the most intricate and costly optical instruments yet developed. The range is obtained by a triangulation method, in which the rays of light

proceeding from the target to the range-finder form a triangle with the base length of the instrument.

For satisfactory measurement of range at usual target distances, the error in determination of the very small angle between the rays from the target must be exceedingly small. The rough treatment received in wartime transport, the large size of the instrument, and other factors make attainment of this accuracy difficult. The range-finder must, therefore, be so designed that the instrumental errors are eliminated or compensated.

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GEOLOGY

Horses Due to Disappear, Evolutionary Curve Shows

► **THE** horse isn't here to stay. In a relatively short time—geologically speaking—Dobbin will disappear.

Ultimate vanishing date for the horse was set at perhaps 15 or 20 million years hence by Prof. Laurence L. Sloss, Northwestern University geologist, speaking in St. Louis before the meeting of the Association of Petroleum Geologists. To geologists, 15 or 20 million years are only a few watch-ticks as compared to the half-billion years during which life has existed on this planet.

Prof. Sloss based his prediction on the known history of horses and horse-like animals. Like all other animals, he said, horses began with a few small species, increased their number as geologic ages passed, and then began to dwindle. By projecting the now descending curve he found it touched the zero line at the 15-to-20 million year mark.

In order to trace the rise and decline of any animal group, and to predict its end, he explained, it is necessary to have plenty of fossils. For this reason, it is impossible to forecast man's geologic future.

"Man's fossil record is fragmentary," Prof. Sloss pointed out, "because he was smart enough to stay out of places where he could become fossilized."

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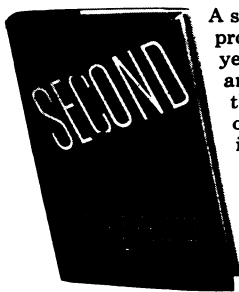
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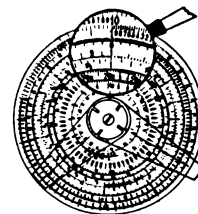
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