

tray whether the plant will be able to withstand long droughts or excessive rainfall.

During a period of drought, varieties with many leaf glands showed less wilting than the types with few glands, Dr. D. G. Langham of the Department of Genetics, Instituto Experimental de Agricultura y Zootecnica, Caracas, Venezuela, reports in the *Journal of Heredity*. During a period of excessive rainfall, on the other hand, varieties with few leaf glands were more resistant to "wet feet".

With a little practice it is not necessary to use a lens in determining whether the leaf surface has few or many glands, which look like quadruplet soap bubbles on stems. In connection with experiments to develop varieties of sesame adapted to culture in Venezuela, a large number of varieties were studied. It was found that when plants with many leaf glands are crossed with plants with smooth leaves, the hybrid has the glands and so do three out of four of the plants from it.

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ered one or another of its forms, because of its effects on blood formation in monkeys or chicks or its importance for the growth of certain bacteria, they have given varying names to the substances. Some of these substances may be identical. At least five different ones are believed to exist.

Isolation in pure chemical form of vitamin Bc conjugate and the synthesis of folic acid may lead to further knowledge about all these related vitamin factors and what part any or all of them play in human health and nutrition.

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#### AGRICULTURE

## Distribution Problem

Is seen as the big puzzle in feeding the world. Fewer farmers may actually produce more food if more man-hours are devoted to handling.

► FEEDING a world constantly hovering on the thin edge of hunger was presented as a problem of processing and transportation more than of actual labor on the farm itself, by Paul H. Appleby, formerly Under Secretary of Agriculture, now director of Station KIRO, Seattle, speaking before the Sixth Conference on Science, Philosophy and Religion, in New York.

Citing conclusions reached at the international food conference held at Hot Springs, Va., Mr. Appleby pointed out that among other things they "hint at the anomalous fact that the world can be better fed only by reducing the proportion of the world's productive man-hours going into agriculture, and, conversely, by putting more man-hours into the production of other things—roads and railways, machinery, storage facilities, processing plants, household facilities, power plants, etc."

More food, he stated, is produced per capita in countries where agricultural technology is advanced as contrasted with countries having small hand-tool, subsistence type farmers.

Raising the level of all nations' capacity to support themselves, Mr. Appleby contended, does not demand assumption of a Santa Claus role by the United States or any other one country, but rather improvement in international cooperation through interchange of ideas and information of mutual benefit to all.

"The quickest and most certain improvement in communication will be between scientists," Mr. Appleby declared. "Research is essentially international in

its approach and in its implications. Scientists wherever they work have constituted one body, even though somewhat nebulous. And the essential unity of scientists carries over to technology and education. In these fields specialized association may be expected to increase markedly with new stimulation and facilities. The numbers concerned, their proportion to total population, and their direct influence will vary greatly among the different national societies, although all three groups will exist in all societies."

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#### CHEMISTRY

## Antianemia Vitamin Factor Isolated in Pure Form

► CRYSTALS of a pure chemical which is a form of an antianemia vitamin have been isolated for the first time by scientists at the research laboratories of Parke, Davis and Company in Detroit.

This vitamin chemical is known only by the technical name of vitamin Bc conjugate. Its isolation is announced in *Science* (Aug. 31). Scientists reporting the work are Drs. J. J. Piffner, D. G. Calkins, B. L. O'Dell, E. S. Bloom, R. A. Brown, C. J. Campbell, O. D. Bird.

The vitamin is related to another vitamin called folic acid. Synthesis of the latter by scientists at Lederle Laboratories, Pearl River, N. Y., was announced a few weeks ago. This vitamin apparently exists in a number of chemical forms in different substances, such as liver and yeast. As various scientists have discov-

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