



Lack o' Land

CROWDED peoples press distracted rulers into national policies that offer no hope for solution of their problems. The two measures most favored in recent times, conquest and encouragement of migration, are illusory hopes, declares Dr. Isaiah Bowman, president of the Johns Hopkins University, in the introduction to a new book. (*LIMITS OF LAND SETTLEMENT: A REPORT ON PRESENT-DAY POSSIBILITIES*—Isaiah Bowman, ed.—*Council on Foreign Relations*, 380 p., maps, \$3.50) Each of the ten chapters is contributed by an acknowledged authority in the field of human geography.

"One conclusion stands out above the rest," Dr. Bowman sums up: "New land will accommodate too slow and small a stream of population to be of real social importance to the countries of origin. In our present nationalized world, in which the best lands have been occupied, and restrictive measures are in force, migration is no answer to economic and social strain induced by so-called overpopulation.

"Nor is military conquest either a practical or a rational answer. The struggle for additional territory as a step in

empire building can be understood; the hope that it will furnish an offset to a high birth rate is based upon an illusion.

"No discernible or predictable stream of migration can keep pace with the birth rates of conspicuously overcrowded countries."

Those who still do go a-pioneering have to be helped along by their respective home governments. By one school of thought, says Dr. Bowman, this is taken to mean that the old pioneering spirit is gone and that the present

generation of would-be settlers is "soft."

But this philosophy, he answers, may be said to ignore the fact that "things were never as they used to be." In our own land, the Lords Proprietor in colonial days, and the special concessions to canals and railroads later, were early manifestations of the same "colonist coddling." It is only reasonable to expect that inducements must be held out to prospective pioneers, as offsets to the hardships they know they will have to endure.

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PLANT PHYSIOLOGY

Holly Berries Made to Grow Without Pollination

HOLLY berries, bright and red, have been caused to grow without the usually necessary pollen, by spraying the unfertilized flowers with growth-promoting chemicals.

Experiments in which this was accomplished will be reported in a few days by Dr. F. E. Gardner of the U. S. Department of Agriculture and Prof. E. J. Kraus of the University of Chicago (*Botanical Gazette*).

Holly trees, unlike many familiar plants, are of two distinct sexes. Female or fruit-forming flowers are borne on one tree, male or pollen-producing flowers on another. If there is no male tree in the neighborhood of the female trees the latter cannot produce berries; they blossom, but the flowers come to nothing.

Drs. Gardner and Kraus found they could cause the formation of fruits from unpollinated female flowers by spraying with any one of several of the chemicals recently found to be growth promoters in plants. The result could be obtained with very dilute solutions; a 0.04 per cent. solution of indole-acetic acid proved effective.

The berries grew to normal size and ripened to their red color in the autumn. However, they contained no seeds.

In response to a query by Science Service, Dr. Gardner stated that while the process would be entirely practicable for the sure production of good crops of holly berries, it is not economic on a large scale at present because of the high cost of the chemicals. They are marketed at present at prices ranging from \$60 to \$90 an ounce.

However, Dr. Gardner added, there is no reason why the growth-promoting spray technique might not be used for

treating special individual specimens of holly, where sure results count more than cost.

Thus, a florist might have small potted holly plants which he would want to be heavily in fruit when he offered them for sale. Or a property owner with a few holly bushes in prominent positions in his shrubbery might be willing to spend a dollar or two apiece on them to make sure they would produce the sharp red-and-green note wanted at Christmas.

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METEOROLOGY

Two Early Presidents Were Meteorologists

THOMAS Jefferson, third president of the United States, and James Madison, fourth president, were among Virginia's earliest meteorologists, Prof. E. Ray Casto of Emory and Henry College reveals in his new book, "The Climatology of the Virginians."

Jefferson at Monticello and Madison at Williamsburg made contemporary observations. "By their careful records and deductions," Prof. Casto reveals, "(they) showed the value of the making of simultaneous observations, that great underlying principle of all modern weather bureaus."

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Nearly all varieties of domestic duck trace ancestry to the mallard, the "wild duck of the world."

Two kinds of ants new to science have been discovered in the Great Smoky Mountains by a Tennessee scientist.

RADIO

January 6, 4:00 p. m., E.S.T.

WORLD WIDE WEATHER—Dr. W. R. Gregg, Chief of the U. S. Weather Bureau.

January 13, 4:00 p. m., E.S.T.

SAVING MINDS WITH INSULIN—Dr. Z. M. Lebensohn, St. Elizabeth's Hospital.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.