



TEST RUN PREPARATION—The hydro-ski model shown here is being prepared for simulated landing and take-off tests, during which it will fly or skim over the water, at the Langley Aeronautical Laboratory, Langley Field, Va. It is suspended from the traveling carriage in such a way that it has freedom of motion and can actually fly off the water from a standing start.

AGRICULTURE

Reclaiming Farm Soil

► IF EXPERIMENTS being conducted at the State University of New Jersey's Agricultural Experiment Station, New Brunswick, N. J., prove successful, farmers of America may soon be able to make widespread use of soil conditioners. Although well known to every home gardener, they are still far too expensive for general commercial use.

News of experiments on turning industrial waste materials into soil conditioners came to light during a recent interview of Rutgers scientist Dr. Stephen J. Toth by SCIENCE SERVICE Director Watson Davis on the CBS program "Adventures in Science."

The function of a soil conditioner is to provide porosity to clay-like or crusting sandy soils that water and the tender roots of seedlings cannot penetrate. Dr. Toth predicted that huge areas of land never before farmed may some day be conditioned to give abundant yields in food, through the use of these soil conditioners.

Although fantastically tiny in quantity, such elements as molybdenum, iron and cobalt are essential to the growth of plants. Although occurring in ratios as small as one part per billion per acre in the case of molybdenic acid, they are vital to the health of humans who rely on plants as a source of food as well as to the health of the plant itself.

Two fundamental questions of soil science are:

1. Converting its granular structure for maximum usefulness to agriculture.
2. Tracing the tiny chemical fractions which make the difference between sick and healthy plants.

Positive solutions of the problems currently under study at Rutgers and elsewhere will have great bearing on the planet's ability to feed its swiftly-expanding population as well as removing hunger as one of mankind's great scourges.

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MEDICINE

Women Can Discover Own Breast Cancer

► WOMEN CAN discover their own breast cancers if they are taught how to examine their breasts and do so once a month.

They ought to be urged to do so since there are simply not enough physicians in the nation to give each woman an examination even every six months, Drs. Catharine Macfarlane, Margaret C. Sturgis and Faith S. Fetterman, gynecologists of the Women's Medical College of Pennsylvania, reported to the American Medical Association meeting in New York.

A study of 537 volunteer women over 15 years showed that breast cancer can develop into lesions readily detectable by the women themselves in the period between the examinations given them every six months.

The study also covered cancer of the uterine cervix. It was shown that early discovery and treatment of inflammatory lesions of the uterine cervix resulted in a low incidence of cancer of the cervix.

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INVENTION

Plants Grown Without Soil By Patented Method

► GROWING PLANTS without soil is made considerably less expensive and more efficient with the help of a new method of getting the nutrient solution to the plant roots that has now received a patent.

Waterproof beds are provided for the plants. At a certain distance above the bottom of the beds a perforated plate or piece of gauze is attached. On top of this is spread a chemically inert material, such as gravel, into which the plants are stuck. Their roots come out below the gauze. The nutrient solution necessary to the plants' growth comes from a lower reservoir and is circulated around the roots through the means of gutters. Once circulated it falls freely back into the reservoir.

The advantage of this method, the inventors claim, is that more oxygen is provided to the plant roots. The solution is aerated during its free fall back into the reservoir.

The new method was tried out in a greenhouse with pinks. The same kind of plants were grown with an old method in which the nutrient solution is not aerated. After six weeks the production of solids per plant was 30% higher in the new plant beds. The pinks gave flowers 18 days sooner with the new method and 12% more flowers were produced after one half a year.

The inventors are Gerrit Jan Hillegondus Ebbinge Wubben and Abram Arie Steiner of The Hague, Netherlands, and they assigned their patent, number 2,639,549, to Nederlandse Centrale Organisatie Voor Toegepast-Natuurwetenschappelijk Onderzoek, The Hague.

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