

PSU Scientists Report Plant Disease Study

Scientists at Penn State University are experimenting with disease-resistant plants to isolate and identify root fluids which might be produced commercially for use in root disease control programs.

The experiments are part of long-range projects seeking ways to control the enormous numbers of fungi, bacteria, and nematodes feeding on plant roots, reports James R. Bloom, plant pathologist with the Agricultural Experiment Station at Penn State.

Studies are currently in progress to collect root fluids, called exudates, from plants that are resistant to root knot nematodes. Bloom and associates have found that root fluids from such plants reduce the hatching rate of the eggs of root knot nematodes.

Some root fluids stimulate the growth of soil organisms while other exudates hinder their growth, Bloom explains. He says it is important to the plant pathologist to determine what materials are secreted by plant roots and how these ma-

terials affect soil organisms.

To carry out their experiments, the Penn State scientists are using special growth chambers to produce germ-free plants where both roots and leaves are maintained in a sterile condition. In this way, soil organisms can be added to the root area to determine their effects on the plant.

Soil organisms also secrete materials, Bloom says. Thus plants and organisms must be grown free of each other to determine which materials are produced by the plant and which are produced by soil organisms. Bloom describes his experiments in detail in an illustrated article in the Fall issue of "Science for the Farmer," available in mid-October from the Agricultural Mailing Room at Penn State.

CASSEROLE FOODS

Poultry, eggs, cheese, fish, dry peas, and dry beans are the most logical protein foods to use as a casserole base, points out Louise Hamilton, Penn State extension foods and nutrition specialist. These foods are lower in cost than meat. Because the dry vegetables don't provide complete protein, it's important to use other protein foods, such as milk, eggs, or meat with them.



EXHIBIT OF WORK of 4-H Club members in the Lititz area is displayed in the store window at 22 East Main Street, and should be seen to be appreciated. The colors of the display are brought out in fruit, flowers, clothing, miniature farms and animals which are illustrative of 4-H club work.

L. F. Photo

Colorful 4-H Display Brightens Lititz

A colorful exhibit depicting the many projects accomplished by local boys and girls in the 4-H Club organization is on display in the window at 22 East Main St., as a feature of National 4-H Week, September 24 to October 1.

Included are examples of sewing, cooking, raising flowers and vegetables, child care, raising animals, a miniature farm, and other projects, all in artistic and colorful arrangements. The exhibit, which represents the work of all types of 4-H clubs in this area, was arranged by the 4-H "What's Cooking" club, of which Mrs. Willis Bucher is leader. The girls who took part in the project were Reba Shelly, Ann Bomberger, Sharon Kreider, Barbara Stephan, Robin Becker, Eva Murry, Joanne Spahr, Joyanne Cropf, Denise Jurell and Carol Murry.

The aims of 4-H week are to encourage boys and girls ages nine to 19 to join the 4-H Clubs; influence capable men and women to become volunteer leaders, recognize substantial contributions of the parents to the 4-H program and solicit their continued cooperation; and to acquaint the public with the changing and expanding educational program which fits the needs of all modern youth.

Statistics reveal that there are 1640 boys and girls enrolled in the County 4-H program who are instructed by 247 adult and 60 junior leaders. A total of 1839 projects have been completed by these youngsters.

The 4-H organization is part of the national education system of the cooperative extension service in which the US

Department of Agriculture, State Land Grant Universities and counties share. Professional extension agents aided by local advisory committees and resources of Penn State University, conduct programs upon local need. Youth from families of all economic backgrounds and from all races and creeds are welcome in 4-H.



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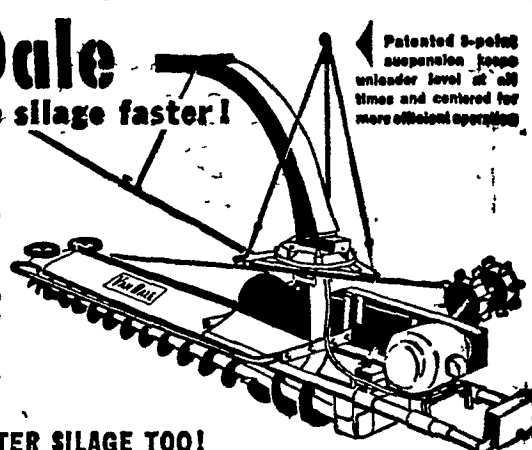
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