BOTANY—ENTOMOLOGY

Insect Poison Plant Studied for Dual Purpose

Americans Synthesize New Poison as Soviets Extract it From Weed; May be Crop For Southwest

COMBINING the possibilities of checking the ravages of certain insects against already existing crops, and of being itself a good crop to use on some irrigated lands of California and elsewhere in the Southwest, a new insect-poison plant has attracted the attention of pharmacologists attending the meeting of the American Chemical Society in St. Petersburg, Fla.

The poison is known as anabasin, and is especially effective against aphids, or "plant lice," which are among the hardest-to-kill of all insect enemies of plants, and annually do vast amounts of damage to field crops, nursery stock and shrubbery. They are particularly bad troublemakers in greenhouses.

The standard means of chemical warfare against these pests now is nicotin, made from tobacco wastes and from especially grown tobacco varieties. But the new chemical, anabasin, is said to be an even more potent aphid-killer. It will also kill other insects, although for some of these uses it is not so effective as nicotin and that other recently developed insecticide, rotenone.

Anabasin is a double discovery. American chemists, striving to make something stronger than nicotin, synthesized a compound which they called "neonicotin." At the same time, Russian chemists extracted a most efficient insect poison from a common weed bearing the classic Greek name *Anabasis,* and called it anabasin. A comparison of the synthetic and the natural compounds showed them to be chemically identical.

Small shipments of anabasin made in Russia have been received in New York. The U. S. Department of Agriculture chemists and entomologists have become greatly interested in the compound, and are continuing their experiments, with an eye to its possible usefulness against other insect pests.

Anabasis is a genus of dry-land weeds common in North Africa, Asia Minor and parts of Russia. There are about fifty species, of which only one, *Anabasis aphyllum,* has been investigated as a source of insect poison. The plant is related to such common American weeds as lamb's quarters, tumbleweed and greasewood.

While chemists and entomologists are looking into its usefulness as a source of aphid poison, botanists of the U. S. Department of Agriculture are undertaking tests to find whether it can be grown with profit in some of the warm, dry lands of the Southwest, which are similar to its native habitat.

Science News Letter, April 7, 1934

AGRICULTURE

Germans Develop and Grow Nicotin-Free Tobacco

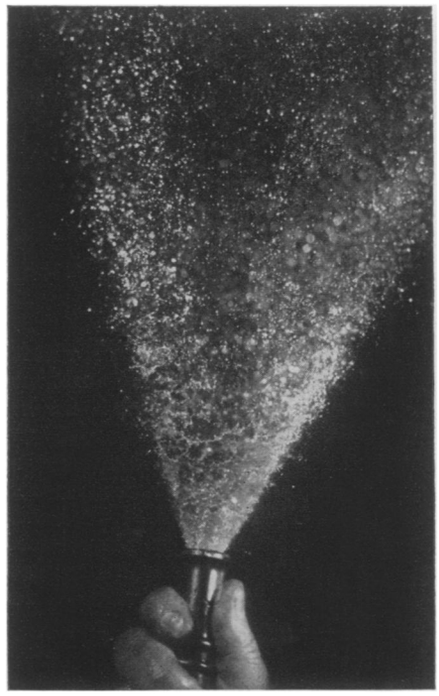
TWENTY-FIVE German peasants have begun the cultivation of nicotin-free tobacco from plants supplied by the Forschheimer Institute for Tobacco Research in Frankfurt.

This report has been made by Dr. Paul Koenig, director of the Institute. As the result of several years of experiments in breeding, the Frankfurt scientists have developed not one but several varieties of tobacco plant that are free of nicotin or of low nicotin content. Cigars, cigarettes, and pipe tobacco from these plants will soon be available for those who like that sort of thing.

Dr. W. Dörr of the Institute has followed closely the development of nicotin in the growing plants, and in the processes of drying and of fermentation. He finds that there are periods when no nicotin develops at all or only very slowly, others of rapid development and others when the nicotin content diminishes.

The Institute has discovered a hitherto unobserved constituent of German tobaccos, which they call chlorogen acid, which has much to do with the flavor. They are seeking to increase the content of this substance, and of others known to be responsible for the aroma. They are also breeding plants having 45 to 60 leaves instead of the usual 15 to 20.

Science News Letter, April 7, 1934



OUT OF A GARDEN HOSE

This curious spatter of dots is what you would see every time you sprinkle the lawn if it were possible for you to view the spraying water in just one wink lasting only one one-hundred-thousandth of a second. That is the exposure of the fast camera at Massachusetts Institute of Technology which took this picture for Dr. Harold E. Edgerton and Kenneth J. Germeshausen. Other examples of high speed photography are reproduced in Science News Letter for Feb. 10, '34, p. 90; March 10, '34, cover.

SEISMOLOGY

World-Shaking Earthquake Near Solomon Islands

A SEVERE and world-shaking earthquake that agitated the seismographs strongly on Saturday, March 24, has been located near the Solomon Islands on the northeast edge of the Coral Sea. Telegraphic reports to Science Service from a dozen earthquake stations, including Samoa, Manila and Honolulu, enabled experts of the U. S. Coast and Geodetic Survey to compute the shock's center. Probably the disturbance was beneath the sea but it may have been felt in the islands and may possibly have done some damage there.

The time of the quake was 7:04½ a. m., E. S. T., and its epicenter's geographical position was 10 degrees South and 161 degrees East.

Science News Letter, April 7, 1934