month of growth, of the 320 plants in the experiment, not one of the 160 plants grown at the two higher nitrogen levels was noticeably attacked by the insect. This condition was in sharp contrast to that observed on an equal number of plants grown at the two lower nitrogen levels, of which practically all were seriously damaged. It was also of significance that when the calcium supply was increased, the insect attacks on the low-nitrogen groups were less serious.

As the same plants matured and the transition from vegetative to reproductive development was initiated, an unexpected phenomenon characterized the feeding habits of the thrips. In the two lower calcium series they shifted from the plants grown on soils low in nitrogen to those highest in this nutrient, while the damage in the higher calcium groups practically ceased for all treatments. As a result of greater vegetative growth, the plants with low calcium and originally supplied with adequate nitrogen had probably approached the unbalanced nutritional status characteristic of those provided with the least nitrogen at the beginning, since no additional nutrients had been added during the course of the experiment. The insects invariably selected as food those plants of a lighter green color. Even on the same plant, the thrips always chose the older, more mature leaves in preference to those younger and higher in nitrogen. In general, as long as the crops made a vigorous luxuriant growth as a result of an adequate nitrogen supply, they were practically immune from insect attack.

For a proper interpretation of these observations, one should be mindful of the following items of interest: (a) most insects have specific hosts, signifying, perhaps, that they have definite food requirements to satisfy; (b) the nutrient contribution of the host plant may be altered tremendously by soil fertility, especially, as in this case, when the nitrogen is varied (*3*); (c) the long-recognized value of crop rotation in pest control may be, in part, a result of better maintenance of soil fertility and consequent greater "plant resistance"; (d) the explanation as to why some crop pests, such as codling moth, become more serious as fruit trees are grown continuously on the same soil without a complete renewal of the nutrients removed may be found, in part at least, in soil deficiency; and (e) possibly the continuing need for the creation of new insecticides to hold in check greater and more destructive ravages of insect pests is aggravated by the gradual, but general decline in soil fertility from year to year.

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Obituary

D. F. J. Lynch
1891-1945

Final rites for D. F. J. Lynch, director of the Southern Regional Research Laboratory of the Bureau of Agricultural and Industrial Chemistry, U. S. Department of Agriculture, were held in New Orleans, Louisiana, on 16 October 1945.

Mr. Lynch, a native of Boston, Massachusetts, died at his residence on 15 October 1945 following a week's illness. He was 54 years old.

Widely known as a chemist, Lynch came to New Orleans six years ago when the Southern Regional Research Laboratory was built. He had been connected with the U. S. Department of Agriculture for twenty years and had gained fame for developing a method for the production of cellulose from sugarcane bagasse.

Lynch was chairman of the Louisiana chapter, American Institute of Chemists, a member of the American Chemical Society, and an active member of the Army and Navy Club of New Orleans. He was a veteran of World War I.

In 1934–35, Mr. Lynch supervised the construction and operation of a semicommercial plant in Hawaii for the production of cellulose and in 1938 directed a survey of research being carried on in the Southern States by federal, state, and private laboratories on industrial utilization of agricultural commodities. Prior to assuming his post at the New Orleans laboratory, Mr. Lynch directed the U. S. Government By-Products Laboratory at Ames, Iowa.

He received his A.B. and A.M. degrees in chemistry from Harvard University and LL.B. and LL.M. from the Georgetown law school in Washington, D. C.

Joseph T. Hogan

U. S. Department of Agriculture