

Lebanon County Agents Launch Alfalfa Study

Baffled by the fact that alfalfa stands do not last as long as they once did, Lebanon County Agent, Glenn Miller, saw the need for more information on how to keep alfalfa producing longer than three years. A research project was started in May, 1973, to study the effect of an insect called clover root curculio (*Sitona hispidula*) on the persistence of alfalfa stands. A young stand of alfalfa on the farm of John J. Zimmerman, Myerstown, is the site of the research project. Control studies have been initiated under the supervision of Dr. Robert Byers, an entomologist on the staff of the U.S.D.A. Pasture Research Laboratory at Penn State University.

Agronomists have been aware of several factors that contribute to shorter life of alfalfa, such as anthracnose, and a variety of other fungus organisms, plus insect pests and certain soil fertility problems. These problems existed in alfalfa fields 20 years ago, yet farmers were able to maintain stands over a period of 6 to 10 years, when insects and fertility were controlled. What has happened in the past few years to alter the situation?

Miller remembers that early

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When having a problem with covering a bed with a contour sheet, try putting it on catty-cornered—that is to put on one corner, then the opposite end diagonally.

studies carried out in Lebanon County led to the use of dieldrin, a powerful organic insecticide, to control the alfalfa weevil. The widespread use of this product led to good control of the alfalfa weevil and many other insect pests of alfalfa as well, some of which were more destructive than was suspected at the time. Dieldrin was prohibited for use on forage crops about 1965, and since that time milder and safer insecticides have been used.

While insecticides such as Methoxychlor, Malathion and Guthion have been effective in controlling the serious alfalfa insects that feed on the leaves, they leave no toxic residue and do not control root feeding larvae. The larvae of the little known insect called the Clover Root Curculio (*Sitona hispidula*) have been found to cause serious damage to alfalfa roots over three years old. It is suspected that the root damage caused by the *Sitona* lowers the resistance of the plant to other disease organisms, and the resulting plant loss is attributed to "winter kill". Good alfalfa stands over four years old are rare in Lebanon County, and possibly all over Pennsylvania.

Newton Bair, Assistant Lebanon County Agent, has assumed local responsibility for the research project. He says that it will be a three years study with two major objectives. The first objective is to study the effects of *Sitona* damage on the life of alfalfa stands, and the second is to find a way to control the pest. At present, two in-

secticides are being studied as a possible means of control. Carbofuran and difonate have been applied to special plots, but so far the data collected is not conclusive, and will require several years of study before specific recommendations can be made to growers. Bair says that alfalfa has

assumed new importance in the dairy and livestock economy of Pennsylvania, since it is a major source of protein, as well as a high yielding hay and silage crop.

It is very important, Bair says, to maintain productive stands of alfalfa over a period of four or more years; for most efficient forage production.

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