

Alfalfa Weevil Reduced By Helpful Wasp

A helpful insect which parasitizes the destructive alfalfa weevil in the West is being released in several Eastern States, a recent U. S. Department of Agriculture report says.

This effort to establish a beneficial parasite (larvae of a 1/8-inch-long wasp) is aimed at eventually reducing alfalfa losses caused by the weevil.

In the past 10 years, the alfalfa weevil has become a serious pest of alfalfa in the East. Prior to 1951, the weevil was confined to Western States where the wasp (*Bathyplectes curculionis*) is present.

The adult wasp lays its eggs in weevil larvae. The egg hatch into larvae that feed inside the host. After the host spins a cocoon, it is killed by the larval parasite.

Since most of the feeding on alfalfa is done by the weevil larvae, the parasite doesn't reduce the weevil's damage (mainly to first-cutting alfalfa) that year. Any benefit will come through reduced weevil populations the next year.

This wasp was brought from Europe to Utah in 1911. It isn't expected to produce immediate results in the East. Entomologists believe it will take the insect several years after it becomes established to spread throughout Eastern weevil-infested areas.

No Dramatic Results

Experience in the West shows that the parasite will not produce dramatic results; weevil damage continues there even though the wasp is well established.

There is little hope of completely controlling the weevil by introducing the wasp. But if it becomes established, the number of weevils will be reduced. Nearly 90 percent of weevil larvae has been parasitized in some Western areas.

Efforts to establish the wasp in the East were started by ARS entomologists at the Parasite Introduction Station, Moorestown, N. J.

After being shipped from California in 1959, the insect was released in seven alfalfa fields in Delaware, New Jersey and Virginia. Parasitized weevils were found a year later in all the fields, indicating the ability of the wasp to survive in the East. Wasps are now being released in other locations.

Other Controls

Although the parasite helps reduce further weevil populations, there are other ways to combat this alfalfa pest. Pesticides, such as malathion or methoxychlor, provide protection for alfalfa by killing weevil larvae while they are infecting the crop. Many larvae die from exposure to the sun's heat at the time the first alfalfa cutting is made.

Weevil-resistant varieties of alfalfa may be developed. Preliminary experiments are being conducted by State and USDA plant breeders and entomologists at Raleigh, NC, and at the Agricultural Research Center, Beltsville, Md.

ARS entomologists have introduced other types of alfalfa weevil parasites from Europe. One species kills adult weevils; another parasitizes weevil eggs. However, there is no evidence that these parasites have become established in the U. S.

One hour of farm labor produces 4 times as much food and fiber as it did in 1919-21. Crop production is 58 percent higher per acre. Output per breeding animal is 81 percent greater.

Patronize our advertisers.

EGG PRODUCERS

IMPROVED QUALITY EQUALS GREATER RETURNS

Research is constantly in progress here at Early Bird to find ways of increasing the efficiency of our laying rations.

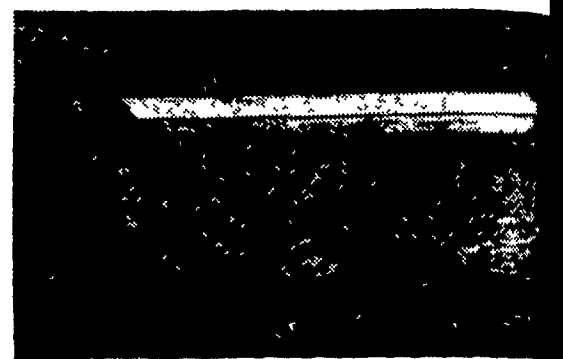
THE AIM:

**LOWER COSTS — HIGHER QUALITY
GREATER RETURNS**

Some of the phases covered in this field are:

- A. Improving the amino acid balance.
- B. Energy content as related to protein content.
- C. Optimum levels of vitamins and mineral fortification.
- D. Systems of feeding.
- E. Egg handling techniques.
- G. FACTORS AFFECTING OR IMPROVING EGG QUALITY.

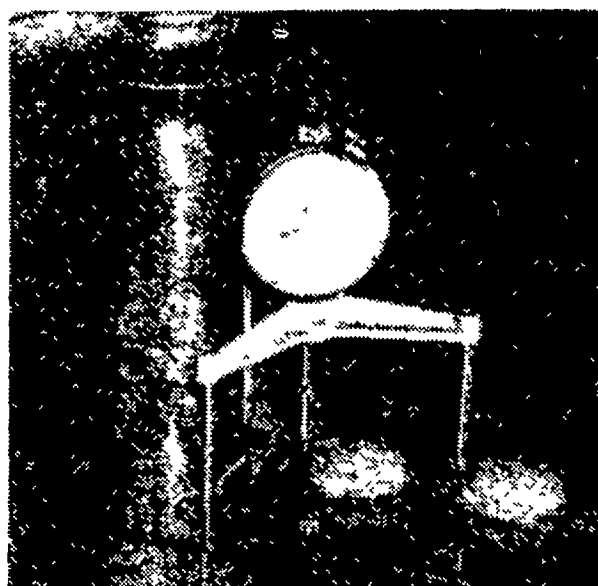
Basic type research conducted by the many Agricultural-Experimental stations is constantly being reviewed in an effort to find methods of applying the findings to practical feed formulation.



YOLK COLOR

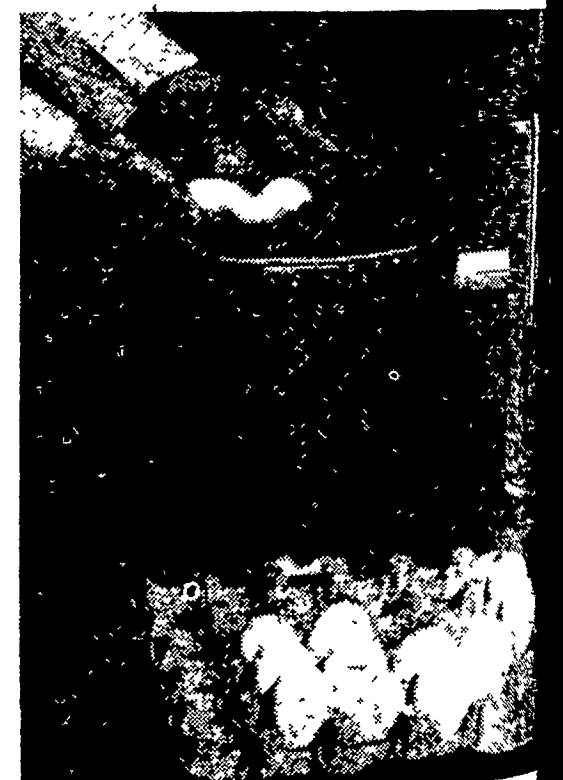
Many buyers and consumers put considerable emphasis on yolk color. Through the use of a series of egg color charts the exact effect of a particular feed ingredient on the egg yolk color can be determined. Egg yolk color charts can be used to produce egg yolk color according to specification.

This photograph depicts the experimental pens which permit close supervision of the birds as well as the collection of accurate data. Dr. Woodie Williams is looking at some of his girls.



INTERIOR EGG QUALITY

This photograph shows an important phase of the program. Egg quality as indicated by albumen height and recorded as Haugh units. The maintenance of high Haugh units is necessary for eggs to be classified as high quality eggs. Consequently the various factors which affect Haugh units are under constant investigation at the Early-Bird Research Farm.



SHELL QUALITY IS ALL IMPORTANT

The quality of the egg shell is affected by many factors such as the calcium and phosphorus content of the diet, temperature, etc. The use of solutions of varying specific gravity help determine the exact effect of temperature, nutrition and other factors on shell quality.



Miller & Bushong

ROHRERSTOWN, PA.

Ph. Lancaster Express

Finest Service Anywhere