

Fighting the Colorado potato beetle

NEWARK, DE — The Colorado potato beetle is a serious pest that plagues home gardeners and commercial farmers alike. While potatoes are its major host plant, it also feeds on crops such as peppers, eggplant, tomatoes and tobacco, and on weeds such as ground cherry, jimsonweed and horse nettle.

"This insect has quite an impact on human affairs," says University of Delaware extension vegetable specialist Ed Kee. "Besides being destructive, its reputation has been used for propaganda purposes. Hitler's Ministry of Agriculture tried to inflame German forces against the British in World War II by accusing the British of dropping the

larvae from planes onto German potato production and storage areas.

"And during the early years of the Cold War, the Soviet Union accused the United States of dropping the bug on farms in East Germany, Poland, and Czechoslovakia. Actually, the beetle arrived in Europe as the result of the humanitarian food-relief shipments from the U.S. after World War I."

The Colorado potato beetle was first found by explorers on the Eastern slope of the Rocky Mountains in the early 19th century. It fed on sandbur and didn't become an important crop pest until the 1850s when potatoes were planted in the West.

"Once potatoes reached the beetle," says Kee, "it started spreading east, reaching Illinois in 1864, Ohio in 1869, and the Atlantic Coast states by 1874."

The first chemical used against it was Paris green in 1865; scientists are still looking for an effective control.

"The Colorado potato beetle has the frustrating ability to develop resistance to chemical insecticides, usually within a few years from initial exposure," the vegetable specialist says. This fact has implications for commercial growers as they try to develop control strategies against it. Understanding the insect's annual life cycle is also helpful.

The adults overwinter in the soil

at a depth of 6 to 8 inches. They come out to feed on newly emerging crops, mate, and the females deposit their orange-yellow eggs on the undersides of leaves.

Each female nurtures several batches of eggs until about 500 are deposited over a four- or five-week period. Then overwintering adults die. It takes four to nine days for the eggs to hatch into reddish, humpbacked larvae.

The larvae are fast growers, going through several stages, or instars, to become full grown in two or three weeks. They then pupate in the soil for five to 10 days, emerging as a new generation of adults. Because of the beetle's extended egg-laying

period, all these stages may be found at the same time. In the Middle Atlantic region, two generations occur each summer.

To keep the beetle from developing resistance to control materials, Kee says commercial growers must rotate applications of insecticides from different chemical families.

Synthetic pyrethroids (such as Pounce, Ambush, or Pydrin) should be followed by insecticides of another family such as the organophosphates (Guthion). (Specific recommendations are listed in the extension bulletin, "1985 Commercial Vegetable Production Recommendations," which is available for \$2 from University of Delaware county extension offices in Newark, Dover and Georgetown.)

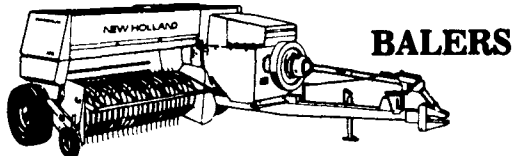
Kee suggests home gardeners with relatively small plots remove the larvae or beetles by hand and destroy them. In larger home plantings, use Sevin, Imidan or other pesticides labeled for that purpose and available at garden supply centers.

"Always follow the label's instructions on all pesticides," the specialist advises. "Use recommended precautions to prevent exposure to chemicals, and observe specified delay days to harvest."

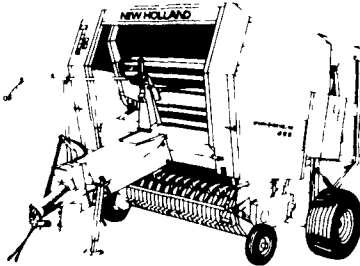


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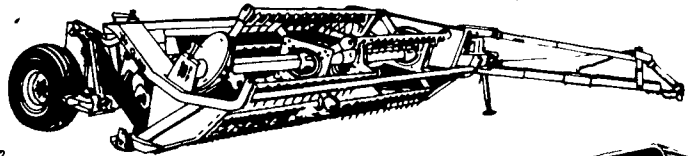
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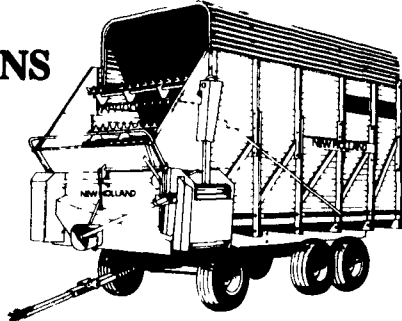
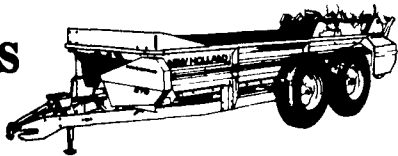


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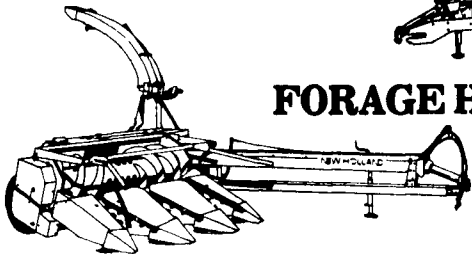


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