

Strawberry Virus and Insect Vectors

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The only known vectors of strawberry virus are aphids of the genus *Capitophorus*. In southern Indiana an indigenous species, *C. minor* Forbes, which feeds on the fruits, has been identified. Other suspected carriers are *Aphis forbesi* Weed and two or three species of spider mites which have been identified from strawberries.

Although many states have made recommendations for measures to prevent the spread of virus infection, the effectiveness of such measures may be questioned on the grounds that aphids are found in strawberries throughout the season from early spring before plants push through the mulch to late fall. Under these conditions, the only certain method to stop the spread is a demeton spray program where the insecticide is applied frequently enough to prevent the development of aphids at any time during the growing season.

The method most commonly used to determine the presence of the virus in strawberries is to graft a stolon of the suspected variety on that of *Fragaria vesca*, a wild species. If the virus is present, the foliage of *F. vesca* will become mottled. Using this method, research workers have concluded that most common stock is infected. Stolon grafting is not practical for the grower, as it indicates the presence or absence of the disease in only one plant at a time. It would be useful, however, as a method to indicate the presence of the virus in the old patch and the need to replant with virus-free plants.

Observations to date have not answered the question as to the length of time patches set with virus-free plants will remain free of the disease. Robinson and Dunlap varieties set three years ago in our plots are still vigorous in both growth and fruit production. Additional information on rapidity of spread under different insect population levels is needed.

A comparison in 1955 of the number of new plants produced per mother plant of four varieties showed an average increase of two for the virus-free stock. The average number of new plants from virus-free stock as against common stock was as follows: Aroma, 7.51 and 5.67; Dunlap 10.22 and 7.88; Premier 7.62 and 7.32; and Robinson 8.92 and 5.55. These figures were recorded between April 12 and July 10 at which time the stolons were thick enough on some varieties to require thinning.