

USE OF NETTING TO PREVENT OVIPOSITION OF THE MAY BEETLE:
RESULTS OF A LARGE-SCALE EXPERIMENT IN SOUTH TYROL.

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The may beetle, *Melolontha melolontha* L. (Coleoptera, Scarabaeidae) has become a serious problem in several fruit-growing regions of South Tyrol during the last few years. Densities of up to 80 larvae per m² during the 2nd year of development caused serious damage especially to young trees. As a result many orchards had to be removed. Traditional control methods (e.g. chemical) proved insufficient or they were not quick enough (e.g. biological control) to protect the tree.

After several successful preliminary experiments it was attempted during the spring of 1992 to prevent beetles from laying eggs in the soil by covering the orchard floor with nets. Nets were placed on the ground before the flight began to prevent immigration as well emigration of beetles and thus reduce adult dispersal.

An orchard area of about 500 ha was protected in this way. The netting had a mesh size of 5x7 mm and was supplied by NOVATEX ITALIA (Sirtori, Como). Nets were supplied in different widths in increments of 50 cm to accommodate different drive row spacings. The costs of the netting were 280 Lira per m². About 12.000 m² of netting were used per ha. Therefore, the total material costs per ha were 3.350.000 Lira. In addition, placing and removing the netting required about 60 hours of labor per ha.

Monitoring of larval populations in the fall indicated that this control method was effective. The average larval density in areas with netting was between 3 to 5 larvae per m² which is below the economic threshold. Areas not protected by netting had larval densities between 50 and 100 larvae per m². These high larval levels may cause excessive tree damage during the 2nd year of larval development. The netting material was strong enough to tolerate use of agricultural machinery (tractor, sprayer) in the orchard while the nets were on the ground. Therefore, nets can be reused again the following year. The ground cover in the drive row must be controlled since nets remain on the ground for 6 to 7 weeks. Otherwise the growing grass will push up the nets which will make driving in the orchard difficult.