Localized fruit thinning with Metamitron on apple trees

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Fruit thinning is one of the most important measurements to improve the fruit quality of apples. In Italy, there are different molecules available and since 2014 Metamitron a photosynthesis II inhibitor has had a registration and was introduced as the commercial product Brevis®. Past studies at Research Center Laimburg showed problems of overthinning on the lower part of Metamitron treated trees, if the product was applied on the whole tree, however, the thinning in the top part of the tree was not fully satisfying. The same problem was observed in the commercial orchard in these three years since the registration. In this present study, the application of only specific parts of the plant (e.g. top treatments) with Metamitron was valuated. The impact on fruit set, fruit quality at harvest and return bloom was investigated on different cultivars. The trials were carried out at the Research Center Laimburg in Northern Italy. Trees were arranged in a randomised block design with five trees within the block and three replicates. Treatments were performed with an experimental orchard sprayer. The results indicated a good response on the localized application of Metamitron. But the adaption of dosage of the product on the area allotted to an increased thinning efficacy of Metamitron still seems to be a crucial factor. This increase of dose improves the risk of a phytotoxic reaction on the leaves, however in the present study over different years this has not occurred. To sum up these results show a promising possibility of a stronger thinning on specific parts of the apple trees and at the same time saving fruits in other parts. However, further data is needed to fully understand some of the side effects on the lower canopy of the apple trees especially if combinations of different fruit thinner molecules were used.

Parole chiave: Metamitron, Apples, Fruit Thinning, Localized treatment, Brevis

Parole chiave: taglio meccanico, vite, stress abiotici, resistenza, peronospora, oidio, metabolismo.