ALTERNATIVES TO METHYL BROMIDE FOR SOIL DISINFESTATION IN NORTH-WESTERN ITALY

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Soil disinfestation is a widely adopted practice for intensively managed horticultural crops in Northern Italy. Steaming represents the option only in the case of high value floricultural crops grown under glasshouse. For vegetable crops grown in the open field, fumigants are often the method of choice, due to their relative low cost and broad spectrum of activity. Among available fumigants, methyl bromide represents the most suitable option in intensive cultivation because of its high efficacy and versatility. Methyl bromide covers 54% of the fumigants market in Italy.

The search for alternatives to methyl bromide for soil disinfestation in Italy has been very intensive during the past years.

Soil solarization has been widely exploited in many different areas: it represents one possible alternative to the use of methyl bromide. The application of soil solarization under greenhouse conditions permitted to expand its use also in marginally suitable areas, such as the Northern Italy region.
Improved results against soilborne pathogens have been obtained by using special plastics or by combining solar heating with the use of reduced dosages of fumigants or biocontrol agents.

During the past few years the research also focused on the reduction of the dosages of methyl bromide applied, by using virtually impermeable plastics.

Using a combination of methods appears, at present, the most attractive and realistic strategy for the control of soilborne diseases. The results obtained in Northern Italy on a number of economically important crops will be presented and critically discussed.