

## Sicily: new research on viroid will increase citrus production

Rome – Viroids are plant pathogens which can produce distorted growth in the infected plants. One of these, which causes dwarfism in citrus trees, has been finally isolated after almost 40 years since its first observation in the natural environment. The isolated viroid is a natural and non-pathogenic variant which can be usefully applied in the citrus cultivation.

“After years of research, we have succeeded in demonstrating the genetic stability of this viroid, explains Dr. Matilde Tessitori of the University of Catania. This means that by inoculating the viroid we can obtain plants which are not diseased but simply dwarfish. The dimension of a citrus tree can be shortened from 30% up to 50% without negative effects on the fruit size and quality.” The research has been realized thanks to the collaboration of the Science and Technology Park of Sicily (STPS) founded in 1991 with the aim to translate research projects into entrepreneurial opportunities.

Dr. Antonino Cătara - STPS chairman – says: “Reducing the size of a citrus tree without damaging the fruit quality can lead to some interesting effects such as a greater production, lower harvest and irrigation costs and a reduction of unproductive areas. Growers will be able to cultivate more than 1000 trees per hectare instead of 400, which is the actual average quantity. We can provide both viroid and technical support for its inoculation but we still need a visa from the regional and national institutions, while in other countries - such as America and Australia - this kind of research has been already made official.”

The effects of the viroid have been tested on more than 12.000 plants in the Italian region Calabria, with encouraging results. “One of the most interesting aspects – adds Dr. Cătara – is that dwarfish citrus trees appear to be more quickly productive and more resistant against the citrus disease “tristeza” than a normal tree is, so that we could use them to replace ill plants without losing productivity.” A dwarfish citrus tree needs only 5 or 6 year to become fully productive instead of the 15 years needed by a normal tree.



*Dwarfish clementine trees in the experimental field in Calabria. The viroid has been inoculated 12 months after the trees were planted, obtaining a 30% reduction without negative effects on the production which remains regular and with fruits of optimal size and quality.*

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