Strengthening citric fruit to better resist climate change

Recent research of the Department of Agricultural Sciences and the Natural World of the Spanish Universitat Jaume I has identified the genes within citric fruit that biotechnology could improve to face climate change. A team of researchers under professor Vicent Arbona is trying to influence the workings of a plant hormone that will make plants more resistant to stress by flooding. Conclusions of the research have been published in Plant Molecular Biology.

One of the negative environmental conditions that will worsen with the effects of global warming is the flooding of farmland due to torrential rain. For this reason the plant hormone, abscisic acid or ABA, which is key to regulating tolerance to adverse environmental conditions by plants, has been studied. Thus it was observed that there are specific hormonal and molecular responses to stress due to flooding.

Orange trees with heightened resistance to stress

According to an sciencedaily.com article, now Arbona and his researchers are looking at how cellular responses vary -on a molecular level- among roots of flooded plants when the hormone is not present. Basic knowledge on how this signaling path is organized and its key role in plant resistance to substrate flooding is the first step towards the biotechnological production of citric fruits that are more resistant to this type of stress.

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