

Tomato disease in Mexico caused by new virus

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Scientists of Plant Research International of Wageningen UR have identified the virus that causes great damage in tomato cultivation in Mexico where the disease is known as '*Marchitez*', which means '*withered*'. The name of the new virus is tomato marchitez virus. The virus was found to be related to the tomato torrado virus, earlier discovered by Wageningen UR. The scientists recently published their findings in Archives of Virology. Identification of the virus now makes it possible for breeding companies to develop cultivars with resistance against the virus.

Tomato marchitez virus is found to be closely related to the earlier discovered tomato torrado virus, which in for instance Spain, causes the damaging '*Torrado*' disease in tomato. Both viruses are now classified into the new plant virus genus *Torradovirus*. Tomato marchitez virus causes leaf necrosis and serious damage to the fruits, resulting in a strong yield reduction. Whitefly is one of the vectors of the virus.

The intensive cooperation of Plant Research International and De Ruiter Seeds, vegetable seed company in Bergschenhoek, resulted in rapidly gaining insight into the causal agents of two important tomato diseases. The Plant Virology Group of Plant Research International investigated samples of tomato plants, originating from commercial farms in Mexico and Spain, which showed clear symptoms.

Virus particles that had not been described before were found in these samples. The viruses were then fully characterized and described as new species. It could be proven for both species that they were the causal agents of the disease symptoms found in Mexico and Spain. The research was financed by De Ruiter Seeds, the company which has meanwhile placed cultivars on the market with resistance against both viruses.

Full RNA sequences have been determined of tomato marchitez virus as well as tomato torrado virus and these have recently been published in Archives of Virology. It is remarkable that in a short period of time two new viruses have been found and described that can on the basis of their unique characteristics be ascribed to a new plant virus genus.

M. Verbeek, A.M. Dullemans, J.F.J.M. van den Heuvel, P.C. Maris, R.A.A. van der Vlugt, Tomato marchitez virus, a new plant picorna-like virus from tomato related to tomato torrado virus. Archives of Virology, published online 29 October 2007.

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