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Climate change could have devastating effect on citrus crops

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Climate change could have a drastic effect on South Africa's citrus crops, as pests, such as the Asian citrus psyllid, which causes the citrus greening disease, emerge in Africa.

Speaking at the Agricultural Research Symposium 2017 in Centurion, on Friday, Agricultural Research Council (ARC) plant health and protection senior manager Dr **Ansa van Vuuren** said the citrus greening disease was spreading to South Africa.

"We don't have the Asian version of it in South Africa yet. The Asian greening pest is more aggressive and has a more devastating effect on citrus. We export a lot of citrus, especially to the European Union (EU), so it is very concerning," she said.

Citrus greening reduces the quantity and quality of citrus fruit and the infected trees eventually become unproductive. An infected tree produces fruit that is not suitable for sale as fresh fruit or for making juice.

It is what is referred to as a quarantine pest.

The spread of diseases by such pests within a country previously free of that-pest can hamper the opportunity it has to potentially access or continue to access markets that import the product concerned only from pest-free areas.

Citrus greening negatively affects access to major international citrus markets, such as the US and the EU.

This disease is primarily spread by two species of psyllid insect; African and Asian. Both species transmit the citrus greening pathogen from infected trees to healthy trees as they feed on the plants.

Citrus greening can also be transmitted by grafting infected budwood, by dodder, and, possibly, by infected seed.

Van Vuuren explained that the Asian version is transferred by a vector that is more heat tolerant than the African version of the pest, which is heat sensitive.

She further added that the African greening pest had been confined to cooler areas whereas the Asian greening version had been confined to warmer areas.

“Climate change could draw the pest to South Africa, because an increase in temperature will benefit a more heat-tolerant vector, which is where our concern lies,” she said.

Van Vuuren noted that restrictions and requirements needed to be put in place to limit the movement of the disease.

“Control of citrus greening can be achieved through an integrated approach, which includes eradicating infected plant material, introducing clean nursery seedlings, adhering to regulatory measures and eliminating insect vectors by means of systemic insecticides.”

Treating affected trees with injections of antibiotics alleviates the symptoms, but does not cure the diseased plants, however.

"The ARC positions itself to address these challenges. We make sure that we collaborate with national and international organisations to track the movement [of pests] and to ensure that we lock into community-based platform information systems," Van Vuuren said.

She added that the ARC's research focuses on projects and proposals focused on citrus greening, and the findings of the research were then passed on to the Department of Agriculture, Forestry and Fisheries so that it could design strategies to combat the disease.

"The effect of Asian citrus greening would devastate our citrus crops. It is a global citrus disease and because it is so aggressive, it shuts the entire citrus tree system down and we are very concerned about that," Van Vuuren said.