

**PRESS RELEASE**

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## **Fruit industry strengthened by new SU Research Chair for Dr Elke Crouch**

Leaders in the South African fruit industry believe that the creation of the new Post-Harvest Physiology Research Chair in Deciduous Fruit at Stellenbosch University will substantially improve know how about the handling of deciduous fruit, and ultimately be to the benefit of both producers and consumers. The activities of the Chair are being led by Dr Elke Crouch, a senior lecturer in the Department of Horticultural Science at Stellenbosch University (SU).

Dr Crouch focuses on ways to eliminate various physiological disorders which occur when apples and pears are stored or ripened after picking. This includes internal discolouration and blemishes on the peel of the fruit. She is searching for ways to retain the quality of fruit post-harvest until they are ready for consumers to enjoy. Her work is also increasingly focused on understanding how conditions being experienced while fruit are still on the tree affect their quality.

“I enjoy finding out why something goes wrong, and to find solutions to ensure that it does not happen again,” Dr Crouch explains the driving force behind her research.

Since 2002 Dr Crouch has been appointed in a research position in the Department of Horticultural Science focusing on postharvest matters. The post has been funded by the fruit industry since the 1980s, through the Molteno and Lombardi Trusts. Thanks to further financial support from Hortgro, the industry body for deciduous fruit in South Africa, the research chair could be established this year.

Dr Crouch sees the chair not only as an opportunity to do important research, but also as a chance to train future industry leaders and to ensure greater interaction with the fruit industry and other researchers.

“The future of research increasingly lies in working across borders. We must work together in our effort to find solutions to the impact that climate change is having on fruit quality, for example, and in the handling and analysis of large data sets in this regard,” she says.

### **Value to industry**

“Given the high quality of practical research which Dr Crouch has delivered to the fruit industry over the years, it was an easy decision to support the establishment of this research chair,” says Prof Wiehann Steyn, general manager of Hortgro Science, who added that he hopes the position will strengthen her position as a senior academic.

He describes Dr Crouch as a passionate, detailed researcher “who always gives 110%. In addition, she is a great lecturer who has inspired a generation of students to follow careers in post-harvest aspects of the fruit industry.”

“Post-harvest physiology is a critical field of knowledge, but one within which there is little local capacity. Through its support of the Research Chair, Hortgro hopes to ensure that sufficient capacity is developed and that the necessary expertise and knowledge is available to help industry address troublesome industry problems,” says Prof Steyn, who is also an extraordinary professor at the SU

Department of Horticultural Science. “Cooperation with knowledge partners like SU through combined funding of posts and opportunities certainly enhances our goals regarding such initiatives.”

“The research chair in the Department of Horticulture is an absolutely great example of user-inspired basic research being put into action. This partnership between an important sector such as the fruit industry and SU supports basic and applied research and helps to meaningfully and significantly enhance knowledge in a specific field,” says Prof Eugene Cloete, SU vice rector: research innovation and postgraduate studies.

### **Mealiness and internal browning**

Over the years Dr Crouch, her postgraduate students and industry partners have increasingly done valuable work for the industry. This includes many research reports containing practical guidelines, such as on the correct methods to follow to best store ‘Cripps Pink’ and ‘Granny Smith’ apples for long periods in controlled-atmosphere cold stores. It also entails aspects such as how much shade ‘Forelle’ pears can receive before mealiness starts to develop in the fruits.

Through her own PhD work, Dr Crouch answered questions on how mealiness develops in ‘Forelle’. This was followed by research on how to prevent the physiological condition. Dr Crouch has since helped to write guidelines for the harvesting and post-harvest management of apple cultivars like ‘Fuji’ and ‘Cripps Pink’ to decrease internal discoloration or browning.

“It’s always an unpleasant surprise when you bite into an apparently perfect fruit just to discover that the flesh inside has turned brown. In addition, it has an unpleasant taste. This could cost our industry dearly, both in terms of loss of income as well as loss of reputation in the market,” Prof Steyn explains the importance of related research.

Thanks to funding by Hortgro, Dr Crouch’s team is currently also doing research on the occurrence of superficial scald on cultivars like Granny Smith apples. They are also searching for ways to control the development of such blemishes. Although the damage is purely cosmetic and does not affect a fruit’s taste, consumers tend to shy away from them. Her team is also investigating the optimal conditions under which fruit in must be stored to prevent post-harvest losses using the latest controlled-atmosphere cold store technologies.

She launched the first shortcourse in post-harvest physiology available to the South African fresh produce industry in 2008. This year it takes place between 6 and 8 July 2021.

According to Dr Esmé Louw, chairperson of the SU Department of Horticultural Science, the Research Chair provides additional career opportunities to Dr Crouch, as it allows her to attract strong postgraduate students to her research group, and to collaborate with a wider range of research teams worldwide.

Dr Crouch is already collaborating with the leading post-harvest research team of the University of Leuven in Belgium on a project to better study gas diffusion in apples, and thus better understand and address various post-harvest defects in fruit. Among her local partners are colleagues Stellenbosch University, ExperiCo Agri-Research Solutions, the Agricultural Research Council and the University of the Western Cape.

### **More about Dr Elke Crouch**

- She obtained the degree BScAgric (Horticulture) in 1999 from the University of Pretoria, an MScAgric (in 2002) and a PhD degree (in 2011) from Stellenbosch University.

- She lectures in post-harvest physiology and technology to final year students in the degree programme BSc (Agric) Horticultural Science.
- Dr Crouch has advised the industry since 2003 through her involvement as member of initiatives such as the Hortgro Science Peer Working Group, the Packhouse Action Group and the Store-It Group.
- She serves on the executive committee of Pink Lady SA.
- She previously served as board member of the South African Society for Horticultural Sciences.
- Dr Crouch is the main organiser of the 14<sup>th</sup> International Pear Symposium, planned for 2023 in Stellenbosch.

### **Photo captions**

#### **DrElkeCrouch.jpg**

Dr Elke Crouch leads the new Post-harvest Physiology Research Chair in Deciduous Fruit at Stellenbosch University.

#### **Bedryfsleiers.jpg**

Attending the launch of the new Post-harvest Physiology Research Chair in Deciduous Fruit, led by Dr Elke Crouch (third from left) at Stellenbosch University were (from left) Mr Linde Du Toit (Hortgro Science advisory council member and Pome Producer's Council board member); Mr Hugh Campbell (Hortgro Technical: General Manager); Prof Wiehann Steyn (Hortgro Science: General Manager); Mr Nicholas Dicey (chairman of Hortgro and chairman of Hortgro Pome) and Prof Karen Theron (Chair in Applied Pre-harvest Deciduous Fruit Research at Stellenbosch University). Photo: Engela Duvenage

### **Media enquiries**

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