**The history of the initial development of the Citrus Foundation Block and the establishment of CRI**

***Louise Brodie and Louis von Broembsen***

Although it has been more than two decades since the deregulation of the South Africa fruit industry and the establishment of Citrus Research Institute (CRI) the entity that has been operating these facilities, until recently the Nelspruit research facility buildings (CRI’s head office, formerly known as the Outspan Citrus Centre) and the Uitenhage Foundation Block property did not belong to the South African citrus industry. These facilities were originally established and owned by the official citrus industry organisation Outspan in the 1970’s but during the deregulation process, Outspan evolved into Capespan and today Capespan is a private company. As a result, these important citrus industry facilities still belonged to Capespan until 2018 when the Citrus Growers’ Association of Southern Africa (CGA) purchased these properties from Capespan.

At a celebratory ceremony held at the CRI’s Nelspruit research facility in September 2018, CGA took official ownership from Capespan of these two properties and this was truly a momentous occasion. Although Capespan has been the citrus industry’s long-term benevolent landlord for these two facilities since deregulation, taking ownership of these vital citrus industry research entities has been a milestone for the South African Citrus industry as the functions of these two facilities still form the cornerstones of citrus research and biosecurity in South Africa.

The acquisition of these important research entities by the citrus industry provides the opportunity to reflect on the development and significance of Citrus Research International and the Citrus Improvement Scheme to the South African citrus industry.

At the event held at the Citrus Foundation Block in June to celebrate CGA taking ownership of this facility on behalf of the citrus industry, Louis von Broembsen, former research and technical general manager for Outspan and Capespan Group general manager for research, technical and extension provided insightful information about the history of the facility. He also outlined the conditions of the citrus industry in the 1970’s and the remarkable foresight of the industry leaders at the time showed in establishing the Citrus Improvement Scheme at the Citrus Foundation Block.

**Background**

Von Broembsen explained that in the early 1970’s the South African citrus industry was severely compromised as a result of diseases including African Citrus Greening, Exocortis, Tristeza, Psorosis and Cachexia, all of which were uncontrolled and transmissible. In addition, Rough Lemon rootstock, that was then being used for more than 90% of the industry’s trees, had shown itself susceptible to soil pathogens and particularly Phytophthora root rot, which was causing disastrous results in new orchards at the time. Where orchards were replanted, many were affected by the toxic build-up of fungal pathogens, nematodes, poor soil aeration and salinity. It was also estimated that less than 40% of nursery trees that were being planted in commercial citrus orchards were propagated using specifically selected budwood source trees.

This situation also meant that growers were unable to increase their yields and the industry average production remained at around 25tons/ha. The industry’s total exports had been static at around 20 million cartons for several years and it had become clear that there was an urgent need for improved trifoliate and trifoliate hybrid rootstocks and horticulturally true to type plant material.

**Motivation for Change**

The 6th Conference of the IOCV (international Organisation of Citrus Virologists) which was hosted in South Africa in 1972, was a watershed moment in the history of the industry. It was attended by the then most preeminent citrus virologists in the world. Dr Clair Calavan was the President of the IOCV and directly and indirectly the assembly of scientists led to several important developments for the South African citrus industry.

Following the conference, a fact-finding tour to the Indian Ocean Islands of Reunion, Mauritius and Madagascar revealed that both the Asian and African HLB Greening disease and their respective vectors were found present at varying altitudes on all three islands. So as early as the 1970’s the then the danger posed by the movement of both forms of the disease and their vectors to South Africa was noted and this puts the industry’s current efforts to keep Asian HLB at bay into perspective.

**Initiatives to establish a Citrus Improvement Scheme**

Von Broembsen stressed that it was about at this time that visionary industry leaders embraced the importance of the industry embarking on a Citrus Improvement Programme. The individuals were the board members under the chairmanship of Gustav van Veijeren and soon after by the equally broadminded and congenial Lance Danckwerts. The initiative was led on the ground by the strategic thinker Dr Cameron McOnie, who had been appointed General Manager of the Citrus Exchange in the early 1970s and Dr Doug Stanton who was appointed to replace McOnie as head of Research and Technical.

A joint CIP (Citrus Improvement Programme) committee was established by the SA Co-operative Citrus Exchange represented by (Dr Doug Stanton and Louis von Broembsen) and the Department of Agriculture in the form of the CSFRI (Citrus and Sub-tropical Fruit Research Institute) and their representatives Drs Johan Grobler, Gawie Bredell, Cas Hotzhauzen and Hannes de Lange. The Citrus Improvement Scheme was officially established in 1973 and the first consignment of trees certified under the interim-CIP were planted in the late 1970s.

Von Broembsen added that in the meantime, industry leaders had begun to realise the incredible potential significance that the ground-breaking 1970’s research development of STG (Shoot Tip Grafting), and its related discipline of glasshouse virus indexing, held for the South African citrus industry. In 1976 von Broembsen undertook a study on the functioning of Citrus Improvement Programmes in the USA, Spain, Israel and South America. This included a visit to Chet Roistacher’s laboratory at UCLA where he was engaged in perfecting the STG process. This gave impetus to the CSFRI‘s Dr Hannes de Lange working closely with Roistacher in having STG instituted as a standard process in the South African CIP. In 1999 the University of Pretoria awarded an honorary doctorate to Roistacher for his contribution to the South African Citrus Industry.

As part of this unfolding initiative, in 1977 a state-of-the-art shoot-tip grafting citrus virus indexing facility was established at the CSFRI in Nelspruit under the experienced and professional care of Drs Hannes De Lange and John da Graca. This was to provide a virus-free source of budwood material for the industry. In the meanwhile, the Citrus Exchange focused on the field selection of horticulturally superior propagation material, collaboration with commercial nurseries to create formal participating structures and the publicity and administration of the certification scheme.

**The industry develops structures and industry information relating to plant material**

In the mid-1970s the South African Citrus Nurserymen’s Association was established through the nucleus of progressive nurseries of the Eastern Cape under the leadership of Patrick Niven, Barney Joubert, Neils Meiring of Apapanzi, Dan Roberts of Baddaford and Thys du Toit of Paksaam Kwekery.

At around the same time the industry undertook an audit of the size and standard of all commercial citrus nurseries in South Africa. A countrywide evaluation was also undertaken of all the budwood source trees being used in the industry. This included the horticultural and disease status evaluation of all budwood mother trees being used by qualifying nurseries. Mother trees were also indexed and, in the process, STG and indexing became established as standard practices.

**Establishment of the Outspan Foundation Block**

Industry leaders also recognised the need to establish an isolated Budwood Supply and Certification Facility, which later became known as Outspan Citrus Foundation Block, and is situated at Uitenhage in the Eastern Cape. The location for this proposed facility was dictated by some very specific requirements:

* It had to be established in an area suitable for citrus production but where no commercial citrus plantings existed.

• It had to be isolated but not too far away from a commercial centre so as to be difficult to access or be unsuitable to accommodate the manager and his staff.

• It had to be near to commercial citrus nurseries but also not too near.

• It also needed to be in a greening free area of the country (the Cape Province).

• It had to have sufficient high-quality water and have a large deposit of soil nearby that was suitable for use as a potting mix for the thousands of budwood multiplication trees that would be required.

• It had to have some infrastructure to get the operation functioning as quickly as possible.

The person charged with the responsibility of finding this unique location was Andy Lee. Once the farm – one of several proposed by Andy - had been selected as the best potential site for the facility, soil scientist Doug Stanton painstakingly took soil samples to check the site for suitability. Other due diligence studies followed. Such was the credibility of Stanton and Cameron McOnie that when they put their proposal for the purchase of this farm to the SACCE (South African Co-operative Citrus Exchange Ltd.) board in 1978, it was passed unanimously without a challenge. Following this, the Outspan Foundation Block was established in 1980, releasing the first virus-free certified budwood in 1984 and the first certified seed in 1986.

Von Broembsen added that Andy Lee not only also played an important role in the identification and acquisition of the property but also in the first 20 years of the growth and development of the Citrus Improvement Programme and the Foundation Block. He added that Lee was a great character; intelligent, innovative and full of humour.

Andrew’s greatest triumph, however, was his discovery of one Thys du Toit. When the need arose to identify a manager for the Citrus Foundation Block, Lee identified Thys du Toit, who was the manager at Paksaam Kwekery. Thys was duly interviewed and appointed to the position of manager of the Foundation Block. Du Toit was the manager of the facility from its official establishment in September 1980 until his retirement in 2017. Through his development of this facility from scratch to the well-developed end extremely significant resource that it represents today, he has made a remarkable contribution to the South African citrus industry.

As part of the deregulation process, the management of the Outspan Foundation Block was transferred to the Citrus Growers’ Association’s CRI (Citrus Research international) in 2002 and is now known as the Citrus Foundation Block.

**Outspan Citrus Centre**

The SA Cooperative Citrus Exchange (SACCE) researchers were initially based the Citrus and Subtropical Fruit Research Institute (CSFRI) in Nelspruit (now known as the Institute for Tropical and Subtropical Fruit). By the late 1960’s the expansion of industry’s citrus research efforts had already led to the establishment of Outspan Laboratories which provided nutritional programmes based on leaf analysis.

SACCE invested funds in ongoing research and established the Outspan Citrus Centre (OCC) in Nelspruit in 1974. The buildings for this facility were constructed on a 3,1ha property that was donated at the time by the Solomon family of the Crocodile Valley Citrus Company. The SACCE research team moved to these facilities and the Outspan Citrus Centre became the headquarters for industry driven research and development and extension services.

As a result of the deregulation process, Citrus Research International was formed in 2001 and took over the OCC and renamed it Citrus Research International (CRI), the institution that now manages almost all citrus research in South Africa.