

The fresh fruit markets for Navels and Mandarins prioritise visual quality, size and taste over juice-yield characteristics.

Brazil and Florida focus specifically on orange-juice production due to the suitability of their climates for growing Valencia oranges. In contrast, other major citrus-producing countries focus more on fresh fruit markets, with varieties such as Navels and Mandarins, which thrive in intermediate to cooler climates. The fresh markets for these varieties prioritise visual quality, size and taste over the juice yield characteristics critical to orange juice production.

Fresh fruit markets have historically paid better than juice production, but their higher costs and intensive demands – such as labour-intensive pruning, selective harvesting, pest management, and compliance with Global G.A.P. and labour standards – make them challenging. Shifting to juice production would require careful consideration before abandoning these skills.

Growers have two options. They can either focus primarily on fresh fruit, selling only lower-grade produce to juice factories, potentially using dual-purpose cultivars. Or they could pivot fully to juice production, abandoning current management and skills, considering factors like climate suitability for Valencia production, and proximity or involvement in juice processing. This decision requires careful thought.

As mentioned, Valencia is the optimum orange juice variety, meeting the limonin threshold for the general population of



Juice comparison between Cara Cara and Lina

between 3 and 6 ppm (parts per million). limonin levels in Navels and Mandarin varieties are generally over 6 ppm, causing the juice to become steadily more bitter, soon after squeezing.

Growers in cooler areas suited to these varieties are still able to sell fruit for juice but it would be blended up to a certain acceptable level to prevent the concentrate from exceeding the required limonin level. Thus, there would be a limit on how many “high” limonin varieties could be taken. But given that juice quality in HLB-infected areas is so poor due to the disease (and is showing a declining trend), an oversupply in the medium to long term is unlikely. The current juice prices certainly improve the bottom line, so growers in cooler areas would, in my opinion, be wise to consider the first of the two cited options.

However, does the “blanket, high limonin content” applied to Mandarins and Navels, apply in all cases?

In **Figure 1** there are interesting limonin content studies that show, in the late stages of maturity and certain scion-rootstock combinations of orange and red navels, that do meet the limonin threshold. Also, the graph shows a limonin content reduction throughout maturation. All the tested

oranges came from the nursery AVASA. **The significance** Based on initial clinical trials, the majority of the population detects a bitter taste in orange juice that has limonin concentrations of over 6 ppm, while 20% can detect levels as low as 2 ppm. Interestingly, both Lina and Red Lina fall within the 2 ppm range as they mature, placing them well within the acceptable limit. Zacharias notes that further studies are needed to understand the factors behind lower limonin levels, such as climate, rootstock combinations, or specific scions within these citrus types. This suggested new research is particularly important, given the potential for an ongoing orange juice shortage.

It’s possible that Mandarins and Navels – previously thought to have high limonin – may actually fall within acceptable limits. These varieties, suited to cooler areas unsuitable for Valencia production, could help meet juice demand. Dual-purpose cultivars with specific rootstock combinations may also offer low-limonin, non-bitter juice for growers in these regions. ▶



Catalytic funding for black citrus growers in SA

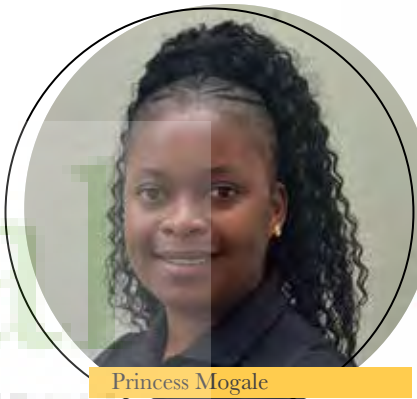
The CGA-GDC has been providing catalytic support to black citrus growers since 2018 through the EDF – a financing vehicle. By Princess Mogale

The Enterprise Development Fund (EDF) is a support grant that is fully funded by the industry, and aims to address growers’ immediate needs. Currently, the Citrus Growers’ Association-Grower Development Company (CGA-GDC) has 117 growers on its database. Eighty percent of them have submitted their tree census and production data, providing insight into their entities and their farm-specific needs.

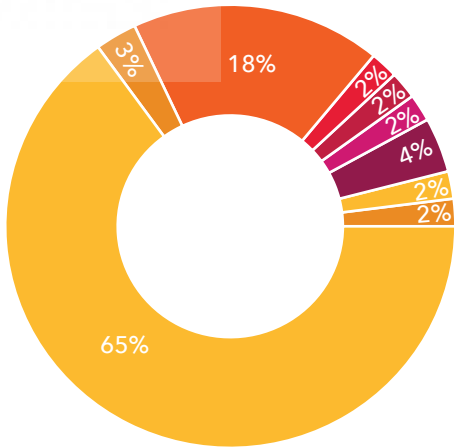
The GDC has four strategic goals, two of which are to facilitate access to adequate finance and to facilitate access to markets. The EDF provides for both these goals through tailor-made or farm-specific solutions.

The programme follows a specific processes, with some of the components done concurrently. First, the EDF committee develops the criteria, followed by a call for applications, evaluation of submissions, and finally, the allocation and communication of outcomes to the farms.

The driving force behind the implementation of the programme are the Business Support Unit and the Finance Units. There is a lot of effort and teamwork that goes into the implementation of the EDF post-allocation and -outcome responses. From the moment a grower submits their qualifying invoices and documentation, the turnaround period is 72 hours, on average, and that is thanks to a dedicated finance team. The level of teamwork, precision and attention to detail



Princess Mogale



Production inputs 65%	Fuel 2%
Establishment/ trees 3%	Infrastructure 2%
Equipment and vehicles 18%	IPM 4%
Electricity 2%	Water 2%
	Packing cost 2%
	Transport 0%
	Irrigation material 0%

Figure 1: Distribution of support

has rendered the process flawless.

The finance team produces 90% of the work – thus, they are vital in this process. During the 2024/5 financial year, they processed more than 150 transactions with over 50 suppliers. The most utilised supplier by the growers was paid 27 times, followed by one paid in 21 transactions. We assess the viability of our suppliers through a vetting process to ensure growers receive quality service. Within a financial year, support is targeted at production inputs, establishment costs, trees, equipment, vehicles, electricity, fuel, infrastructure, integrated pest management, transportation, water, irrigation materials, and packing costs. **Figure 1** shows how the support was distributed.

The 2024/5 financial year saw support applied in these provinces: Eastern Cape, Limpopo, KwaZulu-Natal, Mpumalanga, North West, and Western Cape. ▶

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