

Crop protection through science and partnership

Sustainability is the foundation of the work at River Bioscience and the benchmark of its success.

Our team proudly celebrates the achievements, milestones and partnerships that have strengthened the organisation's position as a leader in sustainable crop protection and deepened the team's commitment to the agriculture industry.

This period has reinforced the importance of collaboration between science and industry. Building on decades of local research and strong international partnerships, River Bioscience continues to develop solutions that empower growers to meet the challenges of residue-sensitive markets, global export pressures, and the increasing need for environmentally responsible farming. Our work with industry partners ensures that locally developed innovations maintain international relevance and impact.

Research

Our pioneering virus-based biopesticide research is a pillar of our success. The discovery and global patenting of the *Cryptophlebia peltastica* nucleopolyhedro-virus (CrpeNPV) stands as a

milestone not only for River Bioscience, but for South African science. This virus, with its unique ability to target several economically important pests, has become the foundation of innovative, biologically advanced technologies that continue to benefit growers locally and abroad. Protected under international patents, it symbolises the strength of South African research and the global recognition it has achieved.

Certifications

The recognition we've received goes beyond research and patents. Our ISO 9001 accreditation, the world's most widely recognised quality management standard, reflects our commitment to consistency, traceability, and continual improvement across our operations. For growers, this means that every stage – from product development to manufacturing and delivery – follows rigorous, internationally benchmarked systems designed to ensure reliability and trust.

Equally important is our Ecocert Inputs verification, a globally respected certification that confirms our solutions as suitable for use in organic farming systems. This verification gives growers

confidence that our technologies meet strict environmental criteria and align with the market requirements of premium organic and residue-sensitive exports. In a global marketplace where compliance and sustainability are increasingly non-negotiable, these certifications are more than just symbols of quality; they are strategic enablers that help growers maintain access to demanding international markets while farming responsibly.

Direct support

Innovation only has true value when it delivers practical impact on farms. This year River Bioscience invested in supporting growers directly. Through knowledge-sharing sessions, grower events, and industry collaborations, we've walked alongside growers who are adopting sustainable practices and integrating biological tools into their pest management strategies.

Integrated Pest Management

Integrated Pest Management (IPM) strengthens farming systems for long-term resilience by reducing reliance on chemical inputs, protecting beneficial insects, and supporting resistance management strategies. River Bioscience is committed to equipping growers with the tools, knowledge and guidance needed to implement effective IPM practices that align with their operational goals, international standards, and environmental stewardship.

A dedicated team

River Bioscience believes in a future of agricultural resilience.

Behind every research breakthrough, certification, and grower success story is a team of dedicated colleagues, scientists, field experts and industry partners. They transform innovation into practical solutions that deliver real value on farms.



For more information, visit www.riverbioscience.co.za.

Southern African citrus HISTORIC PERFORMANCE

The Southern African citrus industry concluded the 2025 season on a historic high. By Portia Magwaza



Portia Magwaza

The outstanding performance of the Southern African citrus industry in the 2025 season solidified its position as one of the world's leading citrus exporters. Despite logistical challenges and trade headwinds, the industry exceeded all production and export forecasts. This was one of the most remarkable performances in the industry to date.

At the start of each citrus season, members of the Variety Focus Group conduct a comprehensive assessment in collaboration with growers across all the citrus regions to gather data on anticipated yields. This information forms the foundation

for forecasting the total volume of fruit expected to be packed and approved for export. Although this forecasting process has consistently demonstrated accuracy over the past decade, the 2025 season proved to be an exception.

During 2025, citrus growers across Southern Africa packed 203.4 million 15 kg cartons destined for global markets (Table 1). This represents a substantial 19% increase on the initial projection of 171.1 million cartons issued in April. Growth was particularly notable in lemons (+26%), navels (+21%), mandarins (+19%), and Valencia (+19%).

Several factors contributed to this latest growth spike. There were favourable weather conditions across key production regions, particularly as the Western Cape and Eastern Cape recovered from adverse climatic challenges experienced in the previous season. And consistent rainfall and moderate temperatures contributed to higher yields on the tree. Increases in packouts on the tree also increased the total cartons produced per hectare.

Table 1: Initial vs. final packed 15 kg equivalent cartons - 2025

Commodity	2025 estimate	2025 packed	Increase from estimate	Percentage increase
Valencia	51 976 304	61 761 831	9 785 527	19%
Navels	26 087 304	31 544 649	5 457 345	21%
Lemons	32 876 436	41 335 480	8 459 044	26%
Mandarins	44 906 248	53 541 730	8 635 482	19%
Grapefruit	15 292 580	15 263 665	(28 915)	0%
Grand total	171 138 872	203 447 357	32 308 484	19%

The expansion of plantings in recent years, coupled with the maturation of younger trees, has been a key driver of volume growth – particularly in late-mandarin (Nadorcott/Tango) and late-navel varieties (Figures 1 and 2). Plus, a significant proportion of Valencia orchards (Figure 3) have reached bearing age, providing additional capacity to sustain and accelerate growth in upcoming seasons. And the growing number of orchards established under protective netting has contributed to improved pack-out rates and enhanced fruit quality.

As market dynamics also played a role, the early conclusion of citrus supplies in the northern hemisphere created heightened demand, extending the Southern African marketing window and incorporating early-season sales weeks that are critical for maximizing export volumes.

Despite logistical challenges and trade headwinds, the industry exceeded all production and export forecasts.

International markets showed particularly strong demand for processing-grade oranges and lemons, reflecting both supply constraints abroad and favourable conditions for South African citrus. In 2023, 9% of orange volumes were processing-grade, which increased to 11% in 2025 (Table 2). And for lemons it increased from 8% in 2023 to 12% in 2025 (Table 3).

Additionally, the sizing of the fruit proved to be a great contributor towards getting more fruit in cartons for export. Mandarins

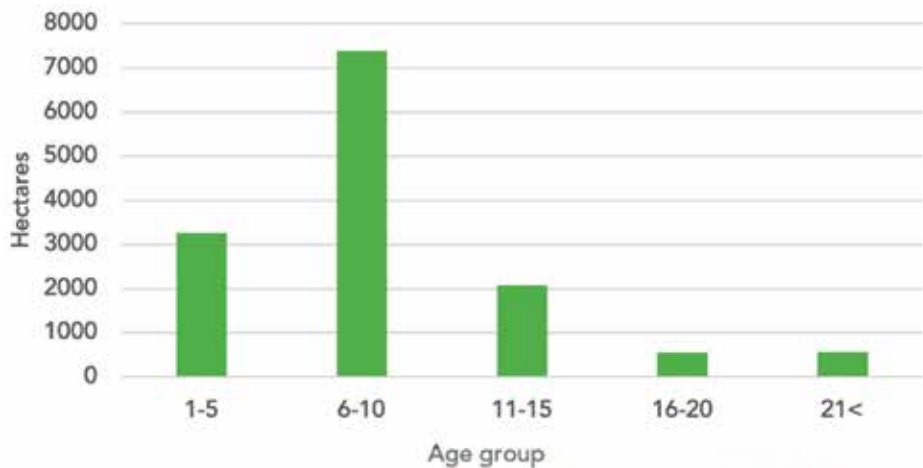


Figure 1: Nadorcott/Tango age distribution

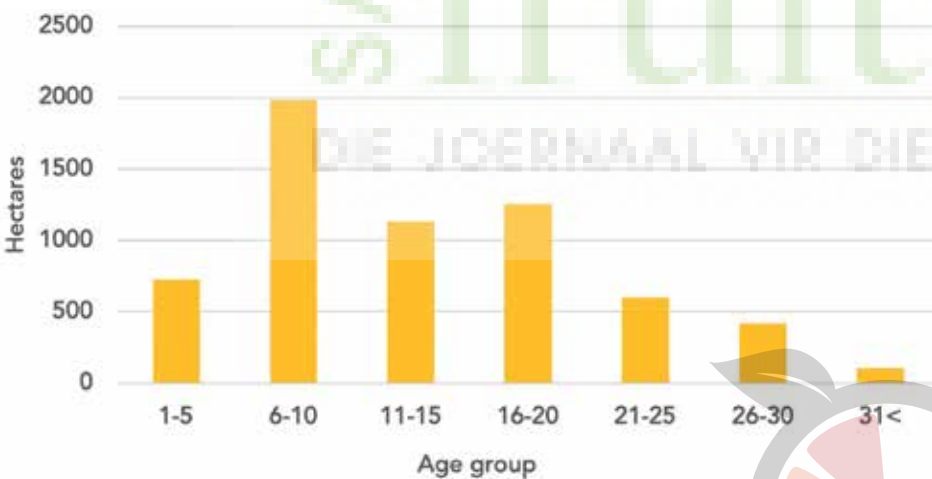


Figure 2: Late Navel age distribution

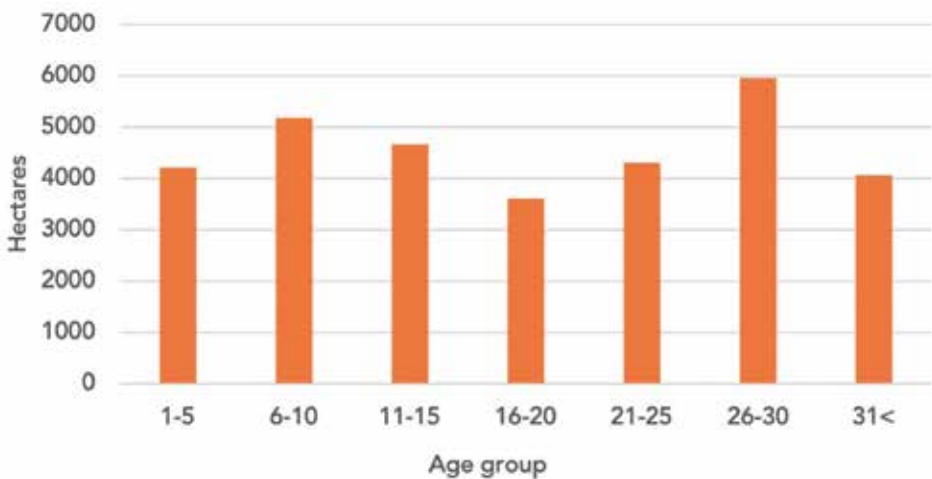


Figure 3: Valencia age distribution



Figure 4: Mandarin size distribution comparison

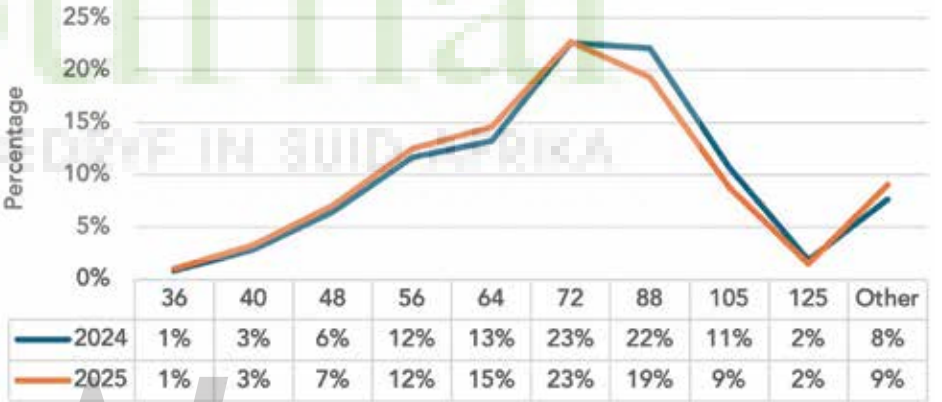


Figure 5: Valencia size distribution comparison



Figure 6: Navel size distribution comparison

showed a 1% shift towards smaller sizes in 2025, but without an oversupply of fruit deemed too small. (Figure 4).

Valencias (Figure 5) and Navels (Figure 6) both showed a shift towards bigger sizes

compared to the 2024 season.

Notable gains in logistics efficiency, particularly at key ports, were achieved through Transnet’s targeted investments in advanced equipment and performance-

Table 2: Oranges, per grade, packed for export

Year	Class 1	Class 2	Process-ing-grade
2023	71%	21%	9%
2024	74%	18%	8%
2025	69%	20%	11%

Table 3: Lemons, per grade, packed for export

Year	Class 1	Class 2	Process-ing-grade
2023	73%	19%	8%
2024	74%	17%	8%
2025	71%	17%	12%

linked employee incentive programmes. These improvements, combined with strong coordination among logistics stakeholders – including shipping lines – contributed to faster turnaround times, reduced congestion, and more reliable export throughput.

The citrus sector continues to provide employment for thousands of individuals in rural and peri-urban areas, while making a significant contribution to SA’s agricultural export earnings. The robust performance in 2025 is expected to enhance foreign-exchange inflows and strengthen the supply chain for related industries. This includes packaging, shipping and logistics. Moreover, improvements in infrastructure and export efficiency are likely to generate multiplier benefits across transport, port operations, and cold-chain sectors.

