



Star-grading of certified nurseries in the South African Citrus Improvement Scheme (CIS)

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The CIS implemented a “star-grading” system to indicate the level at which the different nurseries meet their certification criteria. Star-grading is useful for nurseries to compare themselves against their peers, and is also important for growers to make informed decisions when ordering trees. The development of the star-grading system, as well as a concomitant update of the nursery certification criteria, was recommended by the CIS Advisory Committee (CISAC) in 2019.

Nurseries received the updated audit guidelines and criteria to study, and during the 2-year period thereafter, a self-audit (due to the Covid lockdown) and three physical audits were based on these guidelines. After each audit, feedback was encouraged to improve the audit guidelines, aiming to improve practical feasibility and objective assessment, but most importantly to also add value to the nursery operations.

The star-grading system

Nurseries are audited at least twice a year to obtain CIS certification. Certification is valid for a 6-month period and so will be the star-grading of the nursery.

In the annexure to this Cutting Edge, the nursery audit guidelines and ratings are summarised to state the minimum requirements for a 3-grade for each of the 25 certification criteria. For each criterion, nurseries are audited on a 1- to 5-point scale, and will be scored >3 when exceeding the minimum standard requirement, and <3 when performing poorer than the expected standard. Depending on its relative importance, certain criteria weigh more towards the final score. For example, “Security and Access Control” has a scoring weight of 1, while “Seedling Status”, “Tree Status” and “Root Development Status” each has a weight of 10. These tree quality criteria comprise 34% of the final percentage score, and therefore favour nurseries producing high quality trees.

Star-grading is given according to the nurseries’ performance during audits, and is based on the final percentage score:

- 5-star = 80% +
- 4-star = 70-79%
- 3-star = 60-69%
- 2-star = 50-59%
- 1-star = <50%

The complete audit guideline can be requested from cis@cri.co.za or downloaded on www.citrusres.com

Results from the November/December 2021 audit round

The average nursery score of the 35 audited nurseries was 69.6%, indicating the healthy standard of the certified nurseries. Nine nurseries achieved 5-star grading, six nurseries achieved 4-star and 17 nurseries were graded as 3-star nurseries. Three nurseries received a 1- or 2-star grading. Most nurseries with a 3-star rating have the potential to improve to 4-star status by applying stricter management and focusing on criteria where poor marks were achieved. Nurseries with 1- and 2-star status definitely have the potential to improve, but will have to work very actively towards this goal.

The latest list of CIS certified nurseries, which includes each nursery’s star-grading is appended to this Cutting Edge, and is available for download at www.citrusres.com.

Apart from the star-grading, growers are also advised of the following new listings/changes:

- Komati Fruit Nursery in Malalane was provisionally certified as a NEW nursery, and is also the first nursery that is compliant with the HLB-Safe System for Production of Citrus Trees, which forms part of South Africa’s HLB/ACP Action Plan.
- Mabu Zest Nursery in Bapsfontein is in the process of closing down its citrus tree production and is no longer participating in the CIS.
- Montana Nursery in Nelspruit has withdrawn its participation in the CIS nursery certification scheme, and was not certified.



Stergradering van gesertifiseerde kwekerye in die Suid-Afrikaanse Sitrusverbeteringskema (SVS)

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Die SVS het 'n "stergradering"-stelsel geïmplementeer wat die vlak aandui waarop die verskillende kwekerye aan sy sertifiseringskriteria voldoen. Die stergradering is nuttig vir kwekerye om hulself met hul eweknieë te vergelyk, en belangrik ook vir produsente om ingeligte besluite te neem wanneer hulle bome bestel. Die ontwikkeling van die stergraderingstelsel, sowel as 'n gepaardgaande opdatering van die kwekery-sertifiseringskriteria, is in 2019 deur die SVS Advieskomitee (CISAC) aanbeveel.

Kwekerye het die opdateerde ouditriglyne en -kriteria ontvang om te bestudeer en gedurende die 2-jaar tydperk daarna is 'n self-oudit (weens die Covid-inperking) en drie fisiese oudits op hierdie riglyne gebaseer. Na elke oudit is terugvoer aangemoedig om die ouditriglyne te verbeter, met die doel om praktiese uitvoerbaarheid en objektiewe assessering te verbeter, maar belangrik om ook waarde tot die kwekerybedrywighede toe te voeg.

Die stergraderingstelsel

Kwekerye word minstens twee keer per jaar geoudit om SVS-sertifisering te verkry. Sertifisering is geldig vir 'n tydperk van 6 maande en so ook die stergradering van die kwekery.

In die bylae tot hierdie Snykant word die kwekery ouditriglyne en -graderings opgesom om die minimum vereistes vir 'n 3-ster gradering vir elk van die 25 sertifiseringskriteria aan te dui. Vir elke kriterium word kwekerye op 'n 1- tot 5-punt skaal geoudit, en sal >3 behaal word wanneer daar beter as die minimum standaardvereiste presteer word, en <3 wanneer daar swakker as die verwagte standaard presteer word. Afhangende van die relatiewe belangrikheid daarvan, dra sekere kriteria meer gewig tot die finale punt. Byvoorbeeld, "Sekuriteit en toegangsbeheer" het 'n gewig van 1, terwyl "Saailingstatus", "Boomstatus" en "Wortelontwikkelingstatus" elk 'n gewig van 10 het. Hierdie boomkwaliteit kriteria dra 34% by tot die finale persentasiepunt, en sal dus kwekerye wat hoë kwaliteit bome produseer bevoordeel.

Stergradering word gegee volgens die kwekerye se prestasie tydens oudits, en is gebaseer op die finale persentasiepunt:

- 5-ster = 80% +
- 4-ster = 70-79%
- 3-ster = 60-69%
- 2-ster = 50-59%
- 1-ster = <50%

Die volledige ouditriglyn kan aangevra word by cis@cri.co.za of afgelaai word op www.citrusres.com

Resultate van die November/Desember 2021 ouditronde

Die gemiddelde kwekerytelling van die 35 kwekerye wat geoudit is, staan op 69.6%, wat die gesonde standaard van die gesertifiseerde kwekerye aandui. Nege kwekerye het 5-ster gradering behaal, ses kwekerye as 4-ster en 17 kwekerye is as 3-ster-kwekerye gegeradeer. Drie kwekerye het 'n 1- of 2-ster gradering ontvang. Die meeste kwekerye met 'n 3-ster gradering het die potensiaal om tot 4-ster status te verbeter deur strenger bestuur toe te pas en te fokus op kriteria waar swak punte behaal is. Kwekerye met 1- en 2-ster status het beslis die potensiaal om te verbeter, maar sal baie aktief na hierdie doelwit moet werk.

Die jongste lys van SVS-gesertifiseerde kwekerye, wat elke kwekery se stergradering insluit, is by hierdie Snykant aangeheg, en is ook beskikbaar by www.citrusres.com.

Benewens die stergradering, word produsente ook ingelig oor die volgende nuwe deelnemers/veranderings:

- Komati Fruit Nursery in Malalane is voorlopig gesertifiseer as 'n NUWE kwekery, en is ook die eerste kwekery wat voldoen aan die "HLB-Safe System for Production of Citrus Trees", wat deel vorm van Suid-Afrika se HLB/ACP Aksieplan.
- Mabu Zest Kwekery in Bapsfontein is besig om sy sitrusboomproduksie te sluit en neem nie meer aan die SVS deel nie.
- Montana Kwekery in Nelspruit het sy deelname aan die SVS-kwekersertifiseringskema onttrek, en is nie gesertifiseer nie.

8.1 ANNEXURE: NURSERY CERTIFICATION AUDIT SHEET GUIDELINES AND RATINGS

Rating	Description
Nursery layout and structures	
1.	Location (Score weight = 5)
3	Nursery is located in close vicinity (< 400 m) of managed citrus plantings, and effective vector control is confirmed by insect scouting and monitoring records
2.	Structures (Score weight = 5)
3	All structures are adequate for citrus nursery tree production and are well-maintained but not fully insect-secure
3.	Drainage and storm water control (Score weight = 1)
3	Effective storm water control with ditches and drains installed. Water drains away freely and no pools of water standing for longer than 4 hours.
4.	Raising containers (Score weight = 1)
3	All containers raised at least 10 cm
5.	Security and Access control (Score weight = 1)
3	Property adequately fenced with good access control and movement of people and vehicles from orchards into the nursery controlled and limited
Operations and Quality Management Systems	
6.	QMS-1: Irrigation water source treatment and testing (Score weight = 2)
3	QMS in place, water treatment and testing under good control with documented proof of procedure, testing and treatment
7.	QMS-2: Potting medium handling, treatment and testing (Score weight = 2)
3	QMS in place, potting medium handling, treatment and testing under good control with documented proof of procedure, testing and treatment
8.	QMS-3: Integrated pest and disease management (Score weight = 2)
3	QMS in place with good record keeping, with good control and implementation of IPM principles (most importantly monitoring by scouting and trapping)
9.	QMS-4: Management of irrigation and plant nutrition (Score weight = 2)
3	QMS in place with good record keeping, and control of monitoring and application is good
10.	QMS-5: Inventory management and traceability systems (Score weight = 2)
3	QMS meeting the basic record keeping, inventory management and traceability requirements
Performance criteria	
11.	General nursery appearance (Score weight = 3)
3	The nursery is generally neat and orderly, and with good general weed control
12.	Water pathogen status (Score weight = 5)
3	Water used in the nursery is treated and tests are done quarterly. Water tests pathogen-free, and results show complete sanitation for the past year.
13.	Medium pathogen status (Score weight = 5)
3	Quarterly Phytophthora tests up to date and demonstrate 5-10% positive blocks (average of previous four quarterly tests), and were effectively controlled
14.	Citrus Black Spot (CBS) control (Score weight = 3)
3	Registered black spot control programme recommended by the CIS is in place; and spray application technique is adequate
15.	Citrus Greening disease control (Score weight = 3)
3	Tree propagation is under a preventative insecticide programme; no psylla pock marks must be found on any tree
16.	Citrus bud mite control (Score weight = 3)
3	Mandatory sprays for citrus bud mite were applied in autumn and spring; and spray application technique is adequate
17.	Pest and disease control status (Score weight = 5)
3	Insect pests and other fungal/bacterial diseases are effectively controlled and plants are free from disease symptoms, generally free from living insect pests, and damage is minimal (only mildly economic damage in <5% of trees; <i>i.e.</i> resulting in loss or delays)
18.	Seedling status (all seedling stages prior to budding) (Score weight = 10)
3	Seedlings in blocks are generally 80-90% uniform and conform to expected CIS standards
19.	Tree status (tree stages from budding to delivery) (Score weight = 10)
3	Trees in blocks are generally 80-90% uniform and conform to expected CIS standards

20.	Root development status (inspect at least 10 nursery trees that are ready for delivery) (Score weight = 10)	
	3	Root development of 8 trees meets CIS standards (filled bag profile, no bench root or root rot); substandard trees do not have root rot or bench root
21.	Nursery sanitation (Score weight = 5)	
	3	Measures for (1) people and vehicle sanitation, (2) cutting tool sterilisation, (3) management of propagation of infected material in the nursery, (4) sanitation of irrigation equipment and surfaces where trees stand, and (5) weed control must be effective (no seeding weeds) and in compliance with CIS guidelines
22.	Grower feedback (Score weight = 3)	
	3	Grower feedback is generally positive, with none of the negative complaints validated by the Scheme as seriously problematic
Nursery administration		
23.	Registration with authority (Score weight = 1)	
	3	Nursery registered with the authorities
24.	General (demand estimates, orders, BCIN, sample analysis) (Score weight = 5)	
	3	Nursery participates in budwood demand estimates; timely places orders before the requested deadline (infrequently missed deadline); complies with administrative requirements before placing orders for private cultivars; diligently administrates the BCIN system; and adequately completes sample analysis forms, including block plan information
25.	Sales register and certification (Score weight = 5)	
	3	Application for tree certification within 1 month after delivery of trees, and a tree certification ratio of nursery is >80%; minimal corrections to applications required (<10% of lines)

SOUTH AFRICAN CITRUS IMPROVEMENT SCHEME: CERTIFIED NURSERIES (Jan 2022)



NB!!! Please note that according to the Agricultural Pest Act (Act No. 36 of 1983), movement of propagation material (trees and budwood) of citrus and/or related plants is prohibited from Citrus Black Spot (CBS) and Citrus Greening infected districts to districts free from these diseases.

Nurseries should advise their clients to adhere to these control measures, as they are in place to prevent the spread of CBS and Citrus Greening. The maps and tables illustrating where citrus plants can be moved legally within South Africa were described in Cutting Edge 162 and 170, available on the CRI website: www.cri.co.za. For more information contact the CIS at telephone **041-992 5366** or email cis@cri.co.za

Nursery	Star-Rating	Town	Contact	Telephone	Cell phone	E-mail
CBS PRESENT but GREENING FREE						
EASTERN CAPE						
Apapanzi Kwekery	★★★★	KIRKWOOD	Nellis Meiring Marina Meiring Annelize Baker		082 550 6210 082 575 9060 082 891 8564	nellis@srvalley.co.za cjm@srvalley.co.za apa@srvalley.co.za
Attwell Citrus Nursery	★★★★★	KIRKWOOD	Vaughan Attwell Wayne Attwell	042 230 1560	082 820 7060 072 463 7118	mandy@attwellcitrus.co.za
BF Joubert Kwekery	★★★★	KIRKWOOD	Francois Joubert Karen Barbier	042 230 0309	084 951 1922 084 510 4524	kwekery@joubertsitrus.co.za
Gamtoos Kwekery	★★	PATENSIE	Rikus Du Preez Keuler Engela Lynette Prins	042 283 0506	082 828 2005 072 282 8628 062 008 7547	rikus@rikusld.co.za keuler@rikusld.co.za kwekery@rikusld.co.za
Lafranette Kwekery	★★★★	KIRKWOOD	Francois Nel		082 412 1739	conel@srvalley.co.za
Mistkraal Nursery	★★★★★	KIRKWOOD	Tyna Ferreira		082 789 5150	beans@srvalley.co.za
Moorland Seedlings	★★★★★	JEFFREY'S BAY	Rian Moore Ri-Ellen Kemp	042 286 0605	082 460 3139 083 281 3213	rian@moorland.co.za ri-ellen@moorland.co.za info@moorland.co.za
Paksaam Kwekery	★★★★	PATENSIE	Adri Ferreira Ilse Klopper	042 2838 240	082 923 4412 082 926 8086	adrif@patensiecitrus.co.za ilsek@patensiecitrus.co.za
Sondagsrivier Hillside Kwekery	★★	KIRKWOOD	Willem Truter Elize Truter	042 230 0349	072 827 5950 076 635 4671	willem@srvalley.co.za pakstoor2@srvalley.co.za
Tweeling Kwekery	★★★★	KIRKWOOD	Jan Potgieter Jnr Simon Garikai	042 230 1408	083 449 3112 073 971 0919	jan@srvalley.co.za tweeling@srvalley.co.za
Waterfall Nursery	★★★★	ADELAIDE	Rudy van der Meulen	046 684 0738	082 695 3433	rudyvdmeulen@gmail.com
CBS PRESENT & GREENING PRESENT						
LIMPOPO						
Du Roi Kwekery	★★★★★	LETSITELE	Zylon McGaffin Anne-Helene Meyer Mariska Benn	015 345 1650	076 227 6704 082 398 1287 072 475 5568	zylon@duroi.co.za a.meyer@duroi.co.za mariska@duroi.co.za
Henley Citrus	★★★★	LETSITELE	André Swanepoel La-Rushca Strydom	015 386 0259	084 513 8649 063 292 7109	productionmanager@bigday.co.za larushca@bigday.co.za
Hoedspruit Kwekery	★★★★	HOEDSPRUIT	Lafras Tremper		083 652 2167	tremper@hdsnursery.com cora@hdsnursery.com
Letsitele Kwekery	★★★★	LETSITELE	Barend Vorster Elzanne Engelbrecht	015 345 1600	083 259 5590 074 472 2919	barend@mahela.co.za elzanne@mahela.co.za
Nouvelle la Cotte Kwekery	★★★★	LETSITELE	Riaan Lemmer	015 386 9995	083 253 1586	riaan@nouvellelacotte.co.za
Parma Kwekery	★★★★★	HOEDSPRUIT	Pottie Potgieter Albert Horn	087 806 5643	083 263 8449 079 499 6943	parma@global.co.za
Rietvlei Kwekery	★★★★★	TZANEEN	Lucas McLean	082 573 6986	083 630 3236	rietvlei@global.co.za
MPUMALANGA						
Du Roi Halls Nursery	★★★★★	NELSPRUIT	Arve Grindstad Kobus Eloff Yvonne Vermaak	013 004 0462	071 411 0131 082 858 8775	arve@duroi-halls.co.za kobus@duroi-halls.co.za info@duroi-halls.co.za
Esselen Kwekery	★★★★	MALALANE	Louis Esselen	013 790 0160	078 803 7010	esselenkwekery@gmail.com
*Komati Fruit Nurseries	★★★★★	MALALANE	Milanie van der Merwe Katie Luies	013 790 3004	082 418 7693 082 462 4125	milanie@riversidefarm.co.za katie@komatigroup.co.za
Ngwenya Kwekery	★★★★	MALALANE	Milanie van der Merwe Katie Luies	013 790 3004	082 418 7693 082 462 4125	milanie@riversidefarm.co.za katie@komatigroup.co.za
NORTH WEST						
Casmar Kwekery	★	MOOINOI	Neville Wenhold		082 881 4189	casmarnursery@absamail.co.za
*Heuers Wholesale Nursery	★★★★	BRITS	David Seewald	012 253 2097	082 887 4269	david@heuers.co.za
Witkrans Kwekery	★★★★★	BOSHOEK	Linda Grobler Abrie Grobler Christiaan Grobler	014 573 3036	082 414 4739 082 458 9026 064 617 7336	witkrans1@mweb.co.za

SOUTH AFRICAN CITRUS IMPROVEMENT SCHEME: CERTIFIED NURSERIES (Jan 2022)



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Nursery	Star-Rating	Town	Contact	Telephone	Cell phone	E-mail
CBS FREE & GREENING FREE						
NORTHERN CAPE						
Oranjerivier Sitrus Kwekery	★★★★	KAKAMAS	Blom Rossouw	083 306 0622	083 306 0622	oskwekery@gmail.com
WESTERN CAPE						
Augsburg Kwekery	★★★★	CLANWILLIAM	Alta Laing Roy Laing	022 125 0174	079 527 0316 082 952 8127	admin@augzburgnursery.co.za roy.laing@icloud.com
Cape Grow	★★★★	KRAAIFONTEIN	Eugene Neppen Niel Viljoen		084 416 0184 084 400 8400	eugene@cgrow.co.za info@exoticplants.co.za
Cederberg Tree Nursery	★★★★★	CITRUSDAL	Patricia Willemse Annemari van der Merwe	022 921 3526	076 622 7007 072 564 9942	trish@cederbergreenursery.co.za annemari@ctnursery.co.za
H J Joubert Kwekery	★★★★	MONTAGU	Bennie Joubert		082 567 0433	hopewell@breede.co.za
Groot Patrysvlei Kwekery	★★★★	CLANWILLIAM	EP van Niekerk	027 482 2619	082 456 0135	epvn@capspanfarms.co.za
Parma Kwekery (Lutzville)	★★★★★	LUTZVILLE	Boetie en Analéne Mouton		082 896 5066 083 234 2372	parma@namaquanet.co.za
Stargrow Kwekery	★★★★★	CITRUSDAL	Michiel Prins Andries van der Westhuizen Gert Visser	021 880 1882 021 880 1882 022 921 2232	082 565 6951 082 873 3336 082 563 0795	michiel@stargrow.co.za andries@stargrow.co.za gert@stargrow.co.za
Tulbagh Kwekery	★★★★	TULBAGH	Bredell Roux	023 230 0694	082 214 2520	admin@tulbaghnursery.co.za
ZIMBABWE						
*Dodhill Nursery	★★★★★	CHEGUTU	Pete Breitenstein Gary Breitenstein		+263 77 222 1046 +263 77 642 3522	dodhill@iwayafrica.co.zw gary@dodhill.com

* Provisionally certified NEW nursery