



IN THIS ISSUE

- Plant improvement tops SAPO's 2021 agenda
- Plant improvement – a practical overview
- Trends on the supply of graft material to nurseries in 2020
- Handling plant material complaints
Riviersonderend nursery
- Phytosanitary tests for SAPO Foundation and Mother Blocks in 2020
- The 2021 Bigbucks season is upon us

FRUIT FLASH

PLANT IMPROVEMENT TOPS SAPO'S 2021 AGENDA

Following robust strategic discussions in the preceding year, the importance of plant improvement (PI) to the competitiveness of the deciduous fruit industries was reaffirmed. The focus – to enable the producer to have access to plant material that is virus-free, certified, and of a sound phytosanitary status. Phytosanitary compliance is governed by the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures and it all starts in the orchard – the activity points where SAPO employees rigorously apply their trade to safeguard producers, nurseries and the South African (SA) deciduous fruit industry to mitigate risks on a continuous basis.

This month's newsletter focusses mainly on the scope of PI and the intricacies thereof. In the SA context, PI practices are regulated under the Plant Improvement Act 53 of 1976. Practices applied are aimed at ensuring safe and healthy plant material. It is for this reason that SAPO strives towards continuously elevating its composition of certified material in line with the guidelines provided by the Deciduous Fruit Plant Certification Scheme under the custodianship of Plant SA. Ultimately, the only means of attesting that phytosanitary compliance imperatives are met is through the application of a

recognised system with set rules and parameters. More about this later in this particular newsletter.

Met die COVID-19 pandemie steeds in ons midde en met die effek van die droogtetoestande die afgelope paar jaar, blyk die 2021 seisoen na alle waarskynlikheid weer 'n uitdagende fase te wees. In hierdie verband is dit onafwendbaar dat beperkte hulpbronne tot beskikking optimaal benut word. Die keuse van wetenskaplik getoetste kultivars in aanvraag, die gebruik van hoë kwaliteit gesertifiseerde plantmateriaal, en die optimalisering van bestaande dienste in die industrie vorm deel van 'n reeks faktore wat van waarde kan wees in die uitdagende periode in die vooruitsig. SAPO, as 'n bedryf instansie met 'n besondere dienslewingskultuur is verbind tot hierdie faktore en nooi u, ons gewaardeerde kliënt, om in verbinding te tree met die SAPO Bestuur vir verdere ondersteuning en waardetoevoeging tot u besigheidsdoelwitte.

May 2021 bring you heaps of promise, prosperity, and unwavering success as our vibrant agriculture sector continues to contribute towards shaping South Africa's economic prosperity and all of its derivatives.

Groetnis,

Shawn Coetzee
Chief Executive Officer



PLANT IMPROVEMENT – A PRACTICAL OVERVIEW

Studies have shown that many stakeholders are not well informed about the manner in which plant improvement is implemented and governed. Our aim is to provide a broad overview of the plant improvement regulatory landscape in South Africa with the hope that this will aid readers in understanding the structure of the industry, and the duties and responsibilities of the various role players in the value chain.

Over 10 000 years ago a conscious effort of selection on wheat was the first major human step in plant improvement and marked the beginning of agriculture. This first step in plant improvement has gradually resulted in the many cultivars and varieties available today.

In addition to plant breeding, plant improvement covers a broad range of activities, including trade control and other related matters such as certification, variety registration, cleaning, packaging, and quality testing of plant propagating material. All these activities are currently governed by the South African Plant Improvement Act 53 of 1976.

RULES OF ENGAGEMENT

The Plant Improvement Act (PIA) provides for regulation of certain kinds of plants of economic importance/significance by means of certain provisions and standards as per the preamble of the Act. PIA provides for the registration of plant material facilities, prescribes minimum standards for premises and minimum quality standards for plants and propagating material. Additionally, the Act also provides for the establishment of the national certification schemes which prescribe the standards for various plant kinds.

Plant material presented for certification must comply with all the requirements in order to be certified and it is the duty of all role players to ensure that plant material is compliant with these standards. The reason for the regulation of plant material as detailed by the PIA and associated certification schemes is to ensure sustainable, high quality agricultural production in South Africa for food security.

In addition the PIA, other legislative instruments that govern plant improvement in South Africa include: Plant Breeders Rights Act, 1976 (Act no 15 of 1976); Genetically Modified Organisms Act, 1997 (Act no 15 of 1997); and Agricultural Pests Act, 1983 (Act no 36 of 1983).

ROLE PLAYERS

The South African Department of Agriculture, Land Reform and Rural Development (DALRRD), previously known as the Department of Agriculture, identified the importance of physical and genetic status of plant material around 1954. In order to regulate the status of plant material, The South African Plant Improvement Association was established in 1964 to pay attention to aspects of plant material for the wine and deciduous fruit industries.

From a practical standpoint, the functioning of the Plant Certification Scheme falls under the governmental directorates of:

- Plant Production
- Plant Health
- Inspection Services
- Genetic Resources

The department proceeded to promulgate the various Plant Certification Schemes from 1990 to 1993 to manage plant improvement through designated authorities. These authorities manifest in the form of the various Plant Improvement Associations (PIAs) and are responsible for carrying out the duties as set out in the Plant Certification Schemes.

There are certain roles, duties and functions, with regard to the certification schemes, that are delegated to the Associations, via the Minister, by virtue of the Act. The Deciduous Fruit Plant Improvement Association (DPA) and the Vine Improvement Association (VIA) have been appointed by the Minister as Designated Authorities for the Deciduous Fruit Plant Certification Scheme and the Certification Scheme for Vitis, respectively. The roles of the Associations are to operate and manage the day-to-day activities of the certification schemes for deciduous fruit and grapevines respectively.

According to the Schemes, only registered Plant Improvement Organisations (PIOs) can apply to register clones of official varieties and issue certified plant material. Furthermore, only nurseries registered in terms of the Schemes can propagate certified trees or vines.

It is important to note that compliance with the Plant Certification Schemes is voluntary and all plants and plant material not governed by the various Plant Certification Schemes are under the supervision and authority of the Department (DALRRD) only.

The main vision is to have all plant material handled in accordance with the requirements of the Schemes, however, unfortunately sometimes plant material is fast-tracked outside of the Schemes' requirements and only introduced into the Schemes over time.

PlantSA was registered in 2004 by the DPA and VIA Boards and the PlantSA Board of Directors, and represents the two associations. *PlantSA has the role of performing the day-to-day duties, activities and functions of the Schemes, ensuring that plant material complies with the Certification Scheme requirements, and also oversees the correct labelling of certified plant material.*

In 1974, industry stakeholders established The South African Plant Improvement Organisation (SAPO) Trust, whose aim was to provide improved plant material to the industry. Since then other private PIOs have sprung up. The PIOs contribute to plant improvement through the selection and evaluation of new and improved clones of varieties from foreign and local breeding programmes.

It is up to each PIO to ensure that the plant material is handled in compliance with the standards set out by the Schemes and therefore in compliance with the PIA. In short, each PIO bears the responsibility of evaluation, maintenance, development, improvement, and multiplication of propagation material. Certified plant material is generated by the multiplication of propagation material from Nucleus through Foundation to Mother Blocks. This is referred to as the classic route of plant propagation.

It is the responsibility of each PIO to manage and inspect their own material, however all processes are audited by Plant SA before any propagation material can be certified.

This certified propagation material is then provided to nurseries, registered in terms of the PIA for tree and vine production.

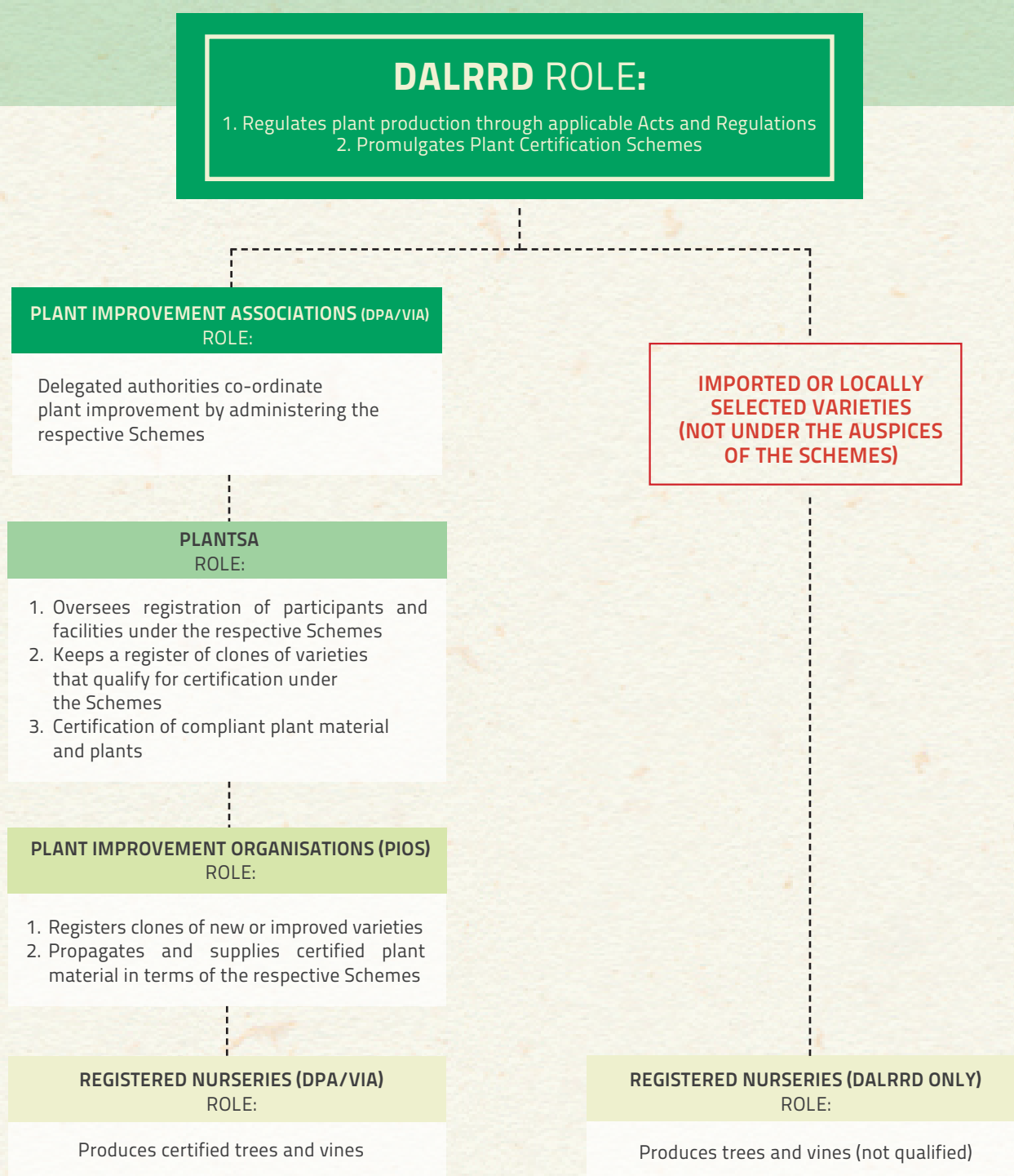
Nurseries need to apply to the DPA or VIA in order to be registered to produce certified nursery plants. Each registered nursery supplies PlantSA with a nursery report that is checked against the declared issuances of scion and rootstock plant material from the PIOs to the nurseries. The graft combinations propagated from certified plant material undergo three different inspections performed by independent PlantSA inspectors. Compliant nursery plants are certified and marked with the applicable certification labels.

As previously mentioned, compliance with the Plant Certification Schemes is voluntary but the use of uncertified plant material can

be detrimental to growers.

As previously mentioned, *compliance with the Plant Certification Schemes is voluntary but the use of uncertified plant material can be detrimental to growers.* A previous SAPO Trust study has found that a fruit grower could lose up to R3 million/ha over 25 years by using uncertified material. (www.farmersweekly.co.za/crops/fruit-nuts/benefits-certified-plant-material/) and that the negative effect of viruses on fruit size and yield can result in a 30% to 80% reduction in market prices depending on fruit type and target market.

While Government has the primary oversight and responsibility to ensure plant improvement is regulated, it is ultimately the responsibility of all role players to ensure that the regulation is adhered to so that individual growers, agricultural bodies and the entire agricultural sector at large benefit from a robust agricultural industry built on high-quality crops and sound systems.



HANDLING PLANT MATERIAL COMPLAINTS

COMPLAINTS ABOUT PLANT MATERIAL FROM FOUNDATION OR MOTHER BLOCKS

Complaints regarding plant material supplied by a Plant Improvement Organisation (PIO) to a nursery must be addressed to the PIO concerned within 5 (five) working days after the plant material was received or the issue became known. The complaint must be followed up and, if possible, resolved within 14 days by the PIO concerned.

COMPLAINTS ABOUT NURSERY TREES

Complaints regarding nursery trees/vines supplied to a producer by a nursery must be addressed to the nurseryman within 5 (five) working days after the nursery trees/vines were received or the issue became known. The complaint must be followed up and, if possible, resolved within 14 days by the nursery concerned.

COMPLAINTS REFERRED TO THE DPA/VIA

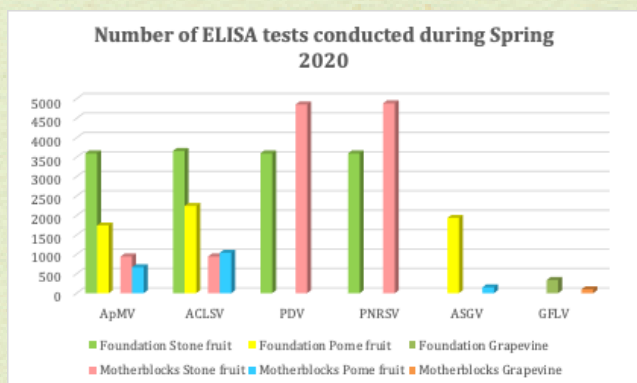
Should a complaint not be resolved satisfactorily within 14 days, the complainant must submit a written complaint to the Chairman of the Deciduous Fruit Plant Improvement Association (DPA) or Vine Improvement Association (VIA).

This information was extracted from DPA/VIA Complaints Procedures. Procedures as well as complaint forms can be found on the PlantSA website: www.plantsa.co.za.

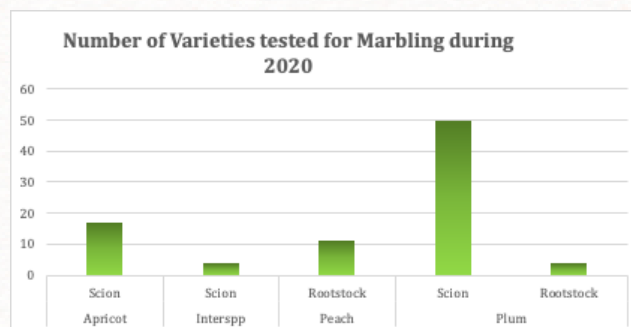
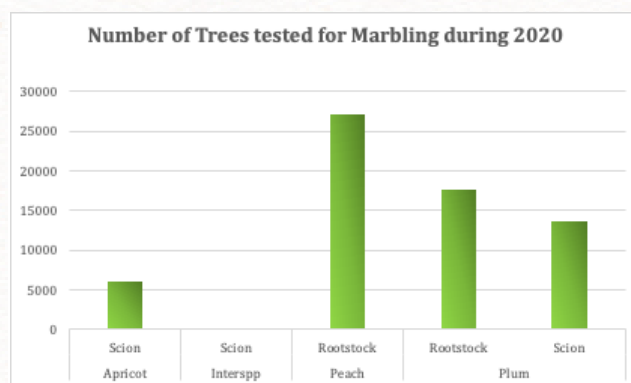
PHYTOSANITARY TESTS FOR SAPO FOUNDATION AND MOTHER BLOCKS IN 2020

Foundation and Mother Blocks were tested for Prune Dwarf Virus (PDV), Prunus Necrotic Ringspot Virus (PNRSV), Apple Chlorotic Leafspot Virus (ACLSV), Apple Mosaic Virus (ApMV), Apple Stem Grooving Virus (ASGV) and Grapevine Fanleaf Virus (GFLV) as prescribed by the Plant Certification Scheme.

The number of tests per fruit group in foundation and Mother Blocks are represented in the chart below.



The number of trees and number of varieties included in these tests, are indicated in the charts below.



SAPO collected 1 814 samples for plum marbling tests randomly from 280 blocks, representing in total 58 500 foundation and Mother Blocks trees, which included scion and rootstock blocks.

TRENDS ON THE SUPPLY OF GRAFT MATERIAL TO NURSERIES IN 2020

The total demand for Pome Fruit budwood (Table 1) by nurseries for the autumn and winter 2020 seasons declined by 12%. Apple varieties still in high demand included Big Bucks, Early Red One,

Fuji Royal, Granny Smith, Mahana Red and Royal Beaut. Pear varieties in demand were Cape Rose, Early Bon Chretien, Forelle, Packham's Triumph and Rosemarie Select (Roselyn).

TABLE 1: TOTAL POME FRUIT BUDWOOD SUPPLIED TO NURSERIES: 2015 – 2020

POME FRUIT	2015	2016	2017	2018	2019	2020	Year on Year
Apples	884 694	1 184 185	1 923 981	2 367 024	2 104 576	1 922 904	↓ -9
Pears	628 786	955 038	1 153 422	1 074 561	1 019 858	825 874	↓ -19
TOTAL	1 513 480	2 139 223	3 077 403	3 441 585	3 124 434	2 748 778	↓ -12
% In- Or Decrease	↑ 27	↑ 41	↑ 44	↑ 12	↓ -9	↓ -12	
% Supplied	100	100	100	100	100	100	

The total demand for Stone Fruit budwood (Table 2) for the autumn, winter and summer 2020 seasons was almost the same compared to the demand in the 2019 budding seasons. The demand for budwood for most fruit types was lower compared to the 2019 seasons, except for nectarines and plum plant material. The increase for nectarine

plant material was due to the higher demand for varieties like Alpine, Primrose, Sunburst and Sunect21. Plum varieties high in demand were ARC PR-2 (African Delight), Fortune, Laetitia, Pioneer (as pollinator), Ruby Star, Ruby Sun, Songold, Southern Belle, Suplum 41 and Suplum 6 (Angeleno).

TABLE 2: TOTAL STONE FRUIT BUDWOOD SUPPLIED TO NURSERIES: 2013 – 2020

STONE FRUIT	2013	2014	2015	2016	2017	2018	2019	2020	Year on Year
Almonds	29 900	17 027	25 959	87 844	356 267	376 760	194 404	121 450	↓ -38
Apricots	93 970	55 376	159 026	266 506	174 961	218 481	202 511	90 750	↓ -55
Nectarines	100 670	73 276	86 975	131 430	142 550	197 897	95 074	148 243	↑ 56
Peaches	623 677	735 748	895 982	661 691	274 296	362 014	343 810	177 029	↓ -49
Plumcots	41 510	121 896	219 095	95 666	75 725	36 434	6 313	27 398	↑ 334
Plums	947 676	1 328 865	1 171 264	2 020 971	1 449 672	1 257 880	834 007	1 061 817	↑ 27
Prunes	18 046	19 950	27 671	39 405	34 664	22 180	34 325	10 796	↓ -69
Cherries	7 327	3 403	37 463	45 598	89 279	28 594	56 153	110 503	↑ 97
TOTAL	1 862 776	2 355 541	2 623 435	3 349 111	2 597 414	2 500 240	1 766 597	1 747 986	↓ -1
% In- Or Decrease	↓ -2	↑ 26	↑ 11	↑ 28	↓ -22	↓ -4	↓ -29	↓ -1	

The total demand for Table- and Raisin grapes grafting material in 2020 was 4% lower compared to 2019. This lower demand was mainly due to the lower demand for black seedless and raisin varieties. Despite the lower demand for raisin material, the supply

and demand for Selma Pete, Merbein Seedless and Sugrathirrhynine plant material was still high. The demand for the Sun World white seedless variety, Sugrathirtyfive, increased dramatically in the past seasons.

TABLE 3: SUPPLY OF TABLE- AND RAISIN GRAPE GRAFTS TO NURSERIES: 2014 – 2020

CULTIVAR GROUP	2014	2015	2016	2017	2018	2019	2020	Year on Year
White Seeded	-	-	-	-	-	-	1 630	
White Seedless	1 066 600	1 268 240	1 076 005	948 505	369 180	246 000	369 668	↑ 50%
Black Seeded	900	1 400	1 400	28 825	2 700	800	521	↓ -35%
Black Seedless	566 062	605 670	518 950	418 010	1 019 030	338 800	277 754	↓ -18%
Red Seeded	24 562	76 700	7 825	86 000	189 000	84 500	24 687	↓ -71%
Red Seedless	3 111 333	2 019 610	1 819 599	891 124	470 392	238 900	280 533	↑ 17%
Raisins	1 938 478	1 905 500	3 731 427	4 489 855	5 423 504	8 281 170	6 028 283	↓ -27%
Sun World	513 200	1 564 599	1 748 289	1 928 045	1 977 282	602 365	2 400 056	↑ 298%
Culdevco	44 883	451 024	634 928	395 839	195 810	53 500	42 126	↓ -21%
Colors	851 394	44 222	336 545	28 925	13 647	-	-	0%
USDA	2 488	-	5 980	22 917	30 614	46 900	42 827	↓ -9%
Other	-	222	360	6 580	20 307	10 346	8 130	↓ -21%
Scion cuttings	-	-	-	-	160 000	-	-	0%
TOTAL	8 119 900	7 937 187	9 881 308	9 244 625	9 871 466	9 903 281	9 476 215	↓ -4%
In- Or Decrease	↑ 6%	↓ -2%	↑ 24%	↓ -6%	↑ 7%	0%	↓ -4%	
% Supplied	100	100	100	100	100	100	100	

THE 2021 BIGBUCKS SEASON IS UPON US

At SAPO, we are very excited about the 2021 Bigbucks season! Free State farmers have already started harvesting in week 3 and the colour of the fruit is looking spectacular. We are holding our breaths for the Western Cape's picking season which starts in week 5, more or less, and we're confident in the team that is hard at work to make this variety a success.

Together with a good quality manual and a technical team assisting the management of Bigbucks, we are truly grateful for the experience and outcomes thus far. Please do not hesitate to contact us for any Bigbucks related questions.

Email Tinneke van Zyl at tinneke@saplant.co.za.

