The role of quality infrastructure in supporting market access and knowledge transfer in South Africa’s essential and vegetable oils industry

INSIGHTS FROM A TRILOGY OF WEBINARS
The South African Essential Oil Producers’ Association (SAEOPA) hosted a 3-part series of webinars (31 August to 2 September 2021), crafted to showcase the role of the South African technical quality infrastructure institutions in supporting the essential and vegetable oils industry in South Africa to gain market access locally, regionally and internationally (session 1). The experiences of established enterprises in this market segment were shared generously in session 2. Finally, session 3 disclosed some of the challenges and gave advice on how to overcome various challenges.

Although webinars are predominantly broadcast live, this series adopted a blended approach, which entailed both live and pre-recorded presentations. The approach allowed for repeatability to reach a wider audience, content control, better time management and flexibility in the delivery of the key messages.

The target audience for this series of webinars consisted of essential and vegetable industry role players, including several producers, processors, buyers, exporters, policy makers, regulators and the industry’s various stakeholders. It encompassed both wild harvest and cultivation players.

Introduction

The role of standards, conformity assessment, accreditation and metrology in facilitating trade is a difficult story to tell.
The trilogy of webinars was virtually attended by a total of 63 participants who tuned in to view the various discussions. Live polling showed that for 80% of participants, more than 50% of the information was new knowledge, and 89% indicated they would like to learn more about the topic. Of all participants, 90% rated the webinars as either a "good" or "excellent" experience.
The different roles of the main quality infrastructure entities (NMISA, NRCS, SABS and SANAS) and how they function to facilitate trade by providing standards, conformity assessment, accreditation, metrology and market surveillance services, are important for essential and vegetable oil producers and stakeholders to understand.

The production of essential oils requires a scientific approach, extensive research and proper planning to be successful – so do your homework thoroughly before making large investments.

Conduct in-depth market research on the species contemplated for cultivation and/or processing. Consult, liaise and collaborate with SAEOPA, experts in their respective fields, and established producers. Learnerships or apprenticeships with established producers may be considered. Networking with other producers and role players will be beneficial.

Have the soil analysed and tested regularly to know what should be done to improve and maintain the quality of the soil.

It is of crucial importance to ensure that the correct chemotypes are obtained prior to planting and that they conform with market demand and clients’ requirements. Start with trial blocks to ensure the correct chemotypes have been purchased and that the planned species are suitable for and compatible with the farm’s soil and climate.

Quality assurance should be introduced from the very beginning of the value chain and applied throughout until the product is sold and transported. Quality checkpoints and concomitant record-keeping should be introduced and maintained.

Wild harvesting: take pro-active steps to conserve the natural supply, such as teaching wild harvesters about the importance and methodology of conserving the natural supply to ensure sustainable supply for the future.

Plan for challenges that may occur as a result of seasonal fluctuations.

Good record-keeping across all elements of the operation facilitates traceability.

Ensure that the processed oil conforms to all applicable standards, and have the evidence to prove it.

The client’s expectations and requirements reign supreme – notably in respect of quality, specifications and price.

Organically certified oil commands premium prices, but it involves extra effort and cost.

Consistency of supply is crucial – customers can be lost very quickly if orders are not filled according to agreement.

Have your oil batches tested separately by SANAS-accredited laboratories.

In addition to the necessary paperwork such as certificates of analysis, add value by providing information such as the story behind the oil, the venture’s social responsibility, and environment conservation.

Accept that the essential and vegetable oils industry does not entail short-term projects, nor is it for the faint-hearted. Perseverance, quality production and innovation lead to success.

The global demand for essential and vegetable oils is expected to continue increasing for many years to come. Local producers offer some of the highest-quality oils in the world.
Insights from the Panelists

SESSION 1
Demystifying the role of South African quality infrastructure to facilitate trade

Dr Sadhvir Bissoon
Executive: Standards Development, South African Bureau of Standards (SABS)

• “The importance of local and international market requirements with regard to standards, cannot be over emphasised. The producer should undertake research to ascertain which product and/or process standards the target country has adopted for the products the producer intends to export. Farmers should furnish potential buyers with evidence of their process methodology being aligned with internationally recognised process standards such as ISO 9001, Hazard Analysis Critical Control Points (HACCP), Food Safety Management Certification (FSSC), etc. The potential buyer’s requirements should dictate the producer’s methodology when entering the international trade arena.”

• “Standards play a critical role in facilitating trade, because they define specific minimum requirements, providing confidence that the specified product or service is trustworthy.”

• “Farmers need to understand and comply with the applicable standards, not only regarding domestic production, but also with regard to exports. When compliant with the relevant standard, certificates to that end could be issued, which would facilitate the transport of goods across borders.”

• “Farmers should likewise be conversant and comply with regulatory standards which, unlike voluntary compliance with standards, are mandatory. Should the regulator identify a market failure of a given product or service, it would investigate it, paying particular attention to citizens’ health, safety and protection of the environment, and formulate a recourse to address such failure in consultation with stakeholders. Compliance with the relevant standard might be recommended by the regulator as one such remedy.”

Mr Ndwakhulu Mukhufhi
CEO: National Metrology Institute of South Africa (NMISA)

• “NMISA’s responsibility is in developing, keeping and maintaining national measurement standards related to time, length, mass, volume, etc. It liaises with international and regional metrology bodies to ensure the said standards are comparable.”

• “A well-resourced quality infrastructure is very important in respect of a country’s economy, because consistent quality is one of the pillars on which a successful economy should be built.”

Mr Mpho Phaloane
Executive: Accreditation, South African National Accreditation System (SANAS)

• “Accreditation facilitates trade as products accompanied by accredited conformity assessment results, would usually be acceptable anywhere in the world. In other words, ‘tested, inspected, certified once, accepted anywhere.’”

• “Farmers should consider their production volumes and the regulatory environment of their products when considering developing their own laboratories or utilising existing ones. Accreditation and certification are based on, and intertwined with, standards. In addition, the producer has to comply also with any specific quality requirements its buyers might have.”

• “The role of SANAS is to ensure that the country has an authoritative, non-profit body that can accredit conformity assessment bodies such as laboratories, inspection bodies, certification bodies, verification and validation bodies.”

• “With regard to the difference between accreditation and certification, SANAS accredits certification bodies. Once SANAS has accredited the certification body, the latter could, in turn, provide certification services to clients in terms of the applicable standards.”

Trevor Tshepo Modiba
Acting General Manager: Legal Metrology, National Regulator for Compulsory Specification (NRCS)

• “The NRCS plays an enabling role in the economy in respect of trade, health, safety and the environment. As such it plays an important role in many South African industries in that regulated products (locally manufactured or imported products) must comply with prescribed requirements. The prescribed requirements may include pre-market approval requirements. The pre-market approval requirements may require that local companies that import and/or export regulated products to have an NRCS-issued letter of authority (LOA). The NRCS enjoys the confidence of consumers due to its pre-market approval systems and market surveillance.”

• “The regulator’s role in addressing non-conformance in the industry is very important, in that non-compliant products are removed from the market. If a non-compliant product is identified or found in the market, the regulator will sanction it and remove it from the market. Some of the products are destructed by the regulator avoiding returning of the product into the market.”

• “If a product is not compliant, a sanction process will be initiated to have the product withdrawn from the market. Alternatively, and if warranted, a legal process of prosecution may be followed.”

• “The regulator uses SANS to develop mandatory requirements known as compulsory specification or technical regulation. The development of this compulsory specification is prescribed and it is a consultative process.”
In respect of agricultural products, such as edible oils, the quantity is regulated in terms of the Legal Metrology Act. The Act is applicable to both imported and exported products. The regulation of a product in the Act may be in terms of a quantity mark scheme (e-mark) in which you may be required to register with the regulator to mark your products with the e-mark. The quantity mark, ‘e mark’, may be printed on the product label if the product meets the quantity mark scheme requirements and the manufacture or importer is registered with the regulator.

The labelling requirements related to legal metrology are prescribed in SANS 289 Labelling requirements for prepackaged products (prepackages) and general requirements for the sale of goods subject to legal metrology control, including but not limited to, the name of the product and the producer, declaration of quantities, and origin (address). Whereas the net contents of the products are tested in line with methods and permissible allowances prescribed in SANS 458 (tolerances permitted for the accuracy of measurements of products, including prepackaged products. In terms of legal metrology legislation), it is important to note that SANS 458 is concerned with measurement of net quantity, and not the ingredients (composition of the product).

My goal at the start was to conserve indigenous fruit tree species while assisting farmers making a living from the forest by developing jams, food, powders and oil over the years. The latter were limited to marula and baobab at first. My products are mostly wild-harvested indigenous species, and we hope to expand the number of harvesters.”

While the products are familiar among Zimbabwean customers, one challenge is in respect of international clients who often pose questions about and stipulate requirements for the products. International customers are not inclined to engage with local communities that are not formally organised or do not have the expected expertise and knowledge, and prefer to do business with commercialised enterprises only. My background as a biochemist has been invaluable to answer most of these questions.”

In-house standards were developed through research and first-hand experience. Seeds are inspected when purchased from the farmers, and any seeds that do not comply with the stated quality requirements, are rejected. The seeds are then visually checked in a laboratory for moisture, mould, freshness, contamination, etc., and graded according to quality. Compliance with requirements for, for instance, organic, FairWild, Union for Ethical Biotrade, etc. are then verified, as applicable.”

Farmers appreciate the income they can generate when not occupied with harvesting their own crops, and often do wild harvesting when their own harvests have been gathered, as a supplemental income.”

It is of critical importance to select the correct genetic material - it might look like the correct species even though it is not! Another important aspect is collaboration and networking, be it with other farmers or SAEOPA. Gobo Gobo regularly liaises with experts and other producers to, for instance, verify that it uses the correct plant material. It would be costly indeed to only find out during distillation that you have been cultivating the wrong species.”
"Qobo Qobo is a project of the Siyakholwa Development Foundation, a community development programme. The area of Keiskammahoek has abundant water, rich soil, and high unemployment figures. Having been exposed to essential oils 12 years previously, we decided to commence with cultivating rose geranium. Most of our lessons were learnt through trial and error, but after testing it turns out that ours was one of the highest-quality oils in the country. We subsequently did trials with Cape chamomile, thyme, rosemary and lavender, and have diversified into the wild harvesting of Tagetes (khaki bush) too. We aim to facilitate the entrance of emerging farmers, and the hub’s own production is currently augmented by those of its 10 participating farmers."

"One of the constraints experienced was accessing relevant information, as not all farmers are willing to share information such as Qobo Qobo, being an incubator, does to empower others. Examples are knowing that rosemary should be harvested when it begins to blossom, that soil tests are important or that some species should be harvested when they have reached a certain height, etc. One has to accept that essential oils require a scientific approach and considerable research to make a success of it."

"While different clients have different requirements, it is important to be able to produce a certificate of origin, a certificate of analysis, and to tell the story of the producers and their products. Qobo Qobo has built up a portfolio of certificates that might be requested by buyers in order to speedily meet their requirements."

Mr Obed Nelovholwe
Owner: Obeds Essential Oils, Gauteng

"I subscribe to the agronomists’ view that the selection of the seeds should be based on factors such as the compatibility of the plant with the environment and the soil – some plants require acidic soils, while others prefer higher alkalinity, some have tap roots, and others prefer full sun. I always advise farmers to test the compatibility of the species they are interested in with the climate and environment, and to have their soil tested before taking a decision on the species to plant."

"For marula, the biggest trees with the best yield are found in the northern parts of the country, notably the Limpopo Province. Size is not all, however. The quality of marula oil varies from region to region, with the best quality being obtained from areas where the trees are endemic. The same principle applies to Kalahari melon, which proliferates in the western parts of South Africa that borders the Kalahari Desert, and which sprouts naturally in fallow lands. Farmers of crops like groundnuts and sunflower consider the Kalahari melon a weed, but Kalahari melon that naturally occurs in those areas actually produces a good quality oil and 15-23% higher yields! The oil matures in the seeds after having been extracted from the fruit, and can be kept for up to a year, resulting in an even higher yield when pressed."

"We investigated whether the most and best Tagetes oil occurs in the flowers or the leaves, and found that most of the oil was actually derived from the flower. We also found that the quality of the oil was lower when harvesting in early March when it starts to flower. The amount of ocimene was relatively low at the beginning of pressing, but increased toward the middle of the pressing, thereby setting a standard that we have adopted."
SESSION 3
Growing the essential and vegetable oils industry: challenges and advice

Ms Nicola Laubscher
CEO: Eucaforest, Mpumalanga and Western Cape

• “The most important advice for new entrants is to do extensive research before investing any funds. Demand and usage often fluctuate, and emerging farmers should pay due cognisance to the time period from planting to first harvest. The industry is relatively close-knit, with many producers reluctant to share information on lessons learnt, best practices and pitfalls to be avoided. It would be ideal if all role players could work together and be willing to help each other.”

• “The biggest challenge facing the industry relates to climatological conditions, such as inadequate rainfall and droughts.”

• “South African essential and vegetable oils have a high export potential, inter alia due to the quality of its oil being better than many other countries’, the diverse flora that is available, and local producers being quite competitive. Tea tree oil seems to have the highest potential in respect of exports at present.”

• “The client’s expectations are paramount, notably in respect of quality, specifications and price. Close attention is given to the specifications furnished by the client.”

• “Buyers sometimes enquire about certification and whether processes regarding food safety testing are in place. Typical export documentation required includes the waybill, technical data sheet, certificate of analysis, certificate of origin, organic certification (if applicable), and any other documentation that might be required by the relevant importing country. With regard to bottling and labelling requirements, it includes the purchase order number, batch number, manufacturing details, REACH registration (if applicable), and organic certification details.”

Mr Grant McMurray
Owner: SOiL, KwaZulu-Natal

• “One should not labour under the misapprehension that ‘lavender is lavender, and a geranium is a geranium’. One should speak directly with suppliers of genetic material to ensure that they would supply the correct chemotypes, and they furthermore have to be able to provide evidence to it having the desired genetics. Once you have confirmed that the correct chemotype has been obtained, you can be assured of the quality of the oil that will be obtained.”

• “The first thing we did was to plant trial blocks to ascertain which species were suited to the area and its soil, and would feasibly yield oil of acceptable quality. We eventually arrived at some 5 species, out of 18 trialled, that met the aforementioned requirements.”

• “Anybody who wishes to venture into this industry has to be aware that the achievements in the first year might not necessarily be the same as what would be achieved in the long term. As in any farming enterprise, seasonal fluctuations have to be kept in mind, e.g., rainfall and temperature, which would influence the yield and long-term viability.”

• “It should be noted that as the grower’s volumes increase, the selling price per unit realised will decrease – buyers are willing to pay more per litre when buying 20 litres of oil than they would when purchasing a ton of oil.”

• “When approaching potential buyers, samples of the very batches offered are couriered to them. Most of the farm’s customers are foreign manufacturers and wholesalers, who, in addition to the tests done by SOIL, conduct tests of their own on the samples provided before placing orders. Buyers are becoming more discerning, making the supply chain more onerous. SOIL therefore is cooperating with several other producers who pool their resources with regard to marketing, certification, and to facilitate their meeting customers’ demands.”

Ms Thandie Lebotse-Zulu
Owner: Blue Pride, Botswana

• “Opportunities include the abundance of raw material, the AGOA and EFTA-SACU free trade agreements, and the size of the global market, with demand exceeding supply. I encourage other entrepreneurs to become involved with these wild-harvested products as they could eventually enter the export market.”

• “While living in Europe, I noticed an increasing demand for cosmetics that comprised natural ingredients. When I returned to Botswana, I decided to do something to meet that demand.”

• “I recommend that relevant certifications should be obtained, such as Fairtrade, good manufacturing practice (GMP), and organic certification. We had a challenge with the latter, as Blue Pride deals with several natural products from diverse regions, which also increases the cost of certification.”

• “Assistance with meeting requirements is sometimes needed, and the process involves a considerable amount of time. For instance, Blue Pride was established in 2014, commenced with operations in 2017 and has been exporting for some time, but it only arrived in 2021 at the stage where it could apply for certifications.”

• “Blue Pride provides oils to both retailers (50 ml bottles) and wholesalers (20, 25, 50 and 100 litre containers), with dark containers being preferred. The EU’s labelling prescriptions are applied, but the labels might be customised to meet the demands of buyers from different countries. I have attended several trade fairs abroad, which has served to advise us of potential customer requirements.”

• “Transportation is a major challenge as many freight companies do not want to transport oils, considering any oil to be an unacceptable risk. This could be overcome by providing such companies with the oils’ material safety data sheets (MSDSs) to prove that they are not hazardous. Another challenge was to find a balance between the location of the fruit (the various regions), the length of the supply chain, and the distance to the nearest accredited laboratory. Establishing operations in the wrong location can have dire financial consequences.”
Mr Wynand Gericke

Owner: Rosehip Farm, Lesotho and Gauteng

- “I first conducted extensive research on the market’s needs and requirements for rosehip and, once the demand had been confirmed, I identified communities where the plants grew naturally. I visited various villages to establish the incidence and distribution of rosehip growing in the wild, and developed relationships with those villagers and community leaders, resulting in agreements with them to undertake wild harvesting and according to which they would be fairly remunerated.”

- “Wild harvesting is dependent on what nature provides, and yields are subject to seasonal changes – sometimes bumper crops are achieved, while harvests can be low at other times.”

- “With regard to ensuring the best quality during the pressing stage, rosehip and vegetable oils are pressed at the lowest temperatures possible. While some processors run their presses at high revolutions to increase the volume of oil, I am a proponent of lower pressing speeds as they yield a higher-quality oil. The resultant lower yield is offset by increasing the volume of raw material processed.”

- “The composition of oils derived from plants in one area might differ substantially from the oil of plants from other areas (up to 40% for some levels), even within a 10-20 km radius.”

Mr Adolf Joubert

Owner: AfriNatural, Western Cape

- “There is enormous potential for South African botanical products – the country offers some 0.1% of the global demand, whereas, given that South Africa is home to 10% of the plant species in the world, its share of the global market could likewise be closer to 10%.”

- “The biggest threat, from my perspective, is the consistent supply of products. The primary question raised by foreign companies’ research and development departments is whether they will be able to obtain the products for the following 2-5 years.”

- “One should not expect to be paid more if one’s product adheres to the set standards – complying with standards is a prerequisite for being able to offer one’s product on the market. The same applies to any specific specifications the individual customer might have – if they are not met, the client will not buy the product.”

- “Test the quality and composition of each and every batch of oil, even though they originated from the same area. Should deviations be found, endeavour to identify the cause to determine whether it can be remedied. Consistent quality is not determined by the pressing or distillation stage only, but throughout the whole process.”

- “New entrants to the essential and vegetable oil industry should undergo ‘apprenticeships’ to acquire the required knowledge and skills prior to striking off on their own. Producing high-quality oils requires skills and patience – it might take several years to reach the point where one succeeds in consistently producing quality oils.”

Mr Ndwakhulu Mukhufhi

CEO: NMISA, and essential oils expert

- “It is only the superior quality of the producer’s products that will make them competitive.”

- “It is important that producers should make use of the existing quality infrastructure in the country, failing which one would remain a price-taker. Offering products of superior quality enables one to demand a higher price for one’s oils. The services offered by entities such as NMISA, NRCS, SABS and SANAS should be exploited to facilitate global acceptance of one’s products.”

- “I want to caution against producers going it alone, and encourage them to build networks that can provide them with assistance and advice, SAEOPA being an example. SAEOPA could also assist with connecting producers with the country’s quality infrastructure. Participation in such networks will assist in preventing producers being exploited due to a lack of knowledge.”
About the project

This publication was sponsored by the project ‘Strengthening the quality of essential and vegetable oils exports from South Africa,’ within the framework of UNIDO-SECO Global Quality and Standards Programme (GQSP).

The Global Quality and Standards Programme (GQSP) is a large-scale programme, which was designed to encourage systematic trade development along specific value chains by strengthening quality infrastructure institutions and service providers, enhancing the compliance capacity of private sector actors, particularly SMEs, and creating a culture of quality among all stakeholders. The GQSP is funded by the Swiss Confederation, through the Swiss State Secretariat for Economic Affairs (SECO) and implemented by UNIDO.

The objective of the GQSP South Africa (GQSP-SA) project is to strengthen the quality and standards compliance capacity to facilitate market access for SMEs in the essential and vegetable oils value chain destined for food, health and cosmetic markets.

One of the interventions under GQSP-SA is to promote a culture of quality by supporting SMEs and institutions to embed the need for quality at the individual, institutional and policy levels to build the reputation of the products, and improve the productivity and quality along each stage of the value chain.

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