

Insight synercore

December
2024



SYNERCORE MARKS A MILESTONE

WHO WE ARE

Synercore Holdings is a science-led investment company focused on innovation within the food industry in Africa. Along with an acute awareness of market developments and opportunities, Synercore aims to deliver research-backed and commercially viable food solutions within growing markets. With the acquisition of various food and research companies, Synercore has established itself as a sustainable and dynamic group, with a unique service offering to the food industry.

OUR VISION

To provide innovative and sustainable food solutions to Africa.

OUR VALUES

| | |
|------------|-----------------|
| Innovative | Reliability |
| Integrity | Entrepreneurial |
| Quality | Resilience |

KLAPMUTS
HEAD OFFICE
CAPE TOWN
 Tel: +27 21 879 1681
 Email: info@synercore.co.za
 58 on Main Road,
 Klapmuts

KLAPMUTS
NPD FACILITY
CAPE TOWN
 Tel: +27 21 879 1681
 Email: info@synercore.co.za
 Groene Weide Farm, Protea Road,
 Klapmuts

HERMANSTAD
PRETORIA
 Tel: +27 12 940 8665
 Email: info@synercore.co.za
 Unit 10 Steyns Industrial Park,
 433 van Riebeeck Street,
 Hermanstad

PROUDLY
SOUTH AFRICAN
www.synercore.co.za



WE LOVE WHAT WE DO

Speciality Food Ingredients

Tailored Ingredient Solutions

Product Formulation and Application Support

Specialised Research and Development

Project Consultation

Contract Blending and Toll Manufacturing
 (FSSC 22000, Halal and Kosher Certified)

Milling

Extrusion



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A photograph of a lush green park. In the foreground, there is a grassy field with several trees. On the right side, two large, dark tree trunks are prominent. In the background, there are more trees and a wooden fence. The overall scene is bright and green, suggesting a sunny day in a park.

"IT IS NOT THE
STRONGEST OF
THE SPECIES THAT
SURVIVES, NOR THE
MOST INTELLIGENT,
BUT THE ONE THAT
IS MOST ADAPTABLE
TO CHANGE."

CEO MESSAGE

THE OAK AND THE WILLOW

Dear Synercore Employee,

Reflecting on the past year, I am continually impressed by our ability to adapt and thrive in a rapidly changing, highly competitive, and unpredictable market. This adaptability reminds me of the story of the mighty oak and the graceful willow.

Once, a strong oak and a delicate willow stood in a lush green valley by a river. The oak was tall and sturdy, proud of its height and resilience, weathering storms with unwavering strength. Beside it, the willow danced gently in the breeze, its long branches bending gracefully without breaking, flourishing by the riverbank and soaking up the sunlight.

One day, a fierce storm swept through the valley. The oak stood firm, determined not to bend. As the winds howled and rain poured down, it began to creak under the strain, holding onto its pride. In contrast, the willow bowed low, letting the wind pass, swaying effortlessly while the rain dripped from its leaves.

When the storm finally passed, the valley returned to calm. The oak, though still standing, bore bruises and lost many branches. Exhausted, the willow remained untouched, its branches still flowing gracefully. The oak learned a vital lesson from the willow's ability to adapt and thrive in adversity. Over time, the two trees formed a friendship, sharing their strengths and learning from one another. The oak offered shade and shelter, while the willow taught the oak the value of flexibility. Together, they weathered many seasons, embodying the harmony between strength and resilience.

The story of the oak and the willow reminds us that endurance comes not only from strength but also from the ability to adapt to change. As Charles Darwin famously said, "It is not the strongest of the species that survives, nor the most intelligent, but the one that is most adaptable to change." Our adaptability and resilience reflect our capacity to learn from experience and innovate when the old rules no longer apply.

Let us inspire positive change in 2025, both in our professional and personal lives. May the coming year bring blessings and prosperity to all our employees and their families. Wishing everyone a joyful and peaceful festive season.

Thank you for your valuable contributions and for your ability to adapt and grow with Synercore over the past year.

SYNERCORE MARKS A MILESTONE WITH THE LAUNCH OF OUR CAPE TOWN DRY BLENDING FACILITY AND WAREHOUSE



ANNEXURE A



Soya – King of the crop!

soybeans, also known as soya, are a type of legume cultivated for its edible seeds and rank among the five oldest cultivated crops. While soybeans are native to Northeast China, Chinese traders introduced this crop to Sub-Saharan Africa in the 19th century.

In South Africa commercial cultivation was already underway by 1862 and it is currently considered as one of the most economically significant crops, with soybeans contributing approximately 30% of the African continent's arable production.

Today, soybeans are a global commodity that is in high demand, serving as a source of protein for human consumption as well as various uses in the food and beverage sectors.

However, despite its excellent nutritional value, soybeans have not been fully embraced in the local market. This is due to a lack of awareness and a preference for other crops. To meet the rising demand for soy products, Synercore has established a local production facility in Cape Town, which will help to increase the availability of high-quality soybeans in the region.



Circular economy – a round peg in a square hole?

With the world's population growing and the demand for resources increasing, the circular economy is becoming a key concept in the food and beverage industry. It focuses on reducing waste and maximizing the use of resources.

At Synercore, we are committed to a circular economy. We use recycled materials in our packaging and aim to reduce our carbon footprint. We also focus on efficient production processes to minimize waste.

By adopting a circular economy, we can ensure that our products are sustainable and meet the needs of our customers for the long term.



Baking powder 101: Rising to the occasion

Baking powder is a key ingredient in many recipes, and it's essential for getting that perfect rise. It's a mixture of an acid salt and a base, which reacts to produce carbon dioxide gas.

There are two main types of baking powder: single-acting and double-acting. Single-acting powder reacts immediately when it comes into contact with liquid, while double-acting powder reacts in two stages: once when it's mixed with liquid and once when it's heated in the oven.

When choosing baking powder, it's important to check the expiration date and to store it in a cool, dry place. If you're using baking powder in your recipes, make sure to measure it accurately to get the best results.

Synercore proudly celebrates the official opening of our Cape Town dry blending facility and warehouse at 58 on Main in Klapmuts. Like the oak, we stand strong in our foundation, and like the willow, we remain adaptable and resilient in our growth journey. The new facility is a testament to Synercore's commitment to sustainable expansion, as we continue to grow and serve our community and partners.



ANNEXURE A

The future of purpose driven drinks

Protein nutrition is so important for our personal health and wellbeing that it is even written into contracts. A certain muscular sailor braced children that demand will make you strong, while a white rabbit constantly sports a bright orange carrot.

Whether the pack of 100s we carry for our business offers us an exciting way for the consumer to combine their own health with other products to their nutrition. In essence, many food products have been designed to fit the needs of a consumer looking for the convenience of things on the go, as well as a well-balanced diet.

Whether you want to place in something from what is not on the menu or what is not available, it is becoming increasingly more difficult with some functional beverages are any drink that has an added benefit. It is a medical or other supplement. These products can be designed to add vitamins or an enzyme to add specific nutrients, or a range of other ingredients to support your health. They can be made to be a natural part of your diet, or they can be made to be a supplement to your diet.

Food and Beverage Reporter, August 2024

South Africa's dairy excellence

Synercore's commitment to quality and innovation in the dairy industry is a testament to the excellence of our South African dairy products. Our commitment to quality and innovation is a testament to the excellence of our South African dairy products.

"During my 'Carnival' through the SA dairy industry, I have always believed that dairy is the heart of our nation's food security and is a natural choice for a healthy diet."

SA Food Review, September 2024

Chitosan - The Swiss army knife of winemaking

From the natural fibers of the chitin of crustaceans, chitosan is a natural polymer that has been used in winemaking for centuries. It is a natural polymer that has been used in winemaking for centuries.

CC1(CO)C(O)C(O)C(O)C1N

Chitosan is a natural polymer that has been used in winemaking for centuries. It is a natural polymer that has been used in winemaking for centuries.

Winelands, November 2024

EXPERIENCE SYNERCORE

Get an exclusive look into the world of Synercore with our recently launched corporate video. This preview offers a window into the core of our operations, highlighting our dedication to excellence, teamwork, and innovation in the food industry.



INTRODUCING A TASTE OF THE FUTURE



We're excited to introduce IntoWijn, Synercore's wine portfolio, designed to elevate and provide tailored solutions for the South African wine industry, from harvest to bottling. By focusing on local production, we deliver timely, cost-effective solutions that meet the unique demands of winemaking. From essential ingredients to customized commodities, we are committed to enhancing the quality of wine production.

In the November 2024 issue of Winelands Magazine, we proudly feature an insightful article titled "Chitosan - The Swiss Army Knife of Winemaking." Authored by Dr. Stefan Hayward and Dr. Hanneli van der Merwe of IntoWijn, this piece explores the harmonious balance between tradition and innovation in sustainable winemaking.

PROUDLY
SOUTH AFRICAN

LOCALLY

produced products

HIGH-QUALITY

and cost-effective offerings

INNOVATIVE

and customised solutions

COMMITTED

to research and development

ABILITY

to produce on demand

SAVE

on logistics

YOUNG WINE SHOW 2024

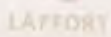
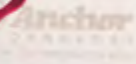
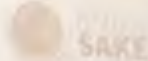
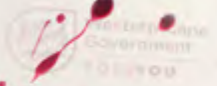
The IntoWijn team attended the historic Young Wine Show 2024, joining fellow wine enthusiasts for a wonderful evening of connection and celebration with industry leaders.

A special congratulations to the Diemersdal Wine Estate team for claiming the illustrious General Smuts Trophy, a symbol of excellence since 1952.

IntoWijn was a proud sponsor of The South African Young Wine Show 2024, presented by Agri-Expo and look forward to more opportunities to support our vibrant wine community.



Thank you to our sponsors



INTOWIJN

Enhancing the experience of the South African wine producer with passion and expertise

SOLUTIONS FROM HARVEST TO BOTTLING

- Tannins
- Stabilisation
- Organoleptic
- Colourants



www.synercore.co.za



THE AFMASS FOOD EXPO

AFRICA'S LARGEST FOOD INDUSTRY TRADE
SHOW IN EASTERN AFRICA



Synercore spent two days connecting and showcasing our innovations at the Sarit Expo Centre in Nairobi.

ALLMARK FOODS (PRETORIA) ACHIEVES FSSC 22000 VERSION RE-CERTIFICATION



THE IMPORTANCE OF FSSC 22000 CERTIFICATION:



- Comprehensive Food Safety Framework**
 FSSC 22000 is a strategic Food Safety System Certification designed to manage food safety risks, ensure quality, and meet the requirements of the entire food supply chain.
- Incorporation of Global Standards**
 This certification scheme integrates ISO standards, sector-specific technical specifications for PRPs, HACCP, regulatory requirements, and the Codex HACCP, making it one of the most comprehensive systems available.

- Global Recognition**
 Recognised by the Global Food Safety Initiative (GFSI), FSSC 22000 demonstrates that a company has a robust and effective food safety management system (FSMS) in place, meeting the needs of regulators, customers, and consumers.
- Integration with Other Systems**
 FSSC 22000 allows for the seamless integration of food safety and quality management with other management systems, such as environmental sustainability and health and safety.

IMPILO'S COMMITMENT TO NON-GM SOYA

At Impilo, a subsidiary of Synercore we're committed to offering choices that align with consumer preferences for non-genetically modified (non-GM) products. With 22% of our soybeans procurement focused on non-GM, we ensure the highest standards from farm to table. Rigorous testing and stringent protocols keep our non-GM soya pure and of the highest quality.

As soybeans continue to play a crucial role in both global and local economies, Impilo's emphasis on quality, sustainability, and meeting consumer preferences will continue to drive innovation and growth within the soy industry.



SUSTAINABLE PRACTICES IN FOCUS: RSPO CERTIFICATION AT ALLMARK FOODS

Understanding RSPO Certification and its importance for Allmark Foods

With the use of palm oil being inevitable in the food industry due to its versatility and functionality, the environmental and social impact of its cultivation has become a significant concern. Synercore recognises the importance of sustainability and is committed to using sustainable palm oil in our products. Allmark Foods Pretoria, a division of Synercore, acquired its RSPO certification in October 2020, becoming part of over 5 000 members worldwide who represent all links in the palm oil supply chain. These affiliates are dedicated to producing, sourcing, and using sustainable palm oil certified by the RSPO.

The RSPO (Roundtable on Sustainable Palm Oil) was established in 2004 to promote the production and use of sustainable palm oil for the benefit of the planet, its people, and its animals. RSPO is a not-for-profit organization that unites stakeholders from seven sectors of the palm oil industry: oil palm producers, processors or traders, consumer goods manufacturers, retailers, banks/investors, and environmental and social NGOs. Together, they develop and implement global standards for the production and use of sustainable palm oil.

Among the most important benefits of RSPO certification are reduced greenhouse gas emissions, improved waste management, decreased pesticide use, enhanced compliance with regulatory requirements, a reduction in workplace accidents, and increased productivity. We are committed to meeting the requirements of our customers who are on a journey to exclusively use RSPO-certified ingredients derived from palm oil in their branded products, ensuring compliance with the Roundtable on Sustainable Palm Oil Standard.

SYNERCORE MAKES HEADLINES

191ST SA DAIRY CHAMPIONSHIPS BREAKS RECORDS

A 10-month-old mature gouda, made especially for Woolworths by Lactalis South Africa, was crowned the Dairy Product of the Year at the prestigious South African Dairy Awards on Thursday 25 April 2024 at Eensgezind outside Durbanville.

The winning Woolworths Mature Gouda 10 months was one of a record number of 1 029 dairy products from 78 producers, including 12 first-time entrants, that vied for the attention of the judges, a team of 82 representing 52 companies.

From the high number of entries, 110 products were selected as SA Champions, standing out as winners in each championships class. Thirty products were awarded with the esteemed Qualité mark of excellence, the only mark of excellence in the South African dairy industry. "Every dairy producer's dream is to have their product selected as Product of the Year in a competition like this," says chief judge and dairy expert Graham Sutherland. "The Woolworths 10-month mature Gouda has established a

legacy for exceptional quality over a period of time. What makes it so unique is the combination of taste and texture, which produces a flavourful and satisfying tasting experience. The producer has put all the necessary measures in place to ensure that the quality of this cheese is maintained to the highest standard, and the competency of the cheesemaker is incredibly high. With this product, they have discovered an extremely potent winning formula."

Herman Janse van Rensburg, General Manager for Lactalis South Africa, says his team is thrilled about claiming the 2024 Product of the Year award. "We are excited that the top dairy award has gone to team Lactalis South Africa for an incredible sixth time in the past eight years. This is an incredible achievement. Thank you to all our dedicated teams who work incredibly hard and always strive to maintain the high-quality standards our consumers expect from us as a company. Also, thank you to Agri-Expo for providing this opportunity to showcase South Africa's dairy expertise."



This year's event marked the 191st edition of the SA Dairy Championships, the biggest and oldest dairy competition in Africa. Breyton Milford, General Manager of Agri-Expo, the host of the event since 1834, says the championships underscores the diversity and extensive array of products the industry manufactures, but it also shines a spotlight on the significant contribution the dairy sector makes to the South African economy.

Agri-Expo thanks all partners for their support in facilitating the SA Dairy Championships. "We appreciate our new three-year platinum partnership with IMCD and Dsm-firmenich, alongside our diamond partners Chr.Hansen and Synercore, gold partners Checkers, Hollard, Orchem, IFF, Woolworths, and the Western Cape Department of Agriculture, silver partners Condio and Pick n Pay, as well as bronze partner Mane."



SA DAIRY CHAMPIONSHIPS FACTS AND FIGURES

| | | |
|----------------------------|--------------------------------|----------------------------------|
| 1029 entries | 78 manufacturers entered | 86 judges |
| 11 industry partners | 12 new companies | 5 145 scores to be punched |

ESTABLISHED
1834 / 191
years



QUALITÉ, THE ONLY MARK OF EXCELLENCE



HR NEWS



EMPLOYEE SPOTLIGHT

Janine Bensch
Human Resources
Group Manager

Most of you have already met Synercore’s Human Resources Group Manager, Janine Bensch. With over 16 years of HR experience in the manufacturing sector and a BA in Human Resource Management from Stellenbosch University, Janine brings invaluable expertise in aligning HR strategies with business objectives.

Her passion for inclusivity, empowering teams, and cultivating a positive workplace culture aligns perfectly with Synercore’s values.

To help you get to know her even better, we’ve asked Janine a few questions about her experience, vision, and goals for the future.

Janine—we’re excited for what lies ahead!

What inspired you to pursue a career in Human Resources, and how has your experience in the manufacturing sector shaped your approach to HR?

From a young age, I was deeply inspired by my parents’ approach to teamwork. My father’s success as a businessman in the manufacturing industry and my mother’s unwavering support

at home, juggling countless responsibilities, left a lasting mark on me. Our dinner table conversations were always filled with discussions about “how things are made”, the thought process behind strategic decisions, and, most importantly, the importance of bringing a team together and keeping them inspired. These moments sparked my curiosity and fostered a profound connection to the manufacturing world. Human Resources became the natural next step for me—it perfectly aligns my passion for people with my drive to help businesses thrive by empowering their teams. The fast-paced, dynamic nature of manufacturing excites me and constantly motivates me to ensure that HR strategies are not just aligned but actively drive operational success. Over the years, I’ve come to understand the power of clear communication, strong systems, and cultivating a culture of accountability and camaraderie, all of which are crucial in supporting both employees and the business to achieve shared success. It’s this blend of people and purpose that makes HR so rewarding for me!

Workplace culture is a key focus for you. How do you ensure every Synercore employee feels valued and understood?

If you could have any superpower to help you in your role as HR Group Manager, what would it be and why?

The HR Office wields the “Synergy Shake”—a magical power that enables employees to transfer their valuable knowledge, industry insights, and positive energy through a single handshake. This superpower ignites teamwork, strengthens connections and inspire collective growth

I have a profound love, interest and appreciation for human behaviour—what inspires people to rise each morning, to pursue their dreams, and to find purpose in their journey. Africa, with its vibrant diversity, holds a unique essence, yet we all share a common golden thread: the desire to survive, progress, and belong. I believe in keeping things simple, relevant, and relatable. For me, setting the tone and creating the right vibe is key, as happiness truly comes from within. Though my Synercore journey has been brief so far, it has already deepened my appreciation for the incredible people that make this organisation so special.

You have a strong track record of implementing practical procedures and structures. Could you share one of your most impactful initiatives and how it benefited the organisation?

One of my most impactful initiatives was streamlining the recruitment and onboarding process in my previous role. We created a standardised yet personalised approach, combining digital tools and hands-on interaction. This not only reduced the time to productivity for new hires but also improved retention by helping employees feel welcomed and aligned with company values from day one.

What excited you most about joining Synercore, and how do you see HR contributing to the company's growth and success?

The humility of Synercore’s Directors and Shareholders immediately captured my attention. There’s a genuine commitment to Human Resources—to the well-being, happiness, and success of its employees. Having started my career in Paarl, I’ve always felt a strong connection to the area, and stepping into a role that spans from Pretoria and beyond is an exciting new chapter. HR plays a crucial role in connecting people with strategy. It’s so much more than just “hiring and firing.” My goal is to position Synercore as a preferred employer—a place where top talent actively wants to join, contribute, and grow. Together, we can build an environment that is more than just a workplace—it becomes a vibe. A place where people feel valued, motivated, and driven to succeed. Where our employees become our greatest testament to success. Synercore isn’t just a company; it’s our future. By taking hands, accepting accountability, and working toward goals with pride, passion, and drive, we can achieve greatness—for us!

NEW APPOINTMENTS



KELLY HARGRAVE
Key Accounts Manager
Allmark Foods



JOHN GORDON
Maintenance Manager
Allmark Foods



WILLEM VAN DER MERWE
Business Improvement Manager
Synercore



ANNELINE KANI
QA Systems Administrator
Allmark Foods



JUANRE KLEYNHANS
Maintenance Electrician
Allmark Foods

WELLNESS PR⁺GRAMME



PRESENTS:

LET'S BEAT TB TOGETHER

JOIN US
FOR A SESSION
WHERE WE'LL
EXPLORE:

- What is Tuberculosis (TB)?
- How to recognise symptoms
- Prevention strategies
- Available treatments
- How to protect yourself and others

This training is part of our commitment to promoting health and wellness within our team. Together, we can stay informed and create a healthier community.

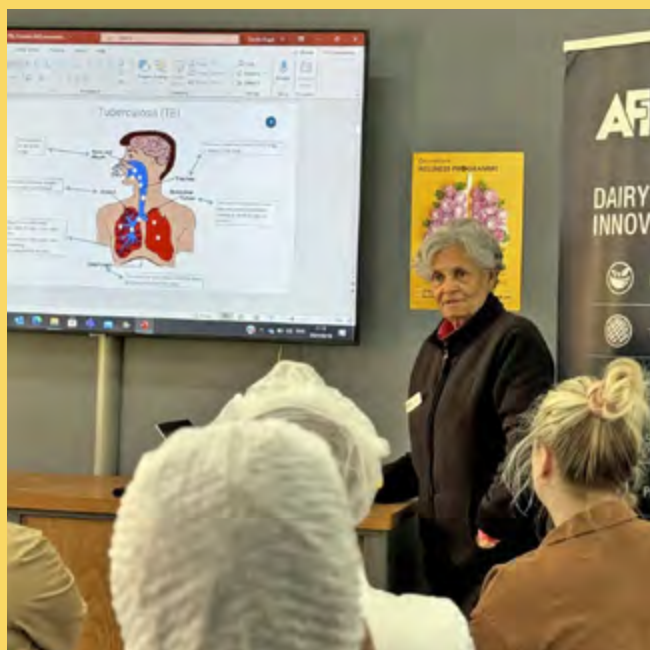
*COMPULSORILY FOR EMPLOYEES TO ATTEND

LET'S PRIORITISE HEALTH!

This year we kicked off Synercore's first Employee Wellness Programme with an insightful session on tuberculosis (TB), led by Sr. Cecilia Engel from Right to Care. We're now more informed and equipped to take better care of ourselves and others.

A big thank you to our strategic partner Solo Africa for supplying ASTAXANTHIN—a powerful natural antioxidant with TEN clinically-validated benefits. From boosting brain health and energy levels to supporting muscles, eyes, immunity, and cardiovascular health, it's a game-changer for wellness.

LOOKING FORWARD TO OUR NEXT HEALTH AND WELLNESS TOPIC IN 2025



EMPOWERING LEADERSHIP THROUGH



As part of our commitment to leading in a deglobalising world, Synercore hosted the second Synercore Connect event—an initiative designed to empower every employee with knowledge, understanding, and a genuine sense of pride in their contributions to our locally driven food production.

Synercore's strength lies in our local expertise, where every department collaborates to source and process the finest ingredients for our client needs. This positions us as industry leaders in offering local solutions that drive economic resilience and reinforce food security.

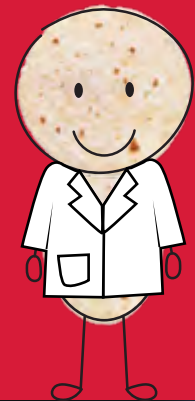
Each team member at Synercore plays a vital role in our success, and true leadership is about uniting these strengths toward a common goal.

Synercore Connect serves as a platform for employees to engage deeply with our processes, understanding how their work contributes to products that serve both local and regional markets.

By fostering knowledge-sharing and teamwork annual events such as Synercore Connect, we are equipping our employees to navigate the challenges of a shifting global landscape while reinforcing our leadership in the local food industry.

"GREAT THINGS IN BUSINESS
ARE NEVER DONE BY ONE PERSON.
THEY'RE DONE BY A TEAM OF PEOPLE."

- STEVE JOBS



IMPACTING GENERATIONS

Did you know for the price of one cappuccino, Shiloh Synergy can feed a family of four? As a company, we are dedicated to helping address the country's food security challenges. That is why we choose to partner with the amazing Shiloh Synergy NPC, a non-profit based in Cape Town that prepares meals for pre-schoolers. With 11 pre-schools using the Shiloh curriculum, we know that more than 780 households all over the Western Cape are impacted.



Excitement filled the kitchen at Shiloh Synergy NPC as Synercore delivered a new vegetable chopper, enhancing the kitchen team's meal preparation efficiency. Additionally, we proudly sponsored branded attire for the Shiloh delivery driver, elevating their professional presence in the community. These contributions underscore our commitment to positively impacting the communities we serve.

NELSON MANDELA DAY 2024



Synercore's #ItIsInYourHands Sandwich Drive for Nelson Mandela Day 2024 was a heartwarming success! We made 1670 sandwiches (with added treats) to support those in need within our communities in Cape Town and Pretoria. A huge thank you to our enthusiastic staff, and Darling Romery for donating delicious smoothies for each child. A blessed day indeed!

SYNERCORE PARTNERS WITH TIGER BRANDS ON #PLATES4DAYS

Synercore is proud to support **Tiger Brands'** flagship nutrition initiative, **#Plates4Days**, which has been making a meaningful impact on South African institutions.

#DidYouKnow that Tiger Brands has been addressing campus hunger since 2008? The initiative was formalised in 2017, providing monthly food hampers to support students at universities across the country.

At Synercore, we share the vision of ensuring no student goes hungry, because proper nutrition is essential not only for physical well-being but also for brain health—fuelling focus, memory, and cognitive performance to help students excel in their studies.

Synercore contributed our specially formulated nutritious Soya Mince. Formulated to nourish students, this product is a great source of energy-boosting carbohydrates and fibre-rich vegetable protein, pairing perfectly with staples like samp, rice, or pasta.

We are honoured to be part of this inspiring project alongside Tiger Brands, helping students focus on their futures without worrying about their next meal.

TOGETHER, WE CAN MAKE A DIFFERENCE!



To learn more about the **#Plates4Days** initiative, visit [Tiger Brands - Plates4Days Initiative](#).

WORLD FOOD DAY 2024

In celebration of World Food Day 2024, we proudly support the UN's Sustainable Development Goals, with a focus on ending hunger, alleviating poverty, promoting good health and well-being, and advancing quality education. As part of this commitment, Synercore joined the World Food Day campaign donating 200 food boxes filled with products we are proud to have developed and manufactured. Each box were filled with a dairy blend concentrate, flapjack mix, multigrain cereal drink, instant powdered milk drink, and soya mince. These boxes were distributed by Hope for Youth SA (Non-Profit-Organisation) to local soup kitchens as part of their 1000 food parcel initiative.



CELEBRATING WOMEN'S MONTH

Synercore celebrated Women's Month in August 2024 by reflecting on the incredible journey and achievements of women in South Africa! We're especially proud of the amazing women at Synercore who balance many roles, excel in their professional lives, inspire their colleagues, and always make time to laugh. Thank you, ladies—you truly are the foundation at Synercore.



“We are each required to walk our own road and then stop, assess what we have learnt, and share it with others. It is only in this way that the next generation can learn from those who have walked before them. We can do no more than tell our story. Then it is up to them to make of it what they will.”

- MA SISULU



SPREADING HOLIDAY CHEER WITH SYNERCORE CARES

The Synercore team came together to pack 300 special boxes filled with school shoes, toiletries, educational spoils, and something sweet—because no child should feel forgotten at Christmas. These boxes will be delivered to various children’s homes and underprivileged children, bringing joy, hope, and smiles to those who need it most.

Every child deserves to feel the magic of the season. Together, we can brighten their holidays and inspire a brighter future. Thank you to everyone who helped make this initiative possible!



ANNEXURE A

gradually changing, achieving company is often resource intensive. Employees end up with responsibilities alongside their own. Sustainability frequently becomes a priority.

As the world becomes sustainable, the challenges, including South Africa, are complex goals which provide a "shared prosperity for people and the planet." These goals are mainly focused on environmental considerations, and the capacity to achieve these goals is within the prerogative of the business. The New Agenda therefore emphasizes the need for partnerships (UN goal 17) via "partnerships" (UN goal 17). Through these partnerships, a producer can increase their revenue streams by converting them into products for their partners. In this way, a company can create jobs, but it also helps in reaching landfills.



For example, the craft beer industry has experienced unprecedented growth over the past decade. Beer production relies on the conversion of carbohydrates to mainly carbon dioxide and alcohol. While the alcohol remains in solutions, most of the carbon dioxide is vented off (wasted) during fermentation, contributing to climate change. It has been estimated that it could take a single tree up to two days to absorb the carbon dioxide released from a single beer can. To limit its carbon footprint, the industry has started using carbon capture technology. This technology captures the carbon dioxide released during fermentation and stores it underground. This process not only reduces the carbon footprint of beer production but also creates a valuable by-product that can be used in various industries. For example, the captured carbon dioxide can be used in the production of carbonated beverages, which is a market that is growing rapidly. This innovative approach demonstrates how the craft beer industry is not only embracing sustainability but also finding ways to turn a waste product into a valuable resource.





Soya – King of the crop!

Soybeans, also known as soya, are a type of legume cultivated for its edible seeds and rank among the five oldest cultivated crops. While soybeans are native to Northeast China, Chinese traders introduced this crop to Sub-Saharan Africa in the 19th century.

In South Africa commercial cultivation was already underway by 1903 and it is currently considered as one of the most economically significant crops, with Southern Africa contributing approximately 39% of the African continent's annual production.

Globally, soybeans are a popular commodity due to their versatility, serving purposes that range from nitrogen fixation as a rotational crop, to industrial applications as well as various uses in the food and beverage sector.

However, despite its excellent nutritional value, soybeans are primarily produced for animal feed, oil, and non-food products like biodiesel, with only 6% of the soy produced being intended for human consumption. In the food and beverage sector, soya is utilised as an emulsifier, a protein alternative to meat and dairy, a protein supplement to grain cereals, a source of oil, an ingredient in various sauces, as well as soya flour used in the manufacturing of baked goods.

Not surprisingly, the growth in global demand for soya is mirrored in South Africa, with soybean production reaching 2.6 million metric tons in the 2022/23 crop, yielding a 23% increase from the previous year.

However, although the intended use in human nutrition remains the lowest when considering global trends, its use is steadily increasing in the sector yielding a significant increase in the cost per truckload

over the past 10 years. While the baking industry remains the primary user, the biggest increase in the use of soya has been observed in school nutrition programs where it is used as a key ingredient in low-cost cereals, as well as in the health-conscious consumer market.

To meet the rising demand for soy products, various soya product-producing companies have been established in South Africa. Impilo, established in 2004 and recently acquired by Synercore Food Holdings, is one of South Africa's leading soya ingredient manufacturers, specialising primarily in the supply of soya flour to cereal manufacturers and bakeries.

Soya flour can be categorised into two main types namely "Enzyme active", where the soybeans are milled as a raw product, maintaining native enzymes activity, and "Enzyme inactive", where the beans are subjected to high temperatures prior to milling rendering the native enzymes inactive.

Enzyme active full-fat soya is added to bread formulations at a dosage up to 0.5%. The lipoxygenase enzyme within the flour functions as a natural bleaching agent, resulting in a whiter crumb. The lipoxygenase also has an impact on the gluten network, which leads to increased dough strength. A strong dough is required to avoid the possible collapse of the bread during proofing. Enzyme inactive soya

flour is predominantly used as a protein-rich ingredient in various food applications including protein substitutes, plant-based beverages, or as a thickening agent in soups and sauces.

Recent trends in health-consciousness and veganism resulted in a shift to predominantly plant-based diets, leading to an increase in the availability and use of plant-based proteins. While plants are generally not considered good sources of complete protein, soy- and quinoa proteins contain all nine essential amino acids in sufficient amounts making it comparable to meat. However, soya contains approximately 61% more protein than quinoa and therefore makes it an excellent alternative for individuals who follow vegetarian or vegan diets as well as in state feeding schemes where meat is considered to be too costly.

In the food industry, where soya has multiple applications, significant emphasis has been on genetically modified (GM) soya vs. non-genetically modified (non-GM) soya. Many consumers reject the consumption of GM foods due to the perception that these items are unnatural and unhealthy.

Although GM soya is one of the most genetically modified plants in the world, GM soya is mostly used for animal feed while non-GM soya is predominantly meant for human consumption. At farm level, cultivation of non-GM soya requires more effort to ensure the desired outcomes without compromising the quality. Consequently, farming non-GM can be costly, resulting in a higher market price. This price is also influenced by availability and market conditions.

To cater for the evolving market demands and to emphasise Impilo's commitment to offering choices in response to the growing consumer preference for non-GM products, 22% of the company's procurement is comprised of non-GM varieties.

Soybeans are procured from various South African farmers and supplemented by imports from Zambia or Malawi in the case of a shortfall. Contracts for non-GM soy are established with specific farmers before the planting season, fostering longstanding relationships. To maintain the integrity of non-GM soybeans, farm tests are conducted by third-party contractors before harvest, and each delivery undergoes additional quality testing at Impilo. Stringent protocols prevent cross-contamination during processing, with non-GM soya products stored, cleaned, and processed separately.

Impilo's soya products adhere to the highest standards, with full FSSC 22000 Certification ensuring product quality and safety during the storing and manufacturing process. While maintaining excellent quality standards, Impilo also ensures the milling process achieves the desired physical characteristics of excellent soya flour without losing fat or producing a larger than desired particle size which could limit optimal water absorption.

Cutting edge technology enables Impilo to achieve various milling requirements for different industries



Cutting edge technology enables Impilo to achieve various milling requirements for different industries and applications.

"Impilo's soya products adhere to the highest standards, with full FSSC 22000 accreditation ensuring product quality and safety during the storing and manufacturing process."

and applications. Furthermore, only approximately 5-6% waste, comprising of soya hulls and impurities, is generated during manufacturing. However, this waste serves a valuable purpose as animal feed making the soya flour manufacturing process 100% utilisable.

As soybeans continue to play a crucial role in both global and local economies, Impilo's emphasis on quality, sustainability, and meeting consumer preferences will continue to drive innovation and growth in the soy industry.

About the authors:

Anneri Carinus, Business development and Special projects, Synercore
Willem Cronje, Managing Director, Impilo

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FST Magazine April 2024

Circular economy – a round peg in a square hole?

By Stefan Hayward and Dewald Botha



Stefan Hayward



Dewald Botha

Credit: Stefan Hayward + Credit: Dewald Botha

Stefan holds a PhD in Biochemistry and is a scientist at Innovative Research Solutions. **Dewald** has a MSc in Biochemistry and is a scientist in the Innovation and Formulation division at Synercore.

While all food producers bear a moral obligation to reduce, reuse and recycle, putting these practices into action is often much easier said than done. To illustrate why, please close your eyes and think about what you consider as waste. Chances are that, like for most people, mountains of everything from car tyres to potato peels are conjured up in your mind's eye. Although this vision is certainly not incorrect, this is the worst-case scenario for implementing a "reduce, reuse and recycle" strategy since this material is not homogenous and would require significant resources to sort, clean and rework. For this reason, these items are considered useless waste. However, many of these items still contain value which could be exploited if the material could be processed at the source while still homogenous and fresh, especially in the food industry. For example, something as simple as papaya and pineapple peels from salad producers contain proteases, papain and bromelain, which can be used in everything from meat tenderisers to facial creams.

This is where the concept of a *circular economy* comes to play, but understanding its true essence goes beyond a mere catchphrase. According to the Oxford Dictionary, a *circular economy* can be defined as "an economic system based on the reuse and regeneration of materials or products, especially as a means of continuing production in

a sustainable or environmentally friendly way". However, many companies that produce a specific by-product, known as waste if not used otherwise, often lack the means to transform these by-product streams into additional commodities. Consequently, these "waste streams" are often sold as animal feed, which places an additional burden on the producer as sales are driven solely by demand. When grazing is plentiful, and demand is low, the waste material is disposed of in landfills at an additional cost to the producer since it cannot be stored for extended periods. Because demand for a process by-product is unpredictable, many producers dispose of the material as waste rather than animal feed.



Ernst & Young

Synercore Holdings is a science-led investment company focused on innovation within the food industry in Africa. Along with an acute awareness of market developments and opportunities, Synercore aims to deliver research-backed and commercially viable food solutions within growing markets. With the acquisition of various food and research companies, Synercore has established itself as a sustainable and dynamic group, with a unique service offering to the food industry.

WHAT WE DO

**Speciality
Food Ingredients**

**Customised
Ingredient Solutions**

**Formulation and
Application Support**

Dairy and Dairy Alternatives
Bread and Bakery Products
Beverages
Confectionary
Culinary

**Specialised Research
and Development**

Project Consultation

**Contract Blending
and Toll Manufacturing**

FSSC 22000 Certified
Halal and Kosher Certified

Milling

Extrusion



Although this situation is gradually changing, achieving sustainability within a company is often resource intensive as clear roles and responsibilities for a "sustainability officer" are not yet commonplace. Employees end up juggling sustainability responsibilities alongside their regular duties. Not surprisingly, sustainability frequently falls lower on the list of priorities.

To guide companies towards becoming sustainable, the United Nations member states, including South Africa, adopted 17 sustainability goals which provide a "shared blueprint for peace and prosperity for people and the planet". However, since these goals are mainly focused on both socioeconomic and environmental considerations, very few companies have the capacity to achieve these goals since they do not fall within the prerogative of the food producers. The so-called New Agenda therefore aims to address these goals via "partnerships" (UN goal 17). By investing in partnerships, a producer can increase the value of its by-product streams by converting them to further commodities via its partners. In this way, a producer not only aids in the creation of jobs, but it also limits the amount of waste reaching landfills.



The question should therefore be asked: "Why necessarily a *circular economy* and not a square or even polygonal economy?" The term "circular" implies an uninterrupted cycle from product to by-product to product within the same system. The efficiencies of such systems can be increased by spreading the load across more role-players, which each bring their own competencies to the table, while at the same time addressing the sustainability goals as set out by the UN member states. In this way, the circle becomes a polygon where by-products can be converted to a business-to-business-to-customer manner rather than the more conventional direct business-to-customer model. This would not only increase the efficiencies within a company, but also aid in creating additional job opportunities.



For example, the craft beer industry has experienced unprecedented growth over the past decade. Beer production relies on the conversion of carbohydrates to mainly carbon dioxide and alcohol. While the alcohol remains in solutions, most of the carbon dioxide is vented off (wasted) during fermentation, contributing to climate change. It has been estimated that it could take a single tree up to two days to absorb the carbon dioxide released from producing one six-pack of beer. To limit its emissions, an Australian brewery partnered with a local university to cultivate algae that convert carbon dioxide into oxygen up to five times more efficiently than trees. This process not only limits the amount of carbon dioxide released into the atmosphere, but also produces algae that could serve as a protein-rich nutrient source while creating job opportunities.

In conclusion, while the circular economy serves as a foundational concept, expanding it into a polygonal framework offers a more comprehensive and effective approach to sustainability. Forming collaborative partnerships and embracing a more intricate system would not only enhance business efficiency but also contribute significantly to global sustainability initiatives. As the saying goes, "a single tree does not make a forest". Let's join hands and collectively address sustainability. Through collaborative efforts, we can create a resilient and sustainable future for the food industry and beyond.

Baking powder 101: Rising to the occasion



This article by Karla Pretorius-Verneel, Synercore's senior R&D technologist in baking, unpacks the world of baking powder – a key ingredient for achieving those light and fluffy baked goods.

Baking powder is a well-known raising agent used in a wide variety of baked goods including cakes and muffins and the development thereof has been recorded as early as 1843 in England, and 1850 in America. It is typically used in confectionery baked items where the flavour of yeast and fermentation is undesirable. Baking powder can be defined as a dry chemical leavening agent which typically consists of three main components including a base (sodium bicarbonate; NaHCO_3), an acid (such as cream of tartar) and starch which acts as a buffer to prevent premature reaction between the base and acid components (corn starch most commonly used).

THE SCIENCE BEHIND THE RISE

When baking powder is added to a recipe, the main object is for liberation of carbon dioxide (CO_2). The CO_2 produced is subsequently entrapped in a batter or dough to create a desired voluminous, fluffy texture in the baked product. For the chemical reaction where CO_2 is released to take place, water needs to be added to baking powder. Addition of water allows the acid and base components to react, leading to release of CO_2 from the sodium bicarbonate which in turn inflates the dough. More CO_2 is produced when heat is introduced as NaHCO_3 undergoes thermal decomposition at temperatures in excess of 80°C , producing one molecule of CO_2 for every two molecules of NaHCO_3 . Although sodium bicarbonate, commonly known as baking soda, can be used on its own, it is generally only used in recipes where an acid component such as lemon juice or buttermilk is already used in the recipe allowing the NaHCO_3 to undergo an acid-base reaction. In this case a single CO_2 molecule is released for every one NaHCO_3 molecule, which implies that half the amount of baking soda is required to get the same amount of volume and fluffiness obtained when using baking powder. Recipes that do not contain



an acidic component will generally use baking powder, which consists of one or a combination of acid components as discussed above.

Baking powder is classified by its rate of reaction (ROR) which represents the percentage of CO_2 released by the acid-base reaction and can be grouped into three different classes. Firstly, and most commonly, double acting baking powder contains a mixture of leavening acids which reacts immediately when liquid is added, and again when heat is introduced. Double acting baking powder only reacts partially at low temperatures to form a smooth batter, but typically requires higher temperatures to complete the reaction. Secondly, fast-acting baking powder releases most of its potential gas volume during the first few minutes of contact with liquid, creating the need to process the batter or dough relatively quickly. Thirdly, in contrast to fast-acting baking powder, slow-acting baking powder releases no gas when a liquid is added and requires heat to enable and complete the reaction.

BEYOND LEAVENING

Apart from its function as leavening agent, baking powder can also significantly influence crumb structure, moisture absorption and crust formation in baked goods. Crumb structure is influenced by the air pocket arrangement created by

the CO_2 gas produced by baking powder, which will affect the distribution and size of the air pockets leading to a more fine or more coarse crumb structure. Moisture absorption in baked goods can be negatively affected when too much baking powder is added, causing quick dry-out which will lead to a crumbly texture. Adding the optimal amount of baking powder generally yields a light and fluffy texture. However, when too much baking powder is added the batter or dough will overexpand, resulting in a cracked and uneven crust. Furthermore, adding too much baking powder, or using a baking powder with incorrect composition, can also affect the flavour of baked goods resulting in a bitter aftertaste. The addition of baking powder to baked confectionery items such as sponge cakes, biscuits, muffins, and scones is crucial as it will ultimately not only act as raising agent, but will also influence physio-chemical, textural, sensory, and aromatic properties of baked goods. The correct usage level of baking powder will result in tender and moist baked goods and by understanding the chemical reaction of baking powder and the interaction thereof with other ingredients, it can aid baking consistently high-quality products. 🍪

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ENHANCE YOUR BAKING WITH AFRICAN FOOD INDUSTRIES' BAKING POWDERS

African Food Industries (AFI) presents its customised baking powders. Our meticulously crafted products are tailored to address the varied requirements of commercial and artisan baking, guaranteeing exceptional volume, texture, flavour and consistency. Explore our baking powder range formulated to elevate your baked goods.

WE OFFER

Tailored and Flexible Solutions

We understand that every baking application is unique. That's why we offer custom-made baking powders specifically designed for cakes, sponges, flapjacks, tortillas, crumpets, scones, and more.

Advanced Formulations

Our modern baking powders utilise cutting-edge ingredients like Sodium Acid Pyrophosphate for a precise, controlled reaction, resulting in consistent quality and performance.

Diverse Applications

From moisture-activated to customising the rate of CO₂ release, we provide a wide range of options to suit your processing requirements. Choose from various acids and combinations to achieve the perfect expansion of gluten or egg matrix.

Quality Control

With our extensive experience and expertise, you can trust AFI to deliver superior product and process performance, ensuring optimal results. Every batch undergoes rigorous quality testing and is test baked in application.

FSSC 22000 Certified

Our baking powders are manufactured in our FSSC 22000 production facility, ensuring the utmost quality and food safety in accordance with global standards.



ifaBAKE™ BAKING POWDER RANGE

SUPREME

Developed for industrial baking, ideal for auto or semi-auto processes.

REGULAR

Tailored for home baking mixes in various product types such as scones, flapjacks, cakes, and sponges.

BPR

Versatile baking powder for self-rising flour and commercial mixes.

The future of purpose driven drinks

Proper nutrition is so important for our personal health and wellbeing that it is even written into cartoons. A certain muscular sailor teaches children that spinach will make you strong while a whitty rabbit constantly sports a bright orange carrot.

However, the pace of daily life we currently set for ourselves often leads to us settling for the easier more comfortable and less healthy option when it comes to our nutrition. In response, many fast food empires have risen by providing food at the touch of a button limiting the time required for things as tedious as cooking a well balanced dinner.

Despite being spoiled for choice in everything from what to watch on television to what we eat, society is becoming increasingly more unhappy with some studies estimating that burnout and depression rates are roughly 59% and 21%, respectively.

The question therefore becomes: "How do we balance a healthy diet with the demands of daily life?" Part of the answer lies in the simple fact that we have to consume roughly three litres of water a day. So why not ensure that this is jam-packed with whatever we need to sustain the pace that our daily lives demand, or even add specific compounds which cater for the specific needs of our own personal health? Whether you're a bricky drinking a 500ml energy drink as a meal replacement or an executive getting all your macros by sipping on a scelenium-infused "freezo", there is method in this functional beverage madness!

Functional beverages are any drinks that have an added benefit albeit a medicinal or active supplement. These supplements may be as simple as adding minerals, or as complex as adding specific combinations of amino acids to your drink to improve cellular respiration. They can even include complete plant-based actives such as lion's mane mushrooms, scelenium or hempseed oil containing CBD. Not surprisingly the functional beverage segment has seen continuous growth over the past five years and has become one of the most sought-after product development categories in the beverage trade.

Based on the accessibility/acceptability and the dosage of a supplement, two main approaches have been suggested. The first group of beverages in the functional space play it safe with more of a dress rehearsal than the actual ball. These drinks often boast sustained maintenance of cellular homeostasis by including minerals and vitamins. The second group is designed to push the envelope on the active ingredients and may include plant extracts such as alkaloids and cannabinoids which have been suggested to reduce stress. Others claim to give you wings by providing a shot of caffeine. These benefits can be

BEVERAGE INNOVATION

from concept to commercialisation

As your beverage innovation specialist, Synercore simplifies product development from concept to launch. Our fully equipped innovation pilot plant and expert team provide comprehensive solutions, using the very best ingredients to ensure optimal stability, flavour and processing.

Our key products for all beverage needs

| | | | |
|--|--------------------------|----------------------|------------------|
| Tailor-made stabiliser systems | | Single hydrocolloids | |
| Functional health & wellness ingredients | | Starter cultures | |
| Probiotics | Powder & liquid flavours | | Flavour extracts |
| Masking agents | Sugar replacement blends | | Enzymes |
| Fruit preps & syrups | | Foaming agents | |
| Preservative blends | | Emulsifiers | |
| Grains & cereals | | | |

Beverage Categories

Neutral dairy

Plant based

Low pH dairy

Juices

Non-alcoholic drinks

Carbonated drinks

Concentrates

Powder drinks

STRATEGIC PARTNERS

highlighted with daily intake limits as well as legal requirements which makes for clever packaging to educate your intended market.

Because the strategic marketing of these beverages are key, there is a lot to consider if your intent is to design a functional beverage. One of the main methods to address this is to lead with the proposed "health benefit". Here one can position a beverage to be energy boosting, good for digestion, immune supportive, increased hydration, reduced stress and weight management. Typically these products may contain actives such as caffeine, vitamins, probiotics, prebiotics, electrolytes, melatonin and ingredients that promotes satiety. This script can easily be flipped by marketing the product by ingredient type, the target audience, the product format perspective (RTD, powder etc), dietary preference or even by simply highlighting the actual active ingredient.

The versatility of the functional beverage space is showcased in the differences between so-called simple and complex functional beverages. The main difference between these two groups are the source of the active ingredient (i.e., natural or synthetic), the total amount of active ingredients added and, lastly, the potential interaction between active ingredients which may enhance the effectivity of the product. An example of the latter being black pepper which aids in the absorption of curcumin from turmeric. The following examples serves as a quick comparison between simple and complex functional beverages:

"Companies are investing in ingredient and flavour innovations by sourcing botanicals, herbs, probiotics while continually striving to reduce sugar"

Product 1 - "Lemon Water with Honey and Ginger"

Ingredients: Lemon juice, honey and ginger

The function gained from each ingredient will be vitamin C and immunity boost from the lemon juice as well as the fact that it is good for the digestion. The honey giving us the natural sweetness, antibacterial properties as well as antioxidants. The ginger of course also good for the digestive system and the anti-inflammatory action it provides.

Product 2 - "Turmeric Latte with adaptogens and probiotics"

Ingredients: Almond milk, turmeric, cinnamon, black pepper, ginger, coconut oil, ashwagandha powder, maca powder, probiotic powder, honey or maple syrup
The functional effect that we can gain from this elaborate list of ingredients in short: Anti-inflammatory, anti-oxidant, aids digestion, aids the

absorption of fat soluble vitamins, management of stress, boost of energy, supports hormonal balance and supporting the immune system.

In recent years we have seen the functional beverage segment develop from limited stock in specific health stores to general retail. Start-up brands like Happy Culture and Good Gut, which focus on probiotics, Numuti containing adaptogens, and Dope with its focus on CBD, are but a few examples of the vast new playground of functional beverages. Health and wellness are forever popular and, with the ease of access to information, functional beverages are driven in South Africa by the influence of the Millennial, culture and social media and the combination of preference and convenience. Companies are investing in ingredient and flavour innovations by sourcing botanicals, herbs, probiotics while continually striving to reduce sugar. With the fast pace of the lives we live today to have a purpose driven drink in hand just makes a lot of sense!

However, the South African beverage market can be both quick and slow adopters depending on the market pull. With a segment like functional beverages, of course there are some considerations. There is a big difference between serving someone a lemon water versus fortifying it with a scheduled ingredient like melatonin or an adaptogen like Scelletium/CBD/THC. Regulatory considerations mostly boils down to what claims can be made on packaging and with trademarked ingredients, producers therefore often opt for clever brand names and branding to do the talking. While there is still a lot of grey area left for the producer, retailer and consumer and market education as well as access to information is the current key to success.

In conclusion

Focus on personalised health and wellbeing along with the access to a very active world of social media marketing has set the stage for brand owners to stake their claim in this exciting market to fuel us with "everything we need in a day"!

As knowledge grows, navigating regulatory constraints and grey areas will improve over time as systems adapt and evolve. However, for now our first step to lead a purpose driven life has become a jump as we sip on these elixirs whilst we pound away on our computers or find ourselves stuck in yet another traffic jam to be just in time to pick up our kids from school. The functional beverage market of South Africa is thriving and will continue to thrive for years to come.

Authors:

Dr. Hanneli van der Merwe, Beverages and Business Development at Synercore
Co-Author: Dr. Stefan Hayward, Scientist at Innovative Research Solutions



South Africa's dairy excellence

Graham Sutherland, Synercore's Culture Specialist & Chief judge of the 2024 South African Dairy Championships shares a personal perspective on South Africa's thriving dairy excellence.

South Africa is blessed with unique beauty and diversity, both in nature and its people. It is therefore not surprising that we are also blessed with a unique, dynamic, and flourishing dairy industry which is driven by passionate, competent, and innovative dairy men and women from all cultural walks of life. These individuals have combined their skills to create a rich tapestry of artisanal and commercial cheeses for our senses to enjoy in a wide variety of occasions.

"During my "Camino" through the SA dairy industry, I have always believed that cheesemaking is both an artful science and a scientific art."

locally produced, award-winning artisanal speciality cheeses crafted from cow, goat, and even sheep milk. Meanwhile the large commercial cheese companies continue to "churn" out tons of high-quality pizza mozzarella, cheddar, and gouda variations to keep the food service industry satisfied and the retail supermarket shelves well stocked.

During my "Camino" through the SA dairy industry, I have always believed that cheesemaking is both an artful science and a scientific art. This is the key to making a great cheese.

ARTISANAL SPECIALITY

Although South Africa does not enjoy a historic cultural romance with cheese like many European countries do, we can still be proud of our cheese achievements here at the Southern tip of Africa. As a nation we are transitioning from simply consuming yellow cheddar and gouda to enjoying a wide variety of

Proving the dairy industry's commitment to quality, the first South African Dairy Championship was held in 1833 and today boasts with more than 900 entrants in up to 10 categories, including cheese. When the cheeses arrives for judging, it is evaluated by a panel of five judges using a 30-point international scoring system. The cheese is scored for appearance, texture, and taste. Sometimes, it is also scored on functionality e.g. pizza mozzarella and halloumi. The judging is a technical examination of



A NEW SOLUTION FOR YEAST AND MOULD CONTROL ON CHEESE

Sacco's 4Protection range consists of food cultures with protective effects that help dairy products stay safe and fresh for longer periods. These unique culture blends exert biological and preservative interactions with the food matrix and spoilage bacteria by producing inhibitory molecules to maintain product quality throughout its shelf-life.

Lyofast CPR 4P1 is Sacco's latest innovation in the 4Protection range. It consists of carefully selected freeze-dried strains of *Lactobacillus rhamnosus*, *Lactobacillus plantarum* and *Carnobacterium* spp. The combination of these strains offers a wide range of protection against unwanted yeast, mould, and gram-negative bacteria, including *Listeria monocytogenes* and general *Listeria* spp. It can be easily applied as a surface treatment on cheese or during processing by direct inoculation of milk, brine solution or cheese cooling water.

BENEFITS

- Easy inclusion and application
- Used in conjunction with starter cultures
- No impact on taste and aroma
- Prolonging shelf-life
- Reduces food waste
- Inhibit growth of spoilage- and pathogenic bacteria
- Clean label

SACCO'S 4PROTECTION RANGE

- Anti Yeast & Mould
- Anti Heterofermentative & *Propionibacterium* spp.
- Anti *Pseudomonas* & Psychrotrophic bacteria
- Anti *Clostridia*
- Anti *Listeria*





the cheesemaker's understanding of the class of cheese based on their milk quality, manufacturing process (including maturation), and quality/performance of ingredients such as cheese and food cultures with protective effects, coagulants (rennet), and various condiments if required. The evaluation is a thorough sensorial test, and each judge is required to give comment on positive or negative attributes noted in order that this feedback can be summarised and sent to the cheesemaker after the announcement of the class winners.

RAW MILK NEGLECT

However, despite judging the best of the best I am adamant that too little scientific attention and resource is given to the integrity of the single biggest



"The cheese is scored for appearance, texture, and taste. Sometimes, it is also scored on functionality e.g. pizza mozzarella and halloumi."

ingredient of our industry, namely raw milk. Too many cheese producers neglect this, to their own detriment, and end up paying the price later down the line with lower cheese yields and/or flavour defects. These issues inevitably lead to economic losses and sub-standard product being sold to the end consumer, if only they had respected the science of herd health, milking



parlour hygiene, psychrotrophic bacteria, milk spoilage, and raw milk age, and implemented sufficient safety measures to give their cheesemaker/s the best possible opportunity to make award winning cheese every day

It has also been my experience that much of my dairy time is spent doing what I term "renovation" work, i.e., troubleshooting cheese defects and preaching continuous improvement processes throughout cheese plants to ensure their compliance and sustainability. This often takes precedence over innovation work where there is more scope for creative scientific thinking. This is a concerning reflection as technical cheesemaking expertise seems undervalued in this country and, for various reasons, its popularity is rapidly dwindling. Sadly, I don't see our young students queuing to pursue a career in the local dairy industry to be mentored by the few remaining experts either.

BUT WHAT MAKES A GREAT CHEESE?

- Commitment from owners and management to food safety compliance and good manufacturing practices (GMP's)
- Owners or management creating a winning culture ethos within the team by focusing on training, career path development, and attention to detail.
- Collective scientific, equipment, mechanical, and organoleptic competency within the cheesemaking team

- Bold creative thinking, passion, and disciplined dedication
- Technical knowledge of the class of cheese being produced
- Regular benchmarking and taste panel evaluation.

If all these components are seamlessly integrated, then one will have established a robust foundation from which to launch into submitting a potential SA Dairy Championship Cheese Class winner

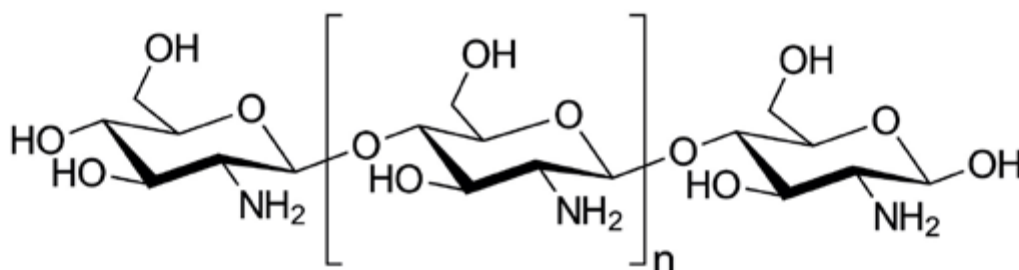
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Chitosan – The Swiss army knife of winemaking

From the instance humans first succumbed to the siren song of fermenting grapes into wine, it has been prevalent in our art, inspiring many a novel, poem, and song.

By Dr. Stefan Hayward, Scientist at Innovative Research Solutions and
Dr. Hanneli van der Merwe, Beverage and Business Development at Synercore



Its production, and especially its consumption, has adorned the tomb walls of pharos, kings and the common man alike. It even features prominently in various biblical texts. Today, despite being produced for millennia, the basic principles of winemaking remain largely unchanged. However, the overall product quality has increased significantly since that first ferment. While this is mainly due to a better understanding of the biochemical principles of fermentation and winemaking, additives have played a significant role in the evolution of wine.

Homer first mentioned the preservative effects of burning sulphur in *The Odyssey*. However, the application of sulphur dioxide (SO₂) in wine was only described much later by Louis Pasteur, the father of modern microbiology, who recommended burning sulphur in wine barrels to preserve its content during storage and export. Since then, the use of SO₂ in wine has largely remained unrivalled. It's only in recent years that its use has been challenged due to various adverse health effects associated with its overconsumption. These include headaches, nausea, stomach irritation and respiratory distress. As a result, the use of SO₂ in wine is tightly regulated by various regulatory bodies, making it the only ingredient winemakers must add to their labels. As a result, this prompted a search for a natural alternative, and in recent times, chitosan has emerged as a promising candidate.

Alkaline treatment of chitin, the second most abundant

polysaccharide in nature, results in deacetylation of the chitin biopolymer to yield a positively charged chitin biopolymer. When used in wine chitosan aids in clarification during racking and prevents unwanted fermentation via wild yeast species like *Brettanomyces*. Furthermore, chitosan has been shown to prevent acetic- and lactic acid bacteria proliferation. Moreover, the charge distribution of the chitin biopolymer enables the chelation and removal of cationic metals such as iron, lead, copper, and cadmium. However, despite these benefits, one of the main advantages associated with the use of chitin is its natural origin. The chitin molecule is biodegradable, safe for staff to work with, and has no inherent flavour. Recent studies have suggested that chitosan may have antioxidative properties for thiols in young wines.

The growing interest in natural alternatives for wine preservation reflects a broader shift towards more sustainable and health-conscious practices in winemaking. With its numerous benefits, chitosan has proven to be a promising replacement for sulfur dioxide. As research continues to explore its potential, winemakers may find that chitosan not only enhances the quality and safety of wine but also aligns with consumer demand for cleaner, more natural products. This evolution in winemaking represents a harmonious blend of tradition and innovation allowing winemakers to blend expertise and passion *Intowijn*.

As a pioneering division of Synercore, IntoWijn specialises in developing products for the South African wine industry. Our commitment to innovation ensures we stand out. We produce our products locally, providing timely and cost-effective solutions tailored to the specific demand of winemaking. From the simplest ingredient to customised commodities, we aim to enhance the quality of wine production.

LOCALLY
produced products

HIGH-QUALITY
and cost-effective offerings

INNOVATIVE
and customised solutions

COMMITTED
to research and development

ABILITY
to produce on demand

SAVE
on logistics

PROUDLY
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THE
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Wishing you, and your family
A HAPPY NEW YEAR!