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This month we feature two of Africa’s leading critical business thinkers on the subject of food-a-nomics. First, there’s Nampak SA CEO André de Ruyter’s hard-hitting address at Propak 2017 (Page 27). Then there’s Dr Akinwumi Adesina, president of the African Development Bank, giving an impassioned lecture in the US recently (Page 14).

Both of these heavyweights hammered home a powerful message - excessive reliance on consumer goods imports (the continent will spend over $100 billion a year on food imports by 2030 if things continue as they are) is hugely damaging to the economies of South and Sub-Saharan Africa.

Africa, said Adesina, is the only region of the world where the proportion of the population that is food insecure is on the increase. It is totally unacceptable, he said, that the continent is so reliant on food imports when it sits on 65% of the uncultivated arable land left in the world.

In his address, De Ruyter warned that growing imports, aided by the destruction of our manufacturing base due to backward fiscal policies, were putting pressure on the packaging sector in particular and the economy in general.

What both men really wanted to say but were just too polite to say, is that African governments (especially ours) needed to get their shit together and start, as Trump might put it, draining the swamp of excessive imports of consumer goods.

De Ruyter then used the (often) dreaded P-word. “If we protected local industry through more assertive procurement policies and then created additional demand for local goods, we could turn what is a vicious cycle of de-industrialization into a virtuous one of economic growth and upliftment.”

If … only … just imagine …

The year is over, and what a rollercoaster it has been. Too many economic traumas, too many political dramas and too little rain in this beloved country of ours. Glad it’s over!

On behalf of the team, I wish you and your loved ones a peaceful, health-filled and prosperous 2018.

Bruce Cohen
editor@fbreporter.co.za

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The majority of black women and men in South Africa carrying extra weight do not think of themselves as obese or at risk of obesity – on the contrary, they consider their surplus kilos desirable and essential for their social standing.

As a result, most overweight women were not willing to lose weight as they considered it “not a health risk”. Such attitudes have a serious impact on public health in SA, says Dr Kufre Okop, who this year graduated with a doctorate in public health from UWC.

In his doctoral work, Okop explored body image as shaped by the dominant culture in a society and its association with obesity and heart disease. “Body image,” he says, “is a multifaceted construct that consists of a variety of dimensions based on societal precedents.” In effect, we take our cue for what looks good from the world around us, especially from those in our immediate circles and communities.

Across Sub-Saharan Africa, an overweight body size is idealised for women – and men, says Okop. In many African communities, for instance, a newly-married woman is expected to quickly put on weight to prove to her in-laws and the community that her husband is taking good care of her.

For both men and women, the extra weight that they carry is an indicator of affluence, good health, happiness, beauty and influence. Among men, the “big size” is considered important for influence and power.

“Body image preference and the accompanying problems are not only seen in Africa but globally, even in the US, and several studies have documented this,” says Okop. “However, the difference is that, in the developed ‘Western’ world, most women prefer slender size or shape, whereas in an African setting like South Africa large body sizes and shapes are preferred.”

He says such is that influence that there is a stigma attached to being thin – in sharp contrast to the developed world where obesity is typically stigmatised. “In the face of HIV/AIDs and TB epidemics in Africa, if you are thin or slender, then you are often considered to be sick of HIV/AIDS or even cancer.”

Adds Okop: “Many more people are becoming overweight or obese every year due to the ... shift from African types of food to Westernised, high-fat, high-calorie food – and easy access to cheap, sugar-sweetened beverages.

“The synergistic effect of nutrition transition, increasing access to junk food and the dominant cultural preference for large body image among the majority of black South Africans is a great public challenge as this not only impacts on weight management, but on self-management of diseases such as diabetes and hypertension,” he warns.

The Stellenbosch University is now taking applications for its innovative 2018 post-graduate programme on food provision, food security and policy.

The first group of nine students started their two-year studies at the beginning of 2017, so the 2018 intake will only be the second group of students on the course.

The programme is presented jointly by the Faculty of Agri-Sciences’ Departments of Food Science and Agricultural Economics, along with the Faculty of Medicine and Health Sciences’ Department of Interdisciplinary Health Sciences and comprises 12 theoretical modules and a research project.

“Nutrition and food security is not only about making sure that no-one goes hungry, but also about ensuring that the right kinds of food are produced and that all citizens of the country have access to healthy options to eat,” says Prof Gunnar Sigge of Stellenbosch’s Department of Food Science.

To qualify for selection, applicants need a relevant BSc degree in Science (3 years) and an Honours degree, or a BSc Agriculture degree, or a four-year degree in Health Sciences with a minimum pass mark of 60%, or a Bachelors or Honours degree that has been approved by the Senate on level 8 of the National Qualifications Framework (NQF). For more information about the programme, contact Prof Sigge at gos@sun.ac.za or Prof Xikombiso Mbhenyane at xgm@sun.ac.za
One of the world's leading speciality chemical distributors, Germany's Brenntag, which has a large product portfolio in the food and beverage sector, is now operating under its own brand in South Africa following the merger of Lionheart, Plastichem, Multilube and Warren Chem Specialities into a new entity.

Brenntag South Africa (Pty) was officially launched on October 1. The business includes chemical distribution and services in Life Science (food, nutrition, pharma and personal care), Material Science (plastics, rubbers, polymers and lubricants) as well as Industrial Sales and Services.

Explaining the move, Karsten Beckmann, CEO Brenntag EMEA, said the South African food sector was showing long-term fundamental growth due to increasing demand for convenience food as well as the expansion of SA retailers into Sub-Saharan Africa.

Added Michael Thomson, President of Brenntag Africa: "The new company has a focused commercial set-up, specifically tailored to industry sectors and leveraging on the expertise and skills of the former individual companies, ensuring that the business is strategically and operationally better positioned to realize growth. Bringing the individual companies together has allowed for the development of a customer-centred approach and more streamlined and efficient operations."

Brenntag, headquartered in Mülheim an der Ruhr, Germany, operates a global network with more than 550 locations in 74 countries. In 2016, the company, which has a global workforce of around 15 000 employees, generated sales of EUR 10.5 billion.

With over 10 000 products and a world-class supplier base, Brenntag offers one-stop-shop solutions to around 185 000 customers. This includes specific application technology, an extensive technical support and value-added services such as just-in-time delivery, product mixing, formulation, repackaging, inventory management and drum return handling.

Brenntag SA has about 180 employees and locations in Cape Town, Johannesburg and Durban.

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MÉRIEUX LAUNCHES LAB IN GEORGE

Mérieux Nutri-Sciences has opened a brand new microbiology laboratory in George. The new lab is Mérieux’s fourth commercial testing location in South Africa and will offer a wide spectrum of ISO 17025-accredited microbiological tests.

Says Valmé Stewart, Managing Director of Mérieux NutriSciences in SA: “Our George investment has been in response to a noticeable increase in client demand for local testing services since the opening of our first George satellite office back in 2011.

The new lab will offer the region a dedicated sample collection service, reducing turn-around times and courier costs.

This, says Stewart, “coupled with our existing training and hygiene audit services in the region, positions Mérieux NutriSciences as a one-stop-shop for industry in the Southern and Eastern Cape.”

With a layout designed to maximize efficiency in sample flow, and a dedicated staff, the George lab is a valuable addition to Mérieux’s worldwide network, which today numbers 7 000 employees and 100 laboratories across 21 countries.

merieuxnutrisciences.com

Cutting the ribbon at the official opening. From left: André Lambrechts (Director - South Africa); Valmé Stewart (Managing Director - South Africa); Stefano Colombo (Corporate Director - Microbiology)
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DEW CRISP’S PASSION FOR INNOVATION … AND THE VEGGIES JUST GET SEXIER AND SEXIER …

Dew Crisp has been sexing up South African salads for decades with its innovative approach to both farming and packaging. Catherine Knight spoke to founder Bruce Glazer about what drives the business, and finds out about their new low-carb veg pastas which are very, very lekker…

Bruce Glazer and Michael Kaplan started Dew Crisp in 1983 and have been equal partners since inception with Kaplan running Gauteng and Glazer the Western Cape. Glazer is a qualified viticulturist who studied at Elsenberg Agricultural College and then researched hydroponics in Israel for a year. He has farming in his blood with both sets of grandparents having been farmers.

The company’s operations in Cape Town and Jo’burg include large-scale farming with a total of 275ha under cultivation across the two provinces using both hydroponics and conventional techniques. Each centre has an integrated processing, packing, logistics and cold-chain distribution service. Dew Crisp also offers a daily telesales service to over 150 retail outlets.

Says Glazer: “At the time we started growing our first crops hydroponically, agri-processing opportunities were non-existent. Through travelling, reading and keeping in touch with the latest international trends, we were able to introduce proven international agri-processing techniques into the SA market.”

One of the innovations he introduced was the use of the GFT (Gravel Farming Technique) hydroponic system, which continuously recycles nutrient-enriched water through growing beds. GFT is ideal for the growing of leafy herb and salad products, which is where the company focussed initially, and is also environmentally friendly as there is no nutrient run-off and water usage is very efficient.

“Our farms,” says Glazer proudly, “are Global Gap (Good Agricultural Practices) certified, ensuring that strict rotational programs are in place to protect the integrity of the soils. We continue to employ the latest farming techniques using state-of-the-art equipment.”

Dew Crisp’s Franschhoek packing plant, for example, boasts a multhead weigher and has been FSSC 22000 certified since October 2013, with production standards that meet...
Food Fundi

and exceed all their customers audit requirements. “We’ve also established strong relationships with a few selected farmers, as this diversification of source helps us mitigate risk and ensure that we can provide our customers with a continuous supply of high quality goods.”

The vast majority of the products Dew Crisp supplies is private label to major chains, with only 8% running under the Dew Crisp brand itself. It was only in 2013 that its own consumer-facing brand was launched, with the range now consisting of a large variety of pillow packs – another innovation Glazer brought to SA – along with herbs, salad tubs, prepped veg combos and even soup packs. “Our brand stands for ethical farming, quality, assured supply, innovation and value for money produce,” says Glazer.

Innovation has always been a cornerstone of the Dew Crisp business, with the simple commodities side having been augmented with value-added products as far back as the early 90s. One of its latest offerings is a low-carb pasta line, which has been developed in partnership with Formfoods, another local player big on innovation.

The back story to the low-carb pasta reveals just how time-consuming the innovation process can be. Formfoods had started the development of continuous noodle technology back in 2002 but it took many years and numerous setbacks to get the continuous alginate processing technology to a place where it was consistently delivering at a high standard.

Formfoods’ CEO Chris van der Merwe then approached private equity fund Agri-Vie with a view to raising capital to commercialise its patented vegetable noodle technology. Agri-Vie in turn introduced FormFoods to Dew Crisp, given how well-matched the two businesses were: Dew Crisp bringing its expertise in growing vegetables, manufacturing, logistics and sales and its reputation for innovation to the table, and Formfoods equally bringing their expertise in developing world-first technologies and proprietary products in different food categories to the party.

“It was a no-brainer to collaborate and form a joint venture to capitalise on the market opportunity that has presented itself out of the realization that sugar, starch and ‘empty’ carbs are big culprits in many of the illnesses challenging society,” notes Van der Merwe.

“The amazing part is how much time, money and effort went into the large-scale commercialisation of the products. As it was ground-breaking, world-first technology, it took more than two years to set up the state-of-the-art facility which now produces the pure vegetable noodles,” he adds.

Dew Crisp runs its own NPD team made up of both internal and external resources, which draws its inspiration from local and global trends. Glazer notes that innovation is “a collaboration between the various technical, production, packaging and farming departments and is normally done with seasonal windows in mind so salad innovation for summer and vegetable ones for winter as a general rule”. He is always personally involved in the process: “There are a lot of challenges and hurdles to cross before bringing a product to market.”

Glazer says he draws inspiration from the entire Dew Crisp team who have been part of this 34-year journey. “This business never sleeps, and the commitment, loyalty and dedication of our staff is truly inspirational.”

Business never sleeps, and the commitment, loyalty and dedication of our staff is truly inspirational.

Our brand stands for ethical farming, quality, assured supply, innovation and value for money produce.

- Bruce Glazer
Of all the solutions available to manufacturers for eliminating pathogens in their factories and on their products and packaging, ultraviolet (UV-C) light is proving to be one the safest, efficient and cost-effective options. Best of all, it’s chemical-free – and that’s what consumers are demanding these days.

Invisible ultra-violet light is best known at the UV-A and UV-B wavelengths (the ones that generate sun tans). The bacteria-killing UV-C frequency, however, is filtered out by the Earth’s atmosphere - if it did not do this, our planet would be sterile – and thus dead!

UV-C eliminates surface bacteria, viruses and moulds by penetrating their membranes and attacking their DNA, killing them instantly. Its power has been understood for centuries and it has been used for decades in medical facilities to kill airborne pathogens like TB.

These days it’s finding increasing favour in the foodbev industry to disinfect products like meats, spices, vegetables, soft fruits, seeds and nuts. Of course, UV-C has long been used to sterilise water as well.

The leading player in UV-C in SA is Johannesburg-based Technilamp. The company has been around for nearly 40 years and has extensive experience in lightwave technologies, having held the franchise in SA for Philip’s UV and IR solutions for decades.

Technilamp MD Hylton Cowie says the company has deployed thousands of UV-C lamps in hospitals countrywide, but they have been finding a very receptive audience in the foodbev industry since installing their first UV-C germicidal solution at an export-focussed soft-fruit packer six years ago. UV-C is incredibly versatile, says Cowie. It can sterilise air, water and surface areas. It’s around 98% effective.

He says Technilamp has a range of off-the-shelf UV-C products, but also develops customised solutions for specific applications. Specialised tumbler and agitator solutions as well as conveyor systems with UV-C disinfection both top and bottom of the conveyor can be made to customers’ requirements.

They can be designed for disinfection either at the time of pre-packing, during the actual packing process, or prior to sealing of contents.

Disinfection can be fine-tuned by manipulating the UV-C wattage and exposure time, which will vary depending on the type of bacteria to be killed. UV-C is completely harmless to the product being treated and has no effect on taste. Even bigger news is that UV-C treatment can significantly improve shelf life.

Cowie says Technilamp has had some noteworthy successes in the bakery sector using UV-C to extend freshness of the end product. He points out the UV-C can be used across a multiplicity of applications, not just for disinfecting air and food. Packaging lines and consumables such as PET bottles can also be treated, as well as work surfaces.

Cowie is convinced that UV-C is the best germicidal solution for the foodbev industry: “There is simply no more cost-effective and maintenance-free system for surface or air sterilisation on a 24X7 basis that is environmentally friendly. Once commissioned, only power consumption, which is minimal, and annual lamp replacement costs are incurred.”

I’ve got to admit: UV-C certainly kicks microbial ass!

- Bruce Cohen

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Master brewer Jörg Finkeldey studied chemical engineering and wandered into brewing almost accidentally when what was then South West Breweries (now Namibia Breweries) was looking for an engineer to join them in 1988.

He found himself dispatched to Germany to learn about all the technicalities of beer brewing, thereby converting to a brewing engineer by attending the Doemens Brewing School in Munich and the University of Berlin.

Finkeldey has worked across the world for a variety of companies, in a variety of roles, from being part of the team installing a brewery in a restaurant in Los Angeles, to Budapest where he was design engineer for a company manufacturing micro-breweries, to setting up his own brewery manufacturing, marketing and sales company in Stuttgart. He returned Stateside where he ran sales for Steinecker Inc/Krones before coming home to Africa to set up the first micro-brewery in Windhoek.

Finkeldey finally settled in Hout Bay three years ago. His consulting firm, Brew Africa, has worked with many local micro-brewers, including Devils Peak, Urban Brewing, Berg River Brewery, Stellenbosch Brewing Co (see story on next page), Jack Black’s and more.

Finkeldey points to the early 90s as the start of the micro-brewing revolution when US consumers, bored with beers from the three giants (Anheuser Busch, Miller & Coors), started experimenting with home brewing. This triggered demand for ingredients, with home brewing shops opening up all over.

“The accessibility of raw materials in turn allowed excited, motivated and pioneering spirited individuals such as Jim Koch (Boston Lager), Fritz Maytag (Anchor Steam) and Karl Strauss (Strauss Brewery) just to name a few who are now heavyweights to venture further and further from the kitchen to the garage to a small warehouse to breweries that made them millionaires and even billionaires.

All of this would not have been possible if it were not for the vision and support of Charlie Papazian, who organized these home brewers into an association, which ultimately became an Association of Brewers that now has more than 10 000 members and more than 5 000 official breweries in the US alone.”

Finkeldey - as one would expect from an engineer - is precise about what exactly defines a craft setup. “A micro-brewery or craft brewery produces small amounts of beer and is independently owned. Such breweries are generally characterized by their emphasis on quality, flavour and brewing technique.”
The craft beer space encompasses home brewing, nano-breweries (which produce 100-500l batches), brew pubs (which produce 300l-1000l batches, and those brewing up to 100 000l per annum).

“Technically speaking, the term micro-brewery should only really be used for setups which produce in the region of 5000 – 6 000 hectolitres (1 hectoliter = 100 liters) per annum.” It is independent ownership, though, that Finkeldey considers the defining characteristic.

When asked about the fact that a “craft” beer is not necessarily any better than a commercially-brewed beer, Finkeldey is adamant there are no short cuts. “No matter how small a brewery is, brewing is never only an art or craft, it is also a very precise science. The principles and the demands on a brewer are the same for a 1l batch as they are for a 1000 hl batch.

“Most people do not realize this and will take shortcuts due to ignorance, lack of knowledge or plain laziness. A famous German brewer, when asked what makes a good beer, said that one must buy the best ingredients you can possibly afford, clean everything all the time, boil the kettle well - and pray!”

Having bucks, it would appear, is also obligatory, with about R5-million required to buy you both the initial set-up and enough funding to keep you going for the first 1000 nights of operating by which time, if you survive that period, you should be in the black.

Finkeldey says South Africa’s craft beer does not have a unique national identity as such but rather follows the trend set here 120 years ago by the “Charles Glass Society”.

“Craft brewers are tempted to venture out and that is certainly the idea and aim of craft beer. Unfortunately for now, though, they have no choice but to offer a lager beer if they want to survive as the SA consumer has been conditioned to believe that lager is the beer to enjoy. This is a very sad state of affairs.”

He notes that raw materials in and from Southern Africa are rather limited as only barley malt is available in SA, and that only from a particular cultivar that was spec’d by what was formerly SAB.

“It works as base malt for craft brewers but it has its limitations. No specialty malts are available to craft brewers in SA yet. There are a few hop varieties available but these are just not enough (in variety and quantity) to quench the growing thirst for craft beer.”

Finkeldey notes that whilst the total sales of US craft beer surpassed those of Budweiser in 2013, and although South Africa is one of the top beer-drinking nations globally, consuming an average of 60 litres per person per year (bearing in mind that beer makes up 60% of alcoholic beverage demand in SA), craft beer is still very much in its infancy here.

While the craft sector is growing fast with around 200 micro-breweries doing their thing around the country, the top 5 larger craft brewers dominate the market, accounting for about 80% of craft sales.

“I believe that the craft space has loads of growth ahead of it,” says Finkeldey. “Our craft breweries currently only focus on the local market, but an opportunity exists to extend supply into the international markets. Differentiation is, however, essential and this is where local ingredients might come into play. We need to promote SA craft beer by presenting more delicate beers with drinkability, beers that give the consumer choice and keep them coming back for more.”

Sounds simple enough, no? www.brewafrica.com

HOENDERHOK IS 2017 WINNER

Hoenderhok Bock, a dark German-style lager made by craft brewery Stellenbosch Brewing Company is the 2017 winner of the South African National Beer Trophy Competition.

The “Bock” also won a gold medal and the trophy for Best Beer in the Amber Category. And the Stellenbosch-based brewery picked up a silver medal for their Stellies Mass Happines IPA.

This year’s entries numbered 199 beers from 64 breweries across six provinces. Stellenbosch Breweries’ wins are a great achievement considering they were up against established craft brewers like Devil’s Peak, CBC, Darling and Mitchell’s. It was only their second year of participation in the competition.

The National Beer Trophy is the largest beer competition in Africa and has become the benchmark competition for the beer industry. Judging took more than a month, with the top beers going through a final round of assessment before the winners were announced.

A total of four gold trophies, 18 gold medals and 62 silver medals were awarded this year.

“No matter how small a brewery is, brewing is never only an art or craft ... it is also a very precise science.”
“WE MUST STOP THE GROWTH IN AFRICA’S FOOD IMPORTS”

There is absolutely no good reason for Africa to be a food importing region, but the continent is spending $35-billion annually on food imports – and if the current trend continues the figure will rocket to an $110-billion by 2030. The warning came from President of the African Development Bank (AfDB), Adesina, in a lecture he gave recently at the University of Iowa after receiving the 2017 World Food Prize (see separate story).

In his address, titled “Betting on Africa to Feed the World”, Adesina called for a tax on unused agricultural land to provide incentives for faster commercialisation of agriculture and unlocking its potential.

He noted that whilst Africa held the key for feeding 9 billion people by 2050, the challenge of addressing global food security is the greatest in Africa, with close to 300 million people currently malnourished on the continent.

Adesina paid tribute to Dr Norman Borlaug, after whom the lecture series was named, saying that Africa was the last frontier for the late Borlaug, the founder of the World Food Prize who was awarded the Nobel Peace Prize in 1970 for a lifetime of working towards feeding a hungry world.

Africa, said Adesina, is the only region of the world where the proportion of the population that is food insecure is on the increase.

“There is absolutely no reason for Africa to be a food importing region. Africa has huge potential in agriculture, but, as Dr Borlaug used to say, nobody eats potential.

“We must start with the Savannah of Africa which covers a mind boggling 600-million hectares of which 400-million hectares are cultivable.”

He went on to advise that “Africa sits on 65% of the uncultivated arable land left in the world, so what Africa does with agriculture will determine the future of food in the world. “African farmers need more than a helping hand. They need a policy lift.”

Adesina said that to transform agriculture, Africa needs to develop new agrarian systems, which combine smallholder farmers with a new, dynamic generation of medium and large commercial farmers.

He also advocated for land tenure systems that made it easier to get access to land and for smallholder farmers and their communities to have secure land rights and for the mechanization of agriculture to become a top priority.

Smallholder farmers – those who typically operate farms of a few acres or less – account for more than 90% of the world’s farmers, and are mostly located in rural areas of the developing world where poverty and hunger are widespread.

Adesina said: “Bad roads, poor communication, lack of quality inputs like good seed and fertilizers, food waste due to lack of refrigerated storage and contamination, and a tangle of other obstacles including government policies, have kept these growers from advancing – keeping their yields and return on investment at only a fraction of those achieved by their counterparts in the developed world.”
Newly-established Philafrica Food (Pty) Ltd – part of AFGRI Group Holdings, a leading investment holding company focused on food and agriculture – has plans to change the face of food processing both locally and across sub-Saharan Africa.

With a focus on investing in food categories across Africa, and on locally-sourced raw materials, the company is already actively seeking investment opportunities on the continent. This will include building greenfield production sites and making strategic acquisitions in South Africa, Côte d’Ivoire, Ghana, Ethiopia, Kenya, Nigeria, Mozambique, Rwanda, Senegal, Tanzania, Uganda and Zimbabwe, amongst others.

“We believe there is an incredible opportunity given the robust and growing demand from African consumers and global markets, and Africa’s huge potential of uncultivated arable land. The continent is well-positioned to fulfil this demand,” says Philafrica’s CEO, Roland Decorvet.

“Demand for food in Africa is rising – sub-Saharan Africa’s food and beverage market is set to triple by 2030, reaching US$1 trillion, with the middle class projected to rise from 123 million to over 1 billion by 2060, making it the fastest growing middle class in the world.

“Our goal is to become a key food operator across Africa in the next 25 years, supporting the transformation of the continent from one of subsistence agriculture to one that is food secure and a net exporter.”

Decorvet explains that farmers in Africa face many constraints that keep production yields low, and as a result large multinationals can’t get the raw materials they need for processing locally. “Our role is to change this – we believe that the most effective way to transform agriculture in Africa is to create market pull through large-scale food processing. To do this, we believe it’s critical to support each stage of the value chain and care for all stakeholders.”

For Philafrica Food this means vertical integration straight back to the farm gate; working closely with smallholder farmers on crop variety improvement and technical assistance; staying current on global commodity markets to ensure leading procurement practices; implementing best-in-class manufacturing practices and adapting the business model based on how the local market operates.

Says Decorvet: “We will leverage our South African based expertise and capabilities to expand here in South Africa as well as into new countries across sub-Saharan Africa. We are prioritising opportunities where we can substitute imported products with locally grown or processed products.”

www.philafricafoods.com
Preventive Maintenance – back to basics in hazard prevention

By Linda Jackson

All the articles I have read on preventive maintenance highlight the importance of it as a pre-requisite programme (PRP) - but what exactly does this mean? This article is designed for you to share with your maintenance colleagues so that they can understand why you get so worked up over the impact of maintenance in your food facility.

According to ISO 22000, the international standard for food safety management systems, the role of a PRP is to assist in controlling:
- the likelihood of introducing food safety hazards to the product through the work environment
- biological, chemical and physical contamination of the product(s), including cross-contamination between products, and
- food safety hazard levels in the product and product processing environment.

A “hazard” can be classified as a substance or agent present in food with the potential to cause an adverse health effect to the consumer. Food hazards can be divided into three main categories: biological, chemical and physical.

Common biological hazards include pathogenic bacteria, viruses and parasites. These organisms can cause disease in humans when the contaminated food product is consumed.

The effects of the organism can vary from mild illness (a.k.a. tummy bug or jippo guts) through to death in some cases.

The strategy regarding biological hazards is three-fold:
- Keep them out
- Keep them from growing
- Kill them

Maintenance is key in implementing each of these strategies.

KEEP THEM OUT
Both cockroaches and rodents are known vectors of Salmonella, easily contaminating areas around them. Maintenance is essential in ensuring the building is of sound construction and is pest free.

- **External perimeter:** Maintain an even paved surface to ensure no build-up of water that can become a breeding area for flies.
- **Exterior windows** and doors: Install weather stripping around windows and doors to close off any gaps that pests could enter through. Inspect for worn-out door weather strips and sweeps, and replace accordingly.
- **Vents:** Inspect vents and have them properly screened to prevent pest entry such as flies, moths etc.
- **Walls:** Look for cracks and other damages to exterior wall structures. Make the repairs and seal with weather-resistant sealant. Make sure there are no holes in sheeting, however small. A mouse can access very small holes.
- **Roofs:** Inspect the roof for any cracks, holes, missing sheeting, openings and seal these. Birds in a facility are very difficult to eradicate once nesting starts.
- **Gutters:** Inspect and clean out nests and other debris that can cause pooling of water which is a breeding opportunity.
- **Equipment:** Ensure fixed equipment is positioned so it is possible to inspect and clean all the way around and underneath. Cockroaches love warm places.
- **Ceilings:** Drop ceilings must be cleaned and maintained as they easily become harbourage sites for rodents.
- **Pipe work and ducting:** Screens/traps for vents
should be in place also help to eliminate simple shelters for pests.

- **Trunking for electrical cables:** Although easier to clean than cable racking, these provide an ideal harbourage for cockroaches. Rather avoid completely and use hygienic racks.

- **Doors:** Keep them closed – install automatic door returns and make sure they work. Install screen doors on standard doors, install air curtains and strip doors for dock doors.

- **Windows:** Keep them closed – weld them closed if necessary, or remove if possible. Install screens as a last resort.

- **Redundant equipment:** Get rid of all equipment, pallets and any other engineering junk that can easily harbour pests. Workshops and spares stores are ideal spots for rodents.

**KEEP THEM FROM GROWING**

Biological hazards need the right conditions to grow. These conditions include: Food, Acidity, Temperature, Time, Oxygen and Moisture

Maintenance staff need to understand the role they play in ensuring these conditions are not met.

In a study conducted by RB Tompkin, published in the Journal of Food Protection on the Control of Listeria monocytogenes in the food-processing environment, the critical role of maintenance was identified in removing niche areas for the pathogen.

A niche is a difficult to clean area where organic residue (food) and water (moisture) can collect and is hard to clean (this gives the pathogen time to multiply) – the result being a very serious hazard in food.

**KILL THEM**

Andrew Murray, a renowned professional with years of experience in facility design, eloquently describes the process of food production as taking raw materials and, using a suitably designed process to kill or control relevant microorganisms, together with a suitable process control system, thus producing safe, wholesome products.

Maintenance and engineering are integral in the design, construction and maintenance of this process, whether it involves heat treatment, brining, smoking, canning or the like.

By now you should be convinced why it is so important that there is maintenance participation on the food safety team.

Next time we will look at maintenance and chemical hazards.

**Additional reading:**

**THE ECO-ROAD**

**IRISH SHOW THE WAY TO SUSTAINABILITY**

Bruce Cohen reports on a remarkable sustainability programme that is helping to drive Ireland’s much-admired dairy sector to even greater heights – and profits.

Sustainability is the buzzword of 21st Century food production, a belated recognition that, after decades of wrecking the place, we’ve pushed the planet to its limit. Now we have to stop the plunder, clean up our act, fix the mess and bring Man and Nature into balance. Or it’s curtains.

So it’s always a good news story when a major company commits itself to a sustainability programme and starts reversing the damage. But it’s a truly remarkable story when an entire country puts its reputation on the line with a bold and far-reaching programme of climate change action.

That country is Ireland, the world’s first to develop a national sustainability programme across its entire food and beverage industry. What’s even more amazing is the huge degree of buy-in from the country’s farmers, co-ops, manufacturers and retailers. Just about everyone in Ireland wants to play the sustainability game – and it’s called Origin Green.

Established in 2012, Origin Green is the brainchild of the Irish Food Board, Bord Bia, and it brings together best practices in sustainability under a single umbrella. Beneath that umbrella (in Ireland you always need one – the country gets a metre of rain a year!) are a number of programmes that drive the country’s bid to become the world leader in eco-friendly food production.

Thousands of farmers and hundreds of companies in manufacturing and foodservice, representing 90% of Irish food and beverage exports, are involved in the Origin Green project. It’s not about signalling good intentions and PR hype. It’s about measurable, independently-verified results that ensure participants are meeting targets in terms of waste management, water and energy utilisation, sustainable sourcing and more.

I was recently a guest of Bord Bia, and had the opportunity to witness the Origin Green programme in action across the Irish dairy sector. It left me with the impression of a country with a unified vision about the future of its food industry, clear in its recognition that tackling climate change and walking lightly on the planet makes not just ethical sense – it makes good business sense too.

Dairy is the poster child of the quality of Irish produce – and it doesn’t take long when travelling across the gorgeous countryside to see why their dairy is so esteemed. I just can’t believe there are happier cows than Irish cows. The
nutrient-rich grass is always emerald green, rain is abundant all year round and the cows graze outdoors on lush pasture for up to 300 days a year (just two cows per hectare on average). It’s not surprising, then, that the milk, high in beta-carotene, is so fabulous and sought-after.

Thousands of small farmers, with average herds of around 75 animals, make up the backbone of the Irish dairy sector. One such farmer, John Tuohy, took us on a tour of his farm near Mitchelstown, County Cork.

As we sloshed our way in borrowed gumboots across the fields to view his herd grazing placidly before the evening milking, Tuohy told me that he really saw himself as a grass farmer. Pointing to the clover dotted across the fields, he talked of how critical it was to maintain pasture quality. “It all depends on the grass.”

The Tuohy family has owned their farm for five generations and one could sense the deep connection John had to the land and the animals on it (in Ireland the average family farm changes hands once every 550 years, I was astonished to hear).

John Tuohy is a committed member of the Origin Green programme through its Sustainable Dairy Assurance Scheme (SDAS). “Sustainability is about ensuring that not only do we farm efficiently but that we pass the land on to the next generation in as good or indeed better condition than when we inherited it,” says the SDAS programme guide, a sentiment that farmers like Tuohy seem to embrace wholeheartedly.

The SDAS, launched in 2014, was developed to bring the thousands of small farmers tucked away in remote parts of the island in line with Bord Bia’s global marketing strategy for Irish dairy which the SDAS lays down clearly: “In the dairy sector most of Ireland’s leading multinational customers are looking for suppliers who have credibility in sustainable production. In order to retain and grow long-lasting business relationships with these customers, sustainability initiatives (in areas such as minimising greenhouse gas emissions, conservation of water, good soil management and improving biodiversity) are required.”

Bord Bia brought together key role-players in the sector to hammer out the SDAS’s stringent HACCP-like programme with over 170 measurable criteria backed by independent farm inspections every 18 months to ensure compliance. Every day teams of SDAS inspectors are out in the Irish countryside assessing performance and guiding farmers towards achieving their sustainability goals. Co-ops like Dairygold are insisting that all their milk suppliers are SDAS certified, adding pressure for compliance. And it’s working!

The SDAS has proven to be phenomenally successful, with over 15,500 dairy farms (85% of the country’s total) already accredited, and thousands more are signed up for certification. Bord Bia expects that, based on the increasing number of farms joining the SDAS as well as the greenhouse efficiencies that are being unlocked by the scheme, the sector could potentially reduce CO2 emissions by 1-million tons.

Farms are measured on the resources (water, energy, feed) used to produce a kilo of milk, and data collected (almost 25 million data points so far) from thousands of farms is used to set standards and monitor the sector’s performance against international competitors in areas such as carbon footprint and resource utilisation.

A key to the success of the scheme is that it has clearly demonstrated the

Continued on Page 21
GET RID OF ONE OF YOUR BIGGEST WATER WASTERS

How companies can shrink their water footprint by re-thinking refrigeration

Refrigeration is an invaluable part of almost every business in the food and beverage industry, and the resources required to effectively operate and maintain these systems are significant. According to Dawie Kriel, Head of EP HVAC&R, part of Energy Partners, conventional refrigeration systems are often the biggest users of water in industrial and commercial applications.

Kriel says the ongoing drought and severe water restrictions in parts of the country have made businesses painfully aware of the amount of water they require on a daily basis. “This has already affected many businesses in South Africa, making the need to save water even more crucial. Many companies in the food and beverage industry make use of evaporative condensing in their refrigeration systems, since they are still the most energy efficient. But these systems also consume massive amounts of water, and some cases that we have consulted on so far have used an average of around 30 000 liters of water per day.”

He conservatively estimates that this could amount to around 9 million liters of water being used every day for refrigeration in the Western Cape alone.

Kriel points out that businesses could use 75% less water if they adapted to new refrigeration technology.

The alternative to the tried and trusted evaporative condensing systems is what is known as adiabatic assisted or hybrid condensing. “The basic principle behind evaporative condensing is that water vapor is passed directly over pipes containing refrigerant. This requires relatively little electricity and a constant supply of fresh water. Adiabatic is somewhat more complex. The refrigerant, in a finned dry heat exchanger, is condensed by air which has been pre-cooled through the evaporative process. To save water, the adiabatic cooling of the air is only started once the air temperature reaches a pre-determined setpoint. In total, this could reduce water use to around 25% of the water that an evaporative system requires,” Kriel explains.

Critically, adiabatic systems will continue to make operation of the plant possible when there is no water at all, albeit at a somewhat reduced capacity. In the case of evaporative condensers, a complete loss of water supply will result in the plant stopping almost immediately.

“We have already seen businesses come under massive strain as water restrictions are forcing them to scale down some of their operations. Being able to get ahead of this trend could mean the difference between success and failure for affected enterprises,” says Kriel.

EP HVAC&R has spearheaded a business model that allows companies to pay for refrigeration as a utility without owning the system. Explains Kriel: “Basically, we install, manage and own the refrigeration system on site, while the client only pays for the amount of refrigeration that they use, at an agreed-upon Rand-per-kilowatt-hours-refrigeration (R/kWhR) rate. At the moment we are one of the only service providers in the country to offer this.”

Alternatively, EP HVAC&R is also able to offer its clients lease agreements.

Kriel says that businesses are gradually moving towards eco-solutions. “We have received interest from a number of large players in the food industry who want to reduce their water footprint as part of a larger green strategy. “With the pressure on resources increasing every year, and businesses becoming increasingly aware of their part in becoming more responsible, systems such as these are set to become one of the food and beverage industry’s best solutions in the pursuit of sustainability,” concludes Kriel.

Founded in 2008, Energy Partners is a leading energy solutions provider in SA that provides clients with innovative solutions (including fully outsourced supply contracts – e.g. steam generation) to suit their needs. Energy Partners has built a high quality team of talented individuals and robust processes which offer end-to-end solutions and integrate the different components of energy optimisation to deliver optimum results – including capital solutions that put clients in positive cash flow positions from day one. Industries in which Energy Partners specialises include food retail, retail, healthcare, hospitality, food processing and logistics.

www.energypartners.co.za
economic benefits of “green” farming to its members: if you farm sustainably, production costs come down, milk yields jump and profits rise. The numbers really do add up.

To help farmers reach these sweet spots, Bord Bia developed a Carbon Navigator tool for farmers to improve financial performance while reducing their carbon footprint. Sustainability data on grazing season length, breeding details, calving intervals, fertiliser and energy use, manure management and milk production is captured to assess the farm’s current performance. Farmers can then use the tool to set themselves targets in each key area and see the potential impact of reaching these targets in terms of reduced costs and enhanced environmental performance.

The engagement of Ireland’s dairy farmers with the SDAS is matched by two major processors, Ornua (the old Irish Dairy Board and owner of the Kerrygold brand) and Dairygold. Visiting both groups, I was struck again by the enthusiasm of their sustainability teams and their clear understanding of how important the green economy is to Ireland’s future.

In the case of Ornua, their Kerrygold butter story deserves a page or two of its own. It’s an extraordinary marketing success built on the solid foundations of taste and quality and, now, sustainability. With 900 million Euros in global sales last year, Kerrygold is the No 1 imported butter in countries like the USA, Germany and South Africa (of course it’s the No 1 butter in Ireland). It also has fast-growing cheese and yoghurt businesses.

The Ornua team showed me just how blessed Ireland is in natural resources and a near-perfect climate for dairy farming. Few countries can match such a bounty. With a population of just 5 million (and 1.5 million dairy cows, 7-million if you add in the beef herd!), the emerald isle is two-thirds under agriculture, 80% of which is under grass. And with little smokestack industry to pollute the air and rivers, it is a pristine and bucolic landscape. I discovered, too, that Ireland does not have hosepipes – it is the least water-stressed country in the world, relying entirely on plentiful rain sweeping in from the Atlantic.

Thanks to these factors and the Origin Green programme, Ireland’s dairy industry produces the least CO2 emissions in Europe, giving the country a key sales advantage in increasingly eco-conscious European markets.

As part of their Origin Green accreditation, processors like Ornua and Dairygold have 5-year sustainability programmes covering the full gamut of green issues, setting waste, water, energy, emission and biodiversity targets.

At Ornua they call it the Our Way programme which homes in on a variety of Origin Green goals to be achieved in the dairy cycle, from farming to operations to employee and community engagement, and the company says sustainability “is at the heart of what we do”.

At Dairygold, the giant co-op with almost 3 000 farmers supplying over a billion litres of milk a year, similar commitments to Origin Green are in place. Bottom line: the entire sector is taking sustainability seriously.

Dairygold, sums up the importance of Origin Green: “Reputation alone is no longer sufficient; our customers seek independent verification that we offer high quality, sustainably produced dairy products ... (and) the importance of this leadership position cannot be overstated.”

The company asserts that sustainability “is not just a policy - it’s a culture engrained throughout our entire organisation.”

I left Ireland convinced that Origin Green must be one of the smartest and forward-thinking programmes of its kind. What really impressed was the high degree of buy-in.

While Origin Green remains, at this stage, purely a business-to-business accreditation, I couldn’t help thinking how powerful that mark might be if it were exposed to consumers worldwide who are hungry for authentic, sustainably-produced foods. It could almost carry the same weight as Karoo Lamb!
McCAIN WOMEN MAKE THEIR MARK

WHilst women have always been very much part of the greater agricultural process, from their initial role as the gatherers in the “hunter-gatherer” equation, the current commercial agri-food processing arena has largely been dominated by men.

But this is changing as more and more women are becoming forces to be reckoned with in the industry. Two such women are Pumeza Nkala and Ineke Vorster who are making a name for themselves at McCain South Africa.

Nkala started her career at McCain SA through the company’s Graduate Trainee Program in 2004. Since then she has been promoted into different positions becoming the first ever female Production Manager at the Springs plant. Ineke followed her interest and passion for genetics, becoming the only female agronomist at McCain.

Both women have pioneered different techniques and implemented strategies to help McCain SA become a more sustainable business. Nkala was tasked with creating a strategy to help reduce water wastage at the plant, a project Nkala says was “incredibly important” for McCain and the environment given the long-lasting effects of the drought.

The water reduction strategy looked at technical elements like water cascading, process refinements and different process technologies. The result of this approach is that each of the company’s plants now has a dedicated water usage team that reviews water usage results daily and proposes gap closing measures. Since implementing this strategy there has been a 42% reduction in water wastage at the Springs plant and a 23% reduction at the Delmas facility over the past two years.

Ineke Vorster’s work sees her in the fields doing trials with farmers. She analyses the suitability of foreign and local varietals for the industry and assists field officers when farmers experience challenges. As an agronomist, she looks at how varietals can help to optimise yields both ex the field and in the factory. The knock-on effect of crops not being planted correctly, or adverse soil or other conditions obviously impacts yield, which in turn will affect stock levels and what consumers will be able to buy. “I absolutely love everything about my job; you need to constantly look for answers and solutions. By actively being out there in the fields you pick up on things that can sometimes be missed in theory,” says Vorster. She says it’s the interaction with farmers and field officers trying to find solutions to the problems they face that really gives her great satisfaction.

Both women credit McCain SA with helping them reach their full potential, through the company’s investment in education and training. Both Nkala and Vorster encourage young women to follow their dreams and to not let anything stand in their way.

“If you love what you do and are following your passion every day it really does make a difference, so don’t settle for anything less than what you want,” concludes Vorster.
Air Products and INMED South Africa, an in-country affiliate of US-based INMED Partnerships for Children, started a partnership a number of years ago to establish aquaponics systems and traditional vegetable gardens in schools in the Gauteng area. The launch of the latest system at the Laerskool Kempton Park in Ekurhuleni recently is another successful roll-out of the programme.

This initiative not only provides an educational platform for learners and a regular supply of vegetables and fish for the school’s feeding schemes, but also creates an opportunity for sustainability for the entire community.

Aquaponics combines aquaculture and soil-less crop growing. The Kempton Park system consists of three fish tanks and five grow beds. Each tank consists of 600 fish and the grow beds will have 1 x 7 meters of grow space each for a variety of vegetables and herbs. The traditional and sensory garden will be in a space of 25 x 10 metres.

The system exposes teachers and learners to the importance of health and nutrition, and teaches them the skills to grow their own vegetables in a way that is quick, energy-efficient, environmentally-friendly and chemical-free.

The first aquaponics system Air Products invested in was at the Carel de Wet Technical High School in Vanderbijlpark five years ago, close to the company’s flagship production facility, followed by a system at the Randvaal Primary School in Daleside, Midvaal.

At both these schools, the aquaponics systems were complemented by traditional gardens, and they have celebrated a number of successful harvests over the years.

Says Air Products MD Rob Richardson: “Our corporate social investment (CSI) strategy focuses on youth and education, and INMED’s programme educates learners in a way that is enjoyable and rewarding. The fact that the system supports the school’s feeding scheme is an added bonus. Even more importantly, in the current strained economy, we see the opportunity of transferring skills and assisting communities to become self-sustainable as a key benefit.”

Adds Dr Linda Pfeiffer, President and CEO of INMED Partnerships for Children: “Air Products was our first and has been our most consistent partner to expand aquaponics to primary and secondary schools. Both INMED and Air Products understand the direct correlation between child nutrition and performance in school.”

www.airproducts.co.za

Air Products South Africa (Pty) Limited manufactures, supplies and distributes a diverse portfolio of atmospheric gases, specialty gases, performance materials, equipment and services to the Southern African region.

Air Products touches the lives of consumers in positive ways every day, and serves customers across a wide range of industries from food and beverage, mining and petrochemicals, primary metal and steel manufacturers, chemical applications, welding and cutting applications to laboratory applications.

Founded in 1969, Air Products South Africa has built a reputation for its innovative culture, operational excellence and commitment to safety, quality and the environment. In addition the company aims to continue its growth and market leadership position in the Southern African region.
We are increasingly out of touch with the realities behind getting healthy and safe food to the table, says a study by the ENOUGH Movement. Catherine Knight reports.

This new study, The Truth About Food, from the Enough Movement was carried out in 11 countries in an attempt to measure understanding and knowledge among consumers of popular food and nutrition topics, exploring issues such as product labels, farming methods, nutritional value and environmental impacts. The results showed significant confusion among consumers about what food claims and labels really mean, and that consumers are increasingly “behind the curve” with regards to the realities that lie behind the production of healthy and safe food.

“Although food and nutrition are frequent topics of discussion in most households, there is a lot of uncertainty of what food claims and labels actually mean,” says Andre Westerveld, regional director of Elanco Animal Health. For example, consumers may choose foods labelled “all-natural” or “organic” and are even prepared to pay a premium for these products, despite not knowing what the labels actually mean in terms of environmental impact, animal welfare, nutritional value and other metrics commonly associated with their food choices.”

Most people also agree that sustainability in agriculture is a good thing, but what that concept of “sustainability” stands for will be very different depending on who you ask.

“Given that by 2050, the world will support a population of 9.7 billion people, sustainability in agriculture is a very serious challenge - how can we produce enough food to feed the world’s population without using more resources and exerting more pressure on the environment? The absolute and undeniable reality is that we have to produce more, and do it with less,” says Westerveld.

“We have to invest the time and energy to better understand the impact of technology in food security in the context of people, animals and the environment.

“We need to separate the facts from the myths, separate science from frivolous marketing claims so that we end up with the right dialogue, the right science-based policies, and the right innovative solutions to ensure that we can produce enough safe, healthy and nutritious food without depleting our natural resources”.

SUSTAINABILITY: FACTS VS MYTHS
UK-based livestock sustainability consultant Dr Jude Capper agrees. “The farm-to-table movement has revealed that we all want to know what’s in our food and where it comes from. But it’s hard to separate fact from fiction when it comes to food labels, farming practices, and other food production topics. Distinguishing myth from reality can make a big difference in the choices families make about nutrition, household budgets and environmental impact.”

The Enough Movement believes that knowledgeable consumers are crucial to supporting sustainable agriculture, humane practices for raising livestock and science-based regulations and policies that support the economic viability of our farmers.

In the Truth About Food Report, the Enough Movement explores several prevailing misunderstandings about food production and labelling. These include:

**PESTICIDES**

Although many people buy “all natural” foods thinking they are healthier and safer, most people don’t really know what labels like “natural” and “organic” mean in practical terms.

For example, organic is a type of farm management and food production system that only allows natural products to be used, but it doesn’t mean pesticide-free. Organic farming may use a variety of chemical sprays and powders derived from natural sources, including substances like boron, copper sulfate and pyrethrin similar to the synthetic versions used in modern farming.

**FARMING SYSTEMS**

Consumers are also confused about modern agriculture and food production systems. Many people believe that organic production is one of the key solutions to feeding the growing population on a sustainable basis. The reality is that organic farming produces less food – about 25% on average globally.

Organic requires significantly more land and resources to produce the same yield as modern farming methods. So while organic methods use less fertilizer, herbicides and energy, modern farming methods have resulted in less soil erosion with better yields.

Modern farming practices are using innovation to decrease the amount of land, feed and water to raise meat, milk and eggs. Less feed is needed, proactive disease management is so important.

The UK Department of Health says there is increasing scientific evidence which suggests that the clinical issues we face in human medicine are primarily the result of antibiotic use in people, rather than the use of antibiotics in animals.

Perhaps one of the most powerful myths however is that of the antibiotics still present in the animal foods one may buy. An animal treated with antibiotics must stay on the farm until the antibiotic has passed through its system, so there are no antibiotic residues in meat, milk or eggs.

**HORMONES**

Many consumers believe that the label “no-added hormones” means that there are no hormones at all in their food. But all living things contain hormones – people, plants, animals and, therefore, also the food we eat. There are no hormones used in poultry production, yet many consumers believe there are.

The safety of dairy and meat products that have received Recombinant Bovine Somatotropin (rbST) supplementation, a protein hormone used to improve milk production, has been approved in about 20 countries, including South Africa, for commercial use, and has been used safely for over 20 years.

The fact that “rbST-free” may appear on a milk bottle does not make it a health issue and there is absolutely no difference in the nutritional value or safety of milk produced with rbST supplementation.

What is clear is that food is a loaded topic and consumers are responding emotionally rather than rationally to the information they receive.

Westerveld notes that “consumer are entitled to have a choice over the production methods of the food they eat. For them to do that in an informed manner, they need real facts and complete pictures that avoid over-simplistic and hyped rhetoric.”

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150 YEAR ANNIVERSARY
We're all sadly very familiar with the scenario – we export our raw materials and then buy them back as finished products again, paying dearly for the “benefit” of outsourcing our manufacturing.

In fact, 60% of our exports consist of unbeneficiated commodities, and with imported goods coming back in packaged format, the impact on economic growth and job creation in both the manufacturing and the packaging industries is clearly significant.

Our balance of trade figures cast yet another depressing slant on the scene, with our 2015 figures, for example, showing our imports exceeding our exports by $10 billion.

In his presentation at Propak, Nampak SA’s CEO Andre De Ruyter gave a concrete example of the knock-on effect of how moving manufacturing to other countries impacts the packaging industry, revealing how Colgate’s decision to close their SA toothpaste manufacturing plant resulted not only in the loss of 80 Colgate jobs, but also in Nampak losing the tube supply contract, Corruseal losing the corrugated supply, Golden Era losing the carton supply and Transpaco losing the pallet wrap deal.

“The loss of local manufacturing sites is largely a function of the fact that SA’s fiscal policy is simply rendering SA packaging uncompetitive,” said De Ruyter.

“Proposed regulations under the Waste Management Act will impose a tax on packaging producers, which will have the effect of diverting funds from existing recycling initiatives to the Waste Bureau and recycling rates will probably drop.

It is unclear at this stage if importers will be made to pay the same tax, and given that imported consumer and non-consumer goods are typically packaged, this puts the SA packaging industry at a structural disadvantage to global competitors.”

De Ruyter warned that the funds generated from the packaging tax will go to the general fiscus, and without a ‘closed loop’ in place it will be difficult to know how much, if anything, will come back to the industry. “Add to this the fact...
that we are at the leading edge of carbon taxation, which, for a developing country such as ours, puts us at a serious disadvantage against other countries cost-wise, and that the packaging industry will see some collateral damage when it comes to the proposed sugar tax, we’re looking at a total tax burden that will simply make further investment in both the manufacturing and packaging industries unlikely.”

De Ruyter went on to note that the contribution made by the manufacturing sector to GDP has dropped from around 24% in the 1980s to less than 13% in 2015 and that at this stage of its development, SA’s manufacturing sector should in fact be contributing double that. “The Marginal Effective Tax Rate in the manufacturing sector in SA is the highest of all sectors, according to the World Bank, with mining on the other hand having a negative METR.”

“The reasons that South Africa’s manufacturing growth lags that of other emerging markets are multiple, with taxation not the only factor. We have increased labour costs and energy costs to deal with, the lack of investment in infrastructure, and then factors such as policy and regulatory uncertainty and asymmetrical compliance with WTO rules.

“The bottom line is that since 1989, SA manufacturing has shed half a million jobs, as share of GDP has shrunk, unemployment is at 27.7%, the highest in 14 years, and business confidence is the lowest it’s been in 25 years.

If manufacturing were to have an appropriate share of GDP for SA’s developmental stage (28–32%), a theoretical 800 000 to 1.1 million jobs could, however, be created. However, if we protected local industry through more assertive procurement policies and then created additional demand for local goods, we could turn what is a vicious cycle of de-industrialization into a virtuous one of economic growth and upliftment.”

Distell, like many large distribution companies, was experiencing a serious warehousing space squeeze. To solve the problem, there initially seemed to be only two choices: expand the footprint of the warehouse or raise the roof - both undesirable because of high costs and disruption.

Along came Goscor Lift Truck’s Western Cape regional sales manager, Grant Laight, who proposed another idea get some Bendi dual-purpose, articulated, narrow aisle, forklifts and double capacity by halving the warehouse aisle widths from 4m to 2m.

The Bendi, because of its unique counterbalanced design with large soft tyres and its ability to articulate, is also able to operate outside like a common forklift truck.

Distell’s procurement planning and logistics manager, Janke Nussey, says the fact that the Bendis work equally well inside and outside “has enabled us to optimise our existing forklift fleet and reduce double handling.”

Distell acquired three Bendi B420s for its Adam Tas Dry Goods facility and the fourth will be delivered shortly.

“The Bendi, because of its unique counterbalanced design with large soft tyres and its ability to articulate, is also able to operate outside like a common forklift truck.”

With consumer demand still on the decline as disposable incomes remain under pressure, De Ruyter closed his thought-provoking presentation with an appeal for a new deal whereby local manufacturing can be rejuvenated and the concomitant fortunes of the packaging industry influenced positively.

“It’s a ‘packaged deal’ that we need,” he said. “We have to boost exports, we need to level the playing field when it comes to imports, we need to boost demand through our supply-side policies and, most importantly, fiscal policy needs to support and not inhibit manufacturing.”
Consumers the world over are increasingly demanding food that is natural and not disinfected with chlorine.

Retailers are requiring foods with longer shelf life.

Technilamp's UV-C solutions deliver on natural, chlorine-free disinfection and longer shelf life in an economical manner.

Technilamp offers customised and off-the-shelf solutions for fruit, nut, spice and bread disinfection with extended shelf life.

All forms of packaging can also be disinfected to extend shelf life.
Since 2013, more than $94-million (ZAR1.258 billion) in capital investment had been made by industry heavyweights such as ABInbev, Coca-Cola Southern Africa, Nampak Bevcan and Hulamin to convert the beverage can industry from steel to aluminium.

Not only did this step bring the region in line with other major markets such as the United States - which changed to aluminium cans in the 1970s and 1980s - but it also had a major, positive impact on the industry’s recycling statistics.

According to MetPac-SA, the industry body representing the interests of the local metal packaging industry, the recycling rate for used beverage cans in South Africa grew significantly from only 18% in 1993 to its present rate of around 72%.

The organisation’s CEO, Delanie Bezuidenhout, believes that South Africa’s conversion to aluminium played an important role in increasing recycling volumes because aluminium beverage cans are infinitely recyclable without loss of strength or quality, and offer collectors an attractive rate.

“This makes aluminium recovery and recycling an economically viable option for beverage can collectors in the informal sector. Millions of Rands flow into the scrap metals and recycling industry each year, allowing an additional 2 000 to 3 000 people to earn a living or to supplement low incomes,” Bezuidenhout says.

Nampak Bevcan, which has plants across sub-Saharan Africa, first introduced aluminium at its Springs facility, converting all its Gauteng production to aluminium by the end of 2014. The plant produces eight can sizes at maximum speeds of up to 3 000 cans/minute, compared to 1 600 cans/minute on the old tinplate lines.

The Springs plant is regarded as one of the biggest aluminium can manufacturing facilities in the world, says Erik Smuts, Nampak’s Group Executive for Bevcan.

Smuts points to the environmental advantages of this conversion process - up to 17% less energy is used in the aluminium can manufacturing process because, amongst other savings, no external white coating is required, which in turn has reduced the number of ovens needed.

A melting point of 660°C - compared to more than 1 300°C for steel - to process and recycle aluminium, plus around a 60% weight reduction, which helps to minimise material and transportation costs, results in a significantly improved carbon footprint.

Hulamin is the sole South African company capable of manufacturing the aluminium sheet that Nampak requires. In past years, almost 95% of Hulamin’s aluminium came in the form of virgin aluminium ingots. However, because it takes about 20 times more energy to convert mined bauxite into aluminium than it does to re-melt a used beverage can, Hulamin invested heavily in its recycling operations.

Hulamin recently unveiled a R300-million state-of-the-art recycling facility to recycle used aluminium cans – including scrap storage, sorting, cleaning and melting – increasing Hulamin’s onsite closed-loop recycling capability. The company is on its way to sourcing 20% of metal units from recycling.

Says Metpac-SA’s Bezuidenhout: “Looking at the Brazilian market, which leads global can recycling with a recovery rate of 97.9%, we believe that South Africa can achieve the same successes.

In Brazil, no cans go to landfill and the collectors are the most important pillar for this process. To this end, we are working hard on aligning industry roleplayers with our vision to ensure that collectors benefit from an efficient and transparent market.

We want to streamline the recycling of aluminium cans in order to ensure that more of the metal’s value will be passed through to collectors. It’s in all of our interests to have as high a recycling rate as possible,” says Bezuidenhout.

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Propak is without doubt one of the best-curated trade shows in South Africa, showcasing every two years the cream of local and international packaging and processing solutions. And Propak Cape 2017 at the CTICC during October once again showed off its class - if you missed it, you really did miss out.

Many of the 200 exhibitors must have spent small fortunes on their stands, giving the 3-day show a truly a world-class feel, allowing this year’s tally of close to 6 000 visitors to check out some cutting-edge machinery with plenty of expertise and advice on tap.

The seminar programme was well-attended, with a variety of topical issues covered, from innovation and sustainability to design and packaging trends.

Propak Cape 2017 certainly highlighted the depth, breadth and vibrancy of the sector even during one of this economy’s gloomiest periods. That says a lot...
FINE CAPE FORM
One of the many fascinating talks at the Packaging Indaba at Propak 2017 was given by Nielsen’s Esti Prinsloo on the role packaging has in impacting consumers’ decisions at that critical point of purchase moment in store.

Prinsloo, Nielsen SA’s Director of Innovation Practice, first outlined the theory of Nobel prizewinner Daniel Kahneman, who in his best-selling book, Thinking, Fast and Slow, proposed that we have two modes of thought:

* System 1, which is automatic, fast, instinctive, stereotypical, subconscious and emotional
* System 2, which is slower, more deliberative, infrequent, conscious and more logical. Prinsloo likened these to an “auto pilot” versus an “actual” human pilot, noting that our autopilot mode accounts for 99% of our thinking!

She then went on to outline what this means in terms of how we design and use packaging to influence consumer choice. Given that we use fast thinking, with its mental shortcuts, it becomes quite clear that the first and most important role of packaging is that it captures our attention, or creates awareness.

Nielsen’s European research shows that 56% of consumers become aware of a new product from seeing it instore. Across categories, the top-performing package design is seen by approximately 70% more consumers than the bottom-performing design. The message is thus very simple: break-through designs drive stand-out value, and being noticed is critical to being included in the consumer’s consideration set, obviously.

Prinsloo showed a few great examples of how packaging design has upped the game for white label products offered by supermarket chains, and how they’ve moved from an initial no-frills look and feel (which helped position them as low-cost alternatives to big name brands), to a much more premium look, which has allowed them to reposition their house brands as offering quality as well as value.

So significant has this shift been that a Nielsen Global Private Label Report showed that 71% or almost three-quarters of respondents believed that private label quality had improved over time.

It is the supermarket brands that have really embraced the power of packaging and as private label increases in real or perceived quality, brands will have to find more differentiation avenues to single out their brands and drive loyalty versus these “own” brands.

“Fifty-eight percent of decisions are made at the shelf,” noted Prinsloo, with at-shelf consideration increasing to roughly 65% when it comes to foodstuffs. This varies of course by category, and by gender, with some big differences showing up when age is taken into account. Millennials tend to make even more decisions at shelf – 68% vs 54% for other generations.

The role that packaging then plays in driving trial was also revealed, with Millennials once again showing higher scores in terms of the influence packaging has on their decisions across multiple factors, including the visual impact of the design, how functional the packaging it, as well as its sustainability.

The holy grail is getting consumers to switch to your brand, and here, too, packaging has a significant influence.

Though consumers report that switching brand loyalties is driven by product and/or value about half the time,
IS PERSUASIVE

Packaging is mentioned as a cause for switching 11% of the time. And surprise, surprise, Millennials are three times as likely to switch based on a product having better packaging.

“Packaging is a powerful lever with high reach, low cost and a very strategic role in that 100% of consumers who buy a product then have it in their personal environments,” says Prinsloo.

“Think of your packaging design as the equivalent of millions of little mini billboards for your brand.”

When it comes to developing new pack designs she was very explicit with her advice: “Explore many different directions with your agency, look for inspiration from outside your category, make sure you don’t allow your senior executive’s favourite to sway the decision, find objective ways to select the best and be brave and bold in the process.”

MAJORITY OF DECISIONS ARE MADE AT THE SHELF

On average, consumers are deciding at the shelf 58% of the time.

Food is generally more prone to at-shelf consideration of alternatives 65%+ of the time.

PACKAGING PITFALLS

90% of package designs harm brand perceptions by dragging them down on key equities

50% of redesigns fail to deliver meaningful sales improvement for the brand

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