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SPECIAL FEATURE



“The response to the article has generated new business for **AfripleX...**”

Billy Smith, Marketing Manager: AfripleX

Afriplex's new FRUIT BAR contract manufacturer

Afriplex, SA's unique producer of indigenous African plant extracts, has made a multi-million rand investment in a new fruit bar manufacturing facility.

Afriplex is a vertically-integrated company operating from farming of indigenous plants through to associations with large pharmaceutical companies to develop and manufacture complementary medicines. Having established relationships with manufacturers approved by the Medicines Control Council (MCC), Afriplex can offer a range of complementary medicines ranging from capsules and tablets to syrups.

Afriplex's new fruit bar factory is a contract packer for companies wanting to, for instance, undertake brand extensions with fruit bars which are of high nutritive value but low in calories, and of excellent taste and convenience.

The bars will also have high antioxidant values, and can be the vehicle for the addition of African plant extracts, adding iconography to the product.

Fruit bars are not new



BARRING NOTHING

Afriplex has produced two standard reference bars: the first contains peach, pear and apple; the second is a "cherry berry" variant. However, any number of variants are possible.

The easily-available dried fruit options for bars are: pear, apple, apricot, peach and a range of berries.

Flavouring options - with or without functional extracts - include: peach, apricot, summer fruit, banana, strawberry, cherry, various berries and many others.

For instance, bars could be "completely different", says Grant Momple. "They could have (non-alcoholic) flavours like rum and raisin, banana split, gin and tonic or cappuccino, etc. Health is not generally associated with fun, but that does not always have to be so."

The Afriplex plant extracts which could be used to introduce functionality into fruit bars (all with documentation) are: rooibos, scelerium, aloe vera, aloe ferox, grape seed, baobab, sutherlandia, rosehip, chamomile, pelargonium, honeybush and buchu (see page 30).

A standard vitamin range, omega 3 fatty acids, and hoodia are also available as ingredients in bars from Afriplex.

in SA - in fact, they are quite old. 30 years ago they were probably more popular than any other kind of snack bar. Since then, sugar-filled grain/rice/starch bars - with questionable health properties - have far overtaken fruit bars.

Now, says Grant Momple, MD of Afriplex Flavours & Fragrances (AFF), the new Afriplex bar plant "has the potential to fast-track the relatively small fruit bar category, via excellent-tasting products and health advocacy, to regain a greater share of the snack bar market."

Billy Smith, marketing manager of Afriplex, says the standard reference bars produced by the factory have achieved excellent feedback in taste tests:

- They have been rated well above other SA fruit bars (of which there are relatively few).
- Among toddlers in a crèche test, the bars gained 99% approval against mainstream, well-known grain-based bars.

Not surprisingly, given Afriplex's historic activities and pedigree in indigenous plant extracts, the bars have proven health benefits (which vary according to the ingredients required by the client).

Among the selling points of the bars, in their many variants, are:

- Dried fruit is readily available throughout the year.
- Fat-free and 100% natural.
- Additional functionality by formulation with standardised extracts.
- Functional health claims are available, backed by research.
- High in natural fibre (pre-biotic effect).
- Low glycemic index - diabetic- and dietetic-friendly. They contain no added sugar, only natural sugar.
- Naturally rich in vitamins and antioxidants.
- Convenience - a good meal-on-

the-run.

- They are in line with recommended 5-9 fruits/vegetables a day.

Major markets

Smith says the major markets, both local and export, for these bars are likely to be:

- Adults concerned with their health and obesity. Also, diabetics, vegans, and those wanting a healthy sports snack or general snack.
- Toddlers and children - these bars are a healthy alternative. Says Momple: "It's hard to get kids to eat fruit. Our bars can be a real alternative versus other bars in lunch boxes."

In their high health characteristics, the bars are a "crossover" product between the food industry and the pharmaceuticals industry. This has been confirmed by the first interest in the production of the factory (it began producing in late October

2008), which came from both food and pharmaceuticals companies.

Indeed, the first large contract for the factory was from a pharmaceutical company which will sell the bars in both pharmacies and supermarkets.

Momple comments that there is increasing crossover between the sectors "in line with the more holistic shopping experience". For instance, Pick n Pay now has pharmacies in some of its larger stores, as does Shoprite and Woolworths.

Other initial enquiries for bars have come from:

- Fruit juice companies of various sizes which want brand extensions into fruit bars.
- Supermarket groups which want housebrand fruit bars.
- Enquiries for fruit-vegetable blend bars - a new development being worked upon by Afriplex.

CLAIMS WHICH COULD BE MADE FOR BARS

The fruit combination chosen - and any functional extracts - will allow claims for certain functionalities.

It is Afriplex's practice to sell its products with all of its considerable data on each ingredient and product related to health and nutrition. The client then decides what health claims - if any - to make.

Sometimes merely the mention of the name of the ingredient - for instance hoodia or rooibos - is a sufficient marketing boost, says Smith.

The following functionalities are associated with some plant extracts supplied by Afriplex, with considerable supporting scientific evidence in each case:

- African ginger - anti-inflammatory,

Continued on next page.



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immune system, colds, headache.

- Aloe ferox - digestion.
- Baobab - rich in vitamin C, anti-inflammatory.
- Buchu - digestion, anti-inflammatory, diuretic, stimulant, tonic.
- Devils claw - anti-inflammatory, joint health.
- Green rooibos - aspalathin, cell protection.
- Honeybush - digestion, cell protection, stimulates milk production.
- Hoodia - assists with appetite suppression.
- *Leonotis leonurus* - anti-inflammatory.
- Pelargonium - respiratory.
- Proanthocyanidine extract - assists in boosting the immune system.
- Rooibos - high in antioxidants.
- Sceletium - assists in mood elevation.

Claims based on these properties have already been made on a number of SA and overseas products.

The amount of scientific evidence for claims varies, but some have undergone clinical trials - including grapeseed, buchu, rooibos and pelargonium.

Momple says that there is also an increasing amount of student project research into the plant extracts produced by Afriplex.



Rooibos

ANTIOXIDANT CLAIMS

Antioxidant content claims can be made on all Afriplex bars, particularly those containing berries and rooibos.

Momple says that according to US research, a person requires a minimum of 3,500-6,000 ORAC (oxygen radical absorbency capacity) daily. However, the average American is currently ingesting only around 1,500, particularly because of consumption of fast foods.

Antioxidants neutralise free radicals. An antioxidant shortfall results in an accelerated rate of deterioration/ageing (similar to what happens, for instance, to a heavy smoker).

The ORAC values, per bar, for Afriplex's "berry collection" bars are: blackberry (4,190), blueberry (4,573), cherry berry (4,349), cranberry (4,571), pomegranate (3,883) and strawberry (4,024).

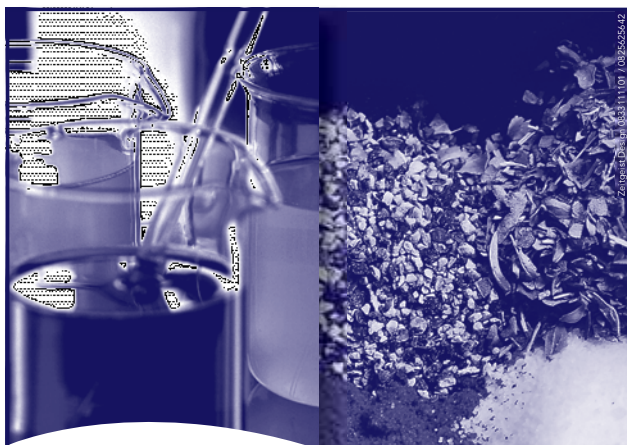
Turning to rooibos, a Strawberry and Rooibos Afriplex bar tested at an ORAC value of 5,253 - the second highest ORAC value obtained so far (only beaten by a Cherry and Grapeseed Afriplex bar at 5,314).

The value of antioxidants is little understood both by SA and overseas consumers, but Afriplex is working closely with the Cape Peninsula University of Technology (CPUT) centre for antioxidant research - Dr Janine Marnewick, Prof Spinney Benade and Fanie Rautenbach (see page 24).

Afriplex is particularly supporting research into what is required to gain sufficient antioxidants per day. Already about 100 fruits have been analysed internationally. This data is available to Afriplex's clients.

Afriplex has also produced, for use by its clients, an antioxidant premix made of phytochemicals derived from seeds, leaves, grape skins etc. Momple says that this is "the multivitamin of antioxidants - all in one!" This product is sold with a guaranteed ORAC value of 5,000/g.

The imminent launch in SA of a leading branded beverage which contains rooibos and makes antioxidant claims will help to increase consumer awareness and understanding of antioxidants.



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THE BAR PRODUCTION FACILITY ...

In the bar production facility, which is labour-intensive and employs about 30 people, the raw materials required for the particular recipe being executed are sorted on the sorting table. They are simultaneously inspected for any irregularities (for instance, pips and whole fruit).

Following quality control release, the raw materials are then blended in a blender with fruit concentrate (again, according to the recipe) for about 10 minutes.

The resultant blend is then placed into mincers from which the bar-strip is extruded onto a plate where it is manually cut into strips with a knife.

It is then placed on a conveyor to be mechanically cut to the length specification.

Thereafter, the bars pass through a metal detector onto a sorting table, where weight-checks are done.

The bars are then conveyed to a flow-wrapper for packing and sealing. Afriplex recommends metallised polypropylene foil packaging.

The outer packaging and label (which is generally supplied in artwork form to Afriplex) is then applied.

For a new product, two months is required from time of order to delivery - if artwork is new and dried fruit needs to be procured. For ongoing orders, turnaround time is much quicker.

The bars are generally around 35g, but can vary from 10g-50g.

Production can be from single bar to bulk boxes with 12 bars per display unit; 12 displays in a shipper carton; 112 shippers on a pallet and 16,128 bars per pallet.

Above: Afriplex's main, pre-existing plant extracts facility.

Below: Louise Barnard, research and development food scientist at Afriplex, and Christiaan Franken, production assistant, in the new bar production facility.



ADDING VALUE TO AFRIPLEX PLANT EXTRACTS

The logic behind Afriplex's large investment in the bar plant was to find an avenue for its plant extracts in a functional food product made from fruit/vegetables.

Fruit bars were chosen as the vehicle because of their excellent characteristics related to nutrition and the anti-obesity trend. There is

growing awareness of health and functional foods, but Momphe says "there is also product fatigue, with consumers looking for new products".

He says that whereas Afriplex's other two plants (for the production of plant extracts, and for the production of flavours, fragrances and emulsions) primarily produce for export, it

is envisaged that the bar plant will be equally divided between SA sales and exports.

The two pre-existing plants have HACCP, kosher and halaal certifications. The new bar plant has kosher and halaal certifications and is proceeding with HACCP as well as organic certifications.

POSSIBLE HEALTH APPLICATIONS FOR FRUIT BARS

| Product | Possible Health Application | | | | | | | | | | | | Dosage | Taste Profile | |
|-------------------------|----------------------------------|-------------------|-------------------|---------------------|-----------------------|---------------------------|-----------|----------|-----------|-------|-----------------|-----------------|--------|------------------------|---|
| | Assist with appetite suppression | Rich in Vitamin C | Anti-inflammatory | High in antioxidant | Assists immune system | Assists in mood elevation | Digestion | Diuretic | Stimulant | Tonic | Cell-Protection | Stimulates milk | | | Respiratory |
| Rooibos | | | | x | | | | | | | | | | 0.6g/kg (21mg/35g bar) | Neutral fruit profile. Rooibos aroma evident. |
| Aloe Vera | | | | | | | x | | | | | | | 0.6g/kg (21mg/35g bar) | Neutral fruit profile. Slight bitter aftertaste detected. |
| Sceletium tortuosum | | | | | | x | | | | | | | | 0.6g/kg (21mg/35g bar) | Neutral fruit taste profile. Slight, but not unpleasant bitter aftertaste detected. |
| Hoodia gordonii | x | | | | | | | | | | | | | 12g/kg (420mg/35g bar) | Neutral fruit taste profile. Slight, but not unpleasant bitter aftertaste detected. |
| Buchu | | | x | | | | x | x | x | x | | | | 6g/kg (210mg/35g bar) | Strong fruity flavour evident. |
| Pelargonium | | | | | | | | | | | | | x | 12g/kg (420mg/35g bar) | Slight astringent aftertaste detected. |
| Baobab | | x | x | | | | | | | | | | | 12g/kg (420mg/35g bar) | Neutral baobab taste. Pear sweet aftertaste evident. |
| Honeybush | | | | | | | x | | | | | x | x | 0.6g/kg (21mg/35g bar) | Slight but pleasant honeybush taste profile detected. |
| Rosehip | | x | | | | | | | | | | | | 12g/kg (420mg/35g bar) | Detection of rosehip, with acid profile enhanced. |
| Grape seed | | | | | x | | | | | | | | | 3g/kg (105mg/35g bar) | Neutral fruit taste profile. Bitter/nutty aftertaste detected. |
| Sutherlandia frutescens | | | | | x | | | | | | | | | 6g/kg (210mg/35g bar) | Distinctive bitter/dry after taste |



Baobab

UNDERSTANDING AFRIPLEX

Paarl-based Afriplex has three sources of income:

- Plant extracts, for which it has a large batch-production plant for different extracts. 85% of these products are sold to overseas customers.
- Flavours, emulsions and fragrances, under Afriplex Flavours and Fragrances (AFF), which was formed four years ago to add value to Afriplex's plant extracts. AFF often produces blends of indigenous African plant extracts/flavours with exotic equivalents. Its production facility has produced a number of food, pharmaceutical and homeopathic products.
- End products - the bar plant. Where other end products (besides bars) are required by clients - for instance, jellies, gummy bears, chewing gum, etc (with or without functionality) - outside contract manufacturers are found for them. Momple says there is great potential for further extensions into other mature products. "For instance, in non-bar products, jellies are products with great potential for adding plant extracts which have proven health benefits, to revive the sector."

Afriplex, a privately-owned company, has been growing rapidly recently. It will report 60% turnover growth in its current financial year. - *Teigue Payne*

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We wish to congratulate Afriplex on their consistent growth and achievements over the years.

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"The Afriplex-article in the Jan/Feb edition of *Food & Beverage Reporter* has been extremely successful. It has not only enlightened *Afriplex's* current customer base, but has introduced *Afriplex's* range of products and services to new potential customers.



The response to the article has generated new business for *Afriplex* and what really surprised us, it is the major food and pharmaceutical companies that have made inquiries.

The exposure has definitely placed *Afriplex* on the map as a serious supplier of plant extracts and natural flavours and fragrances.

What has been surprising is that *Afriplex* has been approached by companies to assist them in finding solutions to the newest trends in the industry, functional foods."

Billy Smith, Marketing Manager: Afriplex

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