

# Plant potential

*showcased at Vitafoods*

This year at Vitafoods, John Wilkinson went looking for ingredients that are not only new to the drinks industry but haven't even been used in nutraceuticals or food products yet.

Nestled amongst the 'normal' innovations such as new standardised extracts for echinacea and St John's Wort, there were some truly exciting new plants that are available in commercial quantities but have yet to be used by the industry. The first example is maral root (*Rhaponticum carthamoides*), a member of the daisy family.

This plant is indigenous to the mountain regions of Siberia, but is now cultivated in Russia and Eastern Europe. Its name derives from the famous Mongolian 'Dzhamtsyn' who raved about a plant that maral deer fed on and that gave them great energy. Times have moved on since then and there is growing scientific evidence that this plant does indeed contain some interesting chemical components that support its energy giving qualities. Its traditional uses are as an adaptogenic, which means that it has a balancing and strengthening effect on the immune system and also helps the body function more efficiently.

The active constituents are thought to be a group of compounds known as phytoecdysones, which are steroidal hormones that are also found in spinach. Research has shown that the main constituent 20-hydroxyecdysone, can stimulate protein production and significantly increase muscle mass. Clearly this plant has great potential for use in 'body building' drinks and for those of us that need extra energy to increase endurance levels in our 'keep fit' regimes.

## Long life upside down

A relatively new exhibitor at Vitafoods was Phytotrade Africa. This organisation works with a large number of producers in Southern Africa to supply new plant products derived from Africa to the Western world. Among the numerous plant



Vitafoods - showcase for innovative ingredients such as the baobab plant (left).

products they are introducing, the baobab tree stands out. This tree is very long lived - specimens have

been found that are over a thousand years old and still fruiting! It is pollinated by fruit bats at night and is known locally as the 'upside down tree' because its silhouette in the sunset looks like it has been dug up and stood on end - its branches resemble a complex root system rather than the normal canopy one expects of African trees.

The fruits of the baobab have a long traditional use in African folklore, but one of the most common uses is as a refreshing cooling drink. The pulp, which is soft and powdery is mixed with water and drunk under the hot day sun in countries such as Namibia, Zimbabwe and Malawi. The fruit also contains very high amounts of vitamin C - around 10 times as much as in an orange.

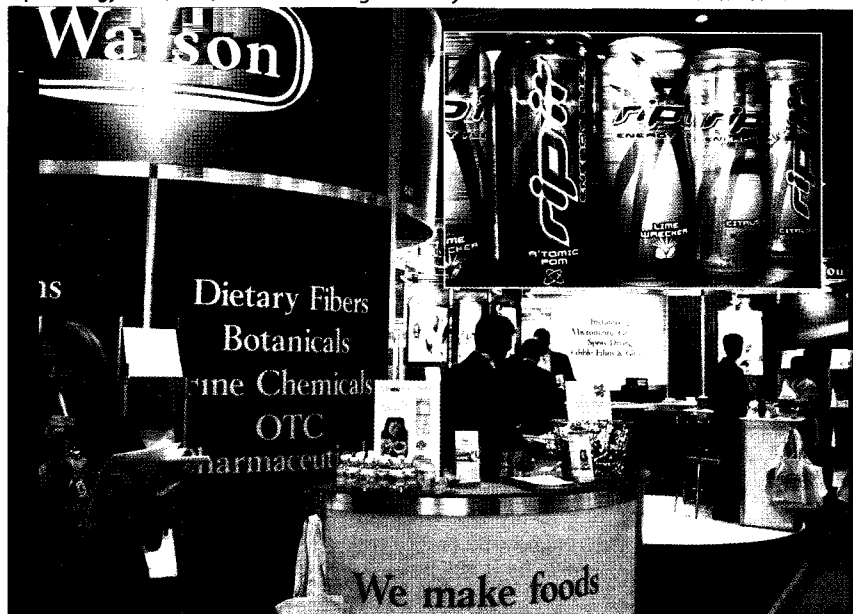
Unlike conventional suppliers of exotic fruits, Phytotrade works in the area of sustainable harvesting. It collect the fruits from wild growing trees, which are plentiful and has strict collection codes of practice, so that the baobab tree is not threatened from over-harvesting. The pulp is an ideal material for the production of smoothies, and is rich in fibre, vitamins, pectins and minerals. Because it is 'wild harvested', there is no danger of pesticide contamination and since the fresh pulp is low in moisture content (around 13%), the formation of microbiological contamination has not been an issue.

## Waiting to be revived

Closer to home, one of the exciting developments is the potential use of 'ground ivy' (*Glechoma hederacea*). This plant was used in the Middle Ages in England as a refreshing drink. Rich in terpenoids, the young fresh leaves, when crushed in the palm of the hand, emit a rich evocative aroma, not unlike the smell of cannabis resin. The plant was originally used to clarify beer and when mixed with honey and boiling water, was widely

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Rip It energy fuel (inset) featured among the many novel exhibits on Watson's stand.



**PLANT POTENTIAL – continued**

drunk in the nineteenth century to treat coughs and colds. In China, it has been used as an anti-inflammatory agent and in Europe as an astringent and a diuretic.

The taste of ground ivy in a drink, combined with honey or a suitable sweetener is truly refreshing, and with commercially available quantities of the plant available, it is just waiting to be revived in the West as the next new natural, competitor to plants such as lemon balm and verbena.



Business was brisk for Frutarom although (top right) there were organic pauses.

The search continues of course, for new natural sweeteners that have low calorific value and that are not based on sugar. A number of plants around the world have been found to contain unique sweetening components that are potentially new and genuine sugar substitutes. These include the Japanese raisin tree (*Hovenia dulcis*) and *Lithocarpous litseifolius* both of which are used in Asia as a 'sweet tea', and contain triterpenoids that are the source of their sweetening effects.

Other plants include *Pentadiplandra brazzeana*, known as the J'ouble berry which is used locally as a sweetener in various parts of Africa such as Cameroon and Zaire. The sweetening effects are due to a unique water soluble protein, known as brazzein and thus there is great potential use in soft drinks.

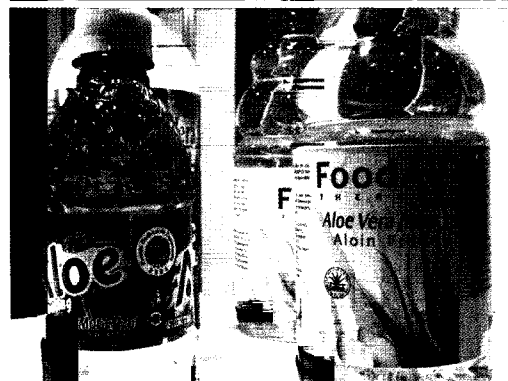
One of the most promising however is *Lippia dulcis*, known locally in Mexico and Peru as the 'Aztec sweet herb'. The plant is a close relative to lemon verbena and contains hernandulcin, an intensely sweet-tasting sesquiterpenoid. The leaves of this plant are used as a local sweetener in various parts of Latin and South America and research has shown that the plant has anti-bacterial effects. The essential oil of the plant also contains the same sesquiterpenoids, and therefore offers further opportunities for its use as a unique flavouring agent. ■



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- Maral root:* contact OCB Trading Okko Bosma; [www.ocb-trading.com](http://www.ocb-trading.com)
- Baobab fruit pulp:* contact PhytoTrade Africa; [www.phytotradeafrica.com](http://www.phytotradeafrica.com)
- Lippia dulce and other plants from South America:* contact [www.ocb-trading.com](http://www.ocb-trading.com)
- Ground ivy and research samples of new natural sweeteners mentioned in this article:* contact Herbal Sciences International; [www.herbal-scienceinternational.com](http://www.herbal-scienceinternational.com)



Aloe Vera made an impact in various forms.



Pomegranate inevitably had a presence whilst (below) it was bye, bye to diabetes with Diaherb.

