



Photo: Joe Mapother

Flavouring begins with the right ingredients

## Adding to cut raw material cost

Raw material costs fluctuate, and when they do, production-cost planning goes out the window and chief executives get upset. Options include firing the CFO, not always effective, or looking for a way to take the raw out of material.

**A**t Tobacco Technology Inc (TTI), chemists have developed additives that allow reduction of the amount of menthol and liquorice extract used in tobacco applications without impact to flavour or application. Company officials outlined what they are doing in response to queries from TJI.

Maryland-based TTI was founded in 1975 near the city of Baltimore, and develops solutions for flavouring issues across the line of tobacco products from

cigarettes to cigars, pipes, snuff and shisha. Over its 37 year history, TTI boasts a 95 per cent retention rate among its clients.

Tom Cravotta, the company's US unit president, says liquorice and menthol are just two of what he calls "flavour commodities," which are materials that have always been subject to price cycles. The price of natural menthol, for example, currently is sky-rocketing.

Menthol extract cost fluctuations are a good reason for TJI's mythical CFO to

break out in a sweat, assuming those sky-high prices weren't anticipated when this year's fiscal plan was put together. After mopping his brow, that CFO might just place a call to TTI.

Cravotta's company says its menthol 'potentiator' can be substituted for as much as 25 per cent of a batch of natural menthol, while retaining sensory effects. Not only will TTI's potentiator slash the cost of using menthol, it may save the CFO's job.

A liquorice replacement in liquid form

also is available from TTI, which says its additive was designed for easy processing, and can cut the cost of semi-fluid liquor-ice by half.

Quite a distance to the east of Baltimore harbour, the French flavourer Mane is bringing new forms of flavour delivery via encapsulation onto the market. Mane also has new natural product extraction technologies that will allow a broader spectrum of, for example, tobacco extracts, says Roger Penn, director of Mane's tobacco unit.

Flavour companies exist in part to artificially supply the natural flavour that has been lost, or become too expensive to retain in the manufacturing process. More so than in past years, they are being called upon to perform their magic in a way that allows manufacturers to market 'natural' products.

"Natural flavour as a concept had been around for some years," Penn said. "Some companies favour this approach, but others are not demanding specifically 'natural,'" he said. "The significant flavours on the market are a mixture of natural and synthetic materials."

Borgwaldt Flavor is a unit of a company bearing the same name that has been a name in tobacco processing and blending since 1867. Based in Hamburg, Germany, the flavour unit got into pest control as a sideline business by employing a pheromone (sexual lure) for use in sticky traps to catch tobacco beetles and moths.

"'Natural' seems to be one of the latest trends in certain areas of the tobacco industry," but falls short of qualifying as something in demand around the world, Borgwaldt said. "Borgwaldt Flavor operates worldwide, and customer demand varies a lot. There is not only a difference of taste, or in national regulations, there are also different ways of production," the company told TJI.

Borgwaldt's reference to national regulation is as good a spot as anywhere to bring in the action in March by Brazil to ban most flavours and additives used in domestic cigarettes. The ban made Brazil the first country to ban menthol in or on cigarettes. A spread of near-total bans on ingredients obviously would deal a big blow to flavourers around the world.

Brazil's action prompted the Framework Convention on Tobacco Control (FCTC) to label it the world's strongest ban on flavours and additives used in tobacco products. Brazilian cigarette makers have 18 months to restructure their products to remove most additives and flavours. Makers of related products such as cigars and cigarillos must comply within 24 months.

Because the ban is so comprehensive, here is a summary of items that are not on the list. Eight additives used in the manufacture of "derivative" products like cigars and cigarillos are



TTI's George Cassel-Smith

Photo: CI

exempt, the Brazilian national health agency ANVISA said when resolution RDC 14/2012 was published on 16 March. Sugar will be allowed solely to replace sweetness lost in the tobacco leaf curing process. Colour and bleaching agents to denote a brand on cigarette paper or create the cork look on tipping paper will be allowed. Tobacco products for export will not be subject to RDC 14/2012.

"This global precedent will certainly inspire other countries, and was a critical step in limiting the tobacco industry's tactics for luring young people to start smoking," said Framework Convention Alliance Chairwoman Paula Johns in a statement following announcement of the Brazilian ban.

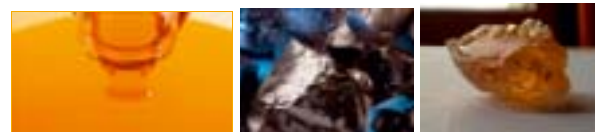
Beyond joining some other countries in banning what often are called characterising flavours like honey, cherry and chocolate, ANVISA said the Brazilian regulation also will remove additives like ammonia, levulinic acid, theobromine and gama-valerolactone believed to enhance the nicotine kick.

"With increasing regulatory pressures around the world, there is not so much innovation possible these days," commented Penn, a veteran observer of regulatory trends around the world.

"The various bans on characterising flavours and sweet/fruity flavours clearly remove large sections of products from the market," Penn said.

Makers of flavours and additives are following the lead of major tobacco companies and taking longer looks at the de-

## The natural way



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### Nature's way



Anita Bénech is division manager for public relations at Norevo, a global ingredient company with head offices in Hamburg. She supplied the descriptions below of some of the natural raw materials her company supplies.

#### ► Liquorice Extract

The sweet, tasty and aromatic extract out of the liquorice roots is a natural flavouring and sweetening ingredient providing versatile aromatic notes along with its typical sweetening and de-bittering properties. Its occasional attribute as „the black gold of confectionery“ gives an idea of its value as a key ingredient for all types of liquorice sweets. The smell of liquorice extract is as enticing as a fragrance and its taste teases the taste buds pleasantly when consumed under the form of liquorice candies. It is also commonly used in pharmaceuticals to cover bitter notes and give a soothing sweetness to medicines such as cough drops and syrups, digestive liquors and herbal remedies for stomach disorders. This sensory function is the very reason for its use in aromatic flavourings, blends or casings for some kinds of tobaccos in which it enhances and/or harmonises the aromatic profile of the tobacco. As an experienced supplier and producer of liquorice extract, Norevo has created an extended range of user-friendly and quick-processing types of liquorice extract such as nuggets, granules and

liquid paste, in addition to the traditional blocks and spray-powder.

► Honey

Apart from the traditional table consumption of this natural bee product, honey is a sweetening and flavouring agent that offers both plain sweetness and a wide spectrum of aromatic nuances according to its botanical origins. Its function varies from a honey-typical flavour enhancement to a mere sweetness harmonisation of flavour formulations in which it is easy to integrate. Quite similar to liquorice, the range of applications of honey is very wide, going from candies, beverages, flavours and food to pharmaceuticals, natural healthcare and cosmetics as well as tobacco flavourings, where honey is used for its sweetening power to smoothen some bitter notes in tobacco or to give a specific honey taste and smell to flavouring blends. Honey is a key product in our portfolio: raw honey, organic honey, honey powder and customised honey blends build up a range of honey types fitting the most diversified applications, including the tobacco industry.

► Gum Arabic

A natural hydrocolloid from acacia origin, gum arabic (or acacia gum) is a highly versatile ingredient with outstanding emulsifying, suspending and stabilising properties (for liquid emulsions) as well as encapsulating and binding properties (flavour drops or spray-dried flavour powders). Furthermore its colloidal properties are essential for coatings, protective films and adhesives (e.g. for rolled cigarettes). In the tobacco industry, gum arabic is well-known for its use as a natural, food-grade glue on the small rolling paper sheets. In the field of flavouring blends and aromatic sauces, the binding, thickening, encapsulating and stabilising power of gum arabic is a processing asset, equal to its easy handling, naturalness and safe ingredient status. According to the German Tobacco Directive in its present version (2011), gum arabic enjoys the status of a permitted additive as an adhesive and thickener. Norevo offers the raw material in pieces, granules, powder and aqueous solutions.



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velopment of alternatives and the tobacco niche markets.

"We are seeing a lot of growth in OTP (Other Tobacco Products)," said TTI Chief Executive Officer George Cassels-Smith. "We are fielding many requests for development help in Reduced Harm Products like dissolvables, e-cigarettes and unique filtration projects. In particular, the global oral tobacco and shisha industries are on fire for product developers at this moment."

Kreteks and cigarillos also are growth areas at TTI, said Sales Manager Anne Froke. "Kretek remains 'king' in Indonesia," she said. "Expectations are that the Indonesian tobacco market will reach 300 billion sticks this year," she said. Indonesia is one of the world's fastest growing economies. In the most recent data reported, gross domestic product expanded 6.3 per cent in the three months to 31 March.

Indonesia also is making headway in its effort to get kreteks reintroduced in the

United States. Because they took their fight to the World Trade Organisation (WTO), favourable rulings in their dispute with the US will have worldwide impact.

Imports of the clove-flavoured cigarette came to a halt when kreteks were banned in the US in 2009 as a product with a characterising flavour that would entice youth to take up smoking.

Indonesia challenged the US ban by complaining to the WTO that the ban was discriminatory because the US did not also ban menthol cigarettes. The WTO agreed.

### In essence

- ▶ Natural is trendy but not dominating
- ▶ Brazil's ban is worth watching
- ▶ Indonesia is winning the clove battle

In April a WTO appeals board upheld previous rulings in favour of Indonesia. At the 24 May meeting of the trade body's Disputes Settlement Board the US said it would comply with what the board recommended "in a manner that protects public health and respects its WTO obligations," the trade authority said in a statement on its website. The US requested a "reasonable" amount of time to implement the recommendations.

In terms of growth, the established markets of the US and Europe are large, but expansion is taking place in the developing world, according to flavour companies.

Products like electronic cigarettes, smokeless tobacco and shisha may gain in importance, or fade, says Borgwaldt. "It is quite difficult and too early to make a final statement or forecast. We do not know whether they are only trends, or whether these products will establish themselves in the market."

Joe Mapother

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