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Greetings

Nadine

Editor: Nadine Uren

- PO Box 238 Paarl 7620
- Tel: (021) 807 5707
- Fax: (021) 807 6017
- E-mail: nadine@sawis.co.za

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Synthetic wine made without grapes claims to mimic fine vintages

The Ava Winery, a San Francisco start-up claims that they can make synthetic wine without grapes – simply by combining flavour compounds and ethanol.

Traditionally, wine is made by fermenting grapes – yeast turns sugars in the grape juice into ethanol. The process also develops many hundreds of flavour compounds, but takes time and produces variable results.

Wine wouldn't be the first drink to be artificially mimicked, but it could be the most complex.

So the team decided to combine chemistry with the expert taste buds of a qualified sommelier. Using gas chromatography mass spectrometry and other tools, the team analysed the composition of wines including Chardonnay, champagne and Pinot Noir, identifying key flavour molecules – like the esters ethyl isobutyrate and ethyl hexanoate – and their concentrations. They then mixed these molecules and tinkered with their proportions, and had their sommelier test their resulting concoctions.

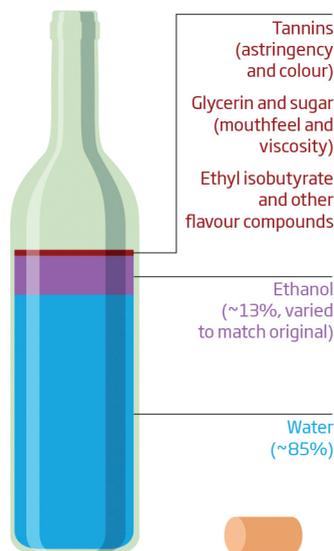
"It's absolutely going to be substantially cheaper," Lee says of their method, which cuts out the need to grow grapes and then ferment them over long periods.

They plan to sell an initial batch of 499 bottles of a Dom Pérignon mimic for \$50 a pop, they will begin shipping this summer to customers keen to experience the taste of a classic champagne that could otherwise cost upwards of several hundred dollars.

But the team is likely to meet with stiff resistance from classical wine makers and researchers.

What's in synthetic wine?

The Ava Winery is mimicking wine by adding chemical compounds to ethanol



One thing that certainly might put consumers off is that any synthetic wine is unlikely to have the word "wine" on its label. There are strict rules governing which products may use this term – in the EU, for example, it must apply only to the fermented juice of grapes, whereas in other jurisdictions like the US other fruits can be used.

www.newscientist.com/article/2088322-synthetic-wine-made-without-grapes-claims-to-mimic-fine-vintages/



It's time for retailers to start paying close attention to social media

Social media may still only drive a small share of total online retail sales, but its impact is becoming impossible to ignore. Social-driven retail sales and referral traffic are rising at a faster pace than all other online channels.

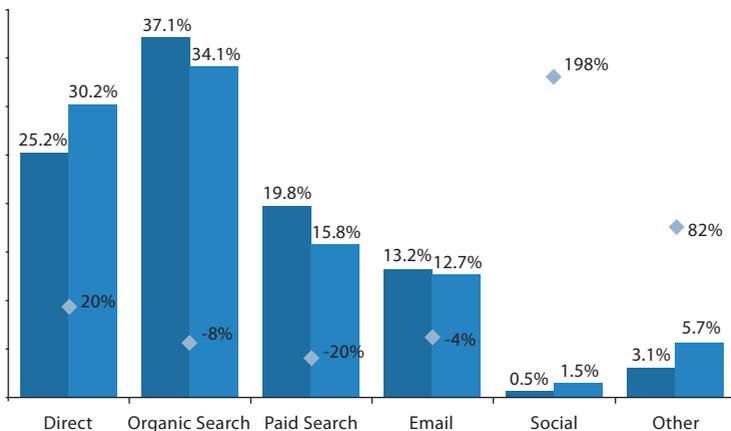
The top 500 retailers earned \$3.3 billion from social shopping in 2014, up 26% from 2013, according to the Internet Retailer's Social Media 500.

www.businessinsider.com/social-commerce-2015-report-2015-6

Share of E-Commerce Web Traffic By Referral Channel

(US; Desktop + Mobile)

■ Q1 2014 ■ Q1 2015 ◆ YoY % Change



*Note: "Other" includes display and affiliate
Source: MarketLive

BI INTELLIGENCE

New smart bottle preserves your opened wine for weeks

USA company Kuvée has created a connected wine bottle that's not only equipped with WiFi and a touchscreen, but offers a restaurant wine list at home, while promising to keep wine fresh for 30 days. Here's how: The specially designed opaque aluminium bottles that slot into the smart Kuvée bottle have a pouring valve that prevents oxygen from entering the bottle and spoiling the wine. Plus, they don't let light in, further extending the wine's shelf life, and are lighter, more compact and easily recyclable.

The Kuvée bottle will keep track of when it was opened. As well as letting you know how much is left in the bottle, the touch screen also tells you more about the wine, offers ratings and pairings (great for impressing your guests), and the ability to order more.

The Kuvée bottle's battery should last throughout your entire dinner party, supporting up to six hours of activity.

www.eatout.co.za/article/new-smart-bottle-preserves-opened-wine-weeks/



Ancient Amphora Winemaking is Alive in Oregon

Ever wonder what ancient wines actually tasted like? Scientists have put together many details of how ancient wines were made from studying the ruins of 6000 year-old cellars. A key component of these cellars is the use of earthenware pots called amphora to make wine. Surprisingly enough, there is a producer reinvigorating the process of using amphora in winemaking in a rural suburb of Portland, Oregon.

Andrew Beckham is not your usual deep-pocketed winery owner, in fact, he's actually a high school pottery teacher. In the early 2000's Andrew and his wife, Annedria, chose to move out of the city to acquire enough space to build a pottery studio. It was here, that the couple developed a keen interest in wine, planted a few rows of Chardonnay and Pinot Noir, and started Beckham Estate Vineyard. Andrew had never thought to tie his love for pottery with wine until he came across an article about Elisabetta Foradori, a famous Italian winemaker who started to use amphorae to make wine.

Over several years, Beckham worked on developing the right amphora shape which involved researching ancient designs

including Roman amphora, Spanish Tinaja (terra-cotta storage vessels) and Georgian Qvevri. This is where Beckham has stumbled across some fascinating secrets from the past. For example, his skin-contact Pinot Gris was made in a Roman-styled amphora, which is narrow and pointy. The design of the amphora lets the seeds drop to the bottom and reduces the bitter tannins from the seeds. The result is an intensely colored Pinot Gris, which perhaps mimics the so-called "golden wines" of the Roman empire.

Aging wines in earthenware also showed surprising results. The porosity of the clay increases the oxygen exposure to wines while they age. Oxygen accelerates the tertiary flavor development which includes softening tannins and increasing aromas of nuts, baked fruit, and chocolate. After experimenting with Pinot Noir aged in oak vs amphora, Beckham suggested that the increased levels of dissolved oxygen in the amphora wines meant they are ready in about half the time of the wines aged in oak.

www.winefolly.com/update/ancient-amphora-winemaking-alive-oregon/



Roman Amphora



Qvevri Amphora



Tinaja Amphora

Education

What the Hell Is Blue Wine?



There's red wine, white wine, even pink wine. But now thanks to six young Spanish entrepreneurs, in collaboration with the University of the Basque Country and Azti Tecnalia (the food research department of the Basque Government), blue wine – which targets millennial drinkers – is about to hit European markets. It is made from an undisclosed blend of red and white grapes. The 11.5 percent ABV juice is hued neon blue with anthocyanin (a pigment found in grape skin) and indigo (a dye extracted from the *Isatis tinctoria* plant), and a non-

caloric sweetener is added as well. A 750ml bottle retails for 10 euros, or about \$11 USD.

The blue inspiration came from *Blue Ocean Strategy*, a book written by W. Chan Kim, a Korean-born business theorist. “He tells about red oceans in his book, representing business markets saturated by specialists (sharks) who fight for the same variables and for a reduced number of clients (fish), and end up in water turned red. And how it's necessary to revert this, by innovating and creating new variables, back to blue.

www.eater.com/2016/6/15/11936830/blue-wine-spain-gik-sweet

Roman Imperial leaders had wine empire away from the battlefield, study suggests

Until now, very little was known about Rome's Imperial leaders aside from their battle triumphs, territorial conquests and monumental legacies.

Researchers from the University of Sheffield's Department of Archaeology investigating the vast Imperial estate of Vagnari in Italy, have now unearthed evidence of wine production on an industrial scale – shedding light on their home life away from the battlefield.

The excavation team discovered the corner of a cella vinaria, a wine fermentation and storage room, in which wine vessels, known as dolia defossa, were fixed into the ground.

The heavy and cumbersome wine vessels have the capacity of more than 1,000 litres and were buried up to their necks in the ground to keep the temperature of the wine constant and cool – a necessary measure in hot climates.

The scale of the wine production provides clear evidence for industrial activities and provides a glimpse into the range of specialist crafts and industries practised by residents – painting a better and more complete picture of life on the Imperial estate and the wealth it provided for its owner.

www.sciencedaily.com/releases/2016/04/160411082833.htm



3 Things to know about the color of wine

Color is an important part of your wine tasting experience, and what it tells you goes beyond red, white, or rosé.

THE COLOR COMES FROM THE SKINS

When you press or squeeze almost any grape, even the black ones, the juice is somewhere between colorless and golden.

After the grapes are pressed, you're left with juice and the skins. If you're making a white wine, quickly remove the skins so they won't add color. If you're making anything else, then the skins can hang out in that juice. Then the color can seep out of the skins (and stems and seeds). The wine pros call this maceration.

For a deeper color, macerate for anywhere from a few days to a few weeks. The longer the skins stay with the juice, the deeper the red color.

COLOR AND TANNINS ARE RELATED.

In addition to pigment, the skins of red grapes also have tannins. Tannins are what make your tongue feel when you drink red wine. If you want a lot of tannin in your wine, leave the skins in longer; darker color tends to equal higher tannins.

In addition to contributing to flavor, tannins help wine age properly, but even they can't prevent it from eventually getting too old. Color changes as the wines age. White wines are generally not made to last long and will become dull and more orange over time. Reds become browner and eventually also start to look dull. At that point, they may be too old to drink.

COLOR IS YOUR FIRST INDICATOR OF TASTE.

If a white wine has a pale yellow color with a slight green hue, you can expect it to be light and crisp. If you tilt your glass of red wine over a white piece of paper and can't see your fingers through the wine, it's probably going to be highly concentrated and full-bodied.

The strange effects of alcohol explained

Alcohol: why do we drink it? People have been consuming alcohol for at least 10,000 years. Today people will give you many reasons for their decision to drink and most of these reflect the effects it has on mind and brain.

1. IT TASTES NICE

It depends on what you are drinking (some drinks like alcopops contain more sugar) and people obviously have different taste preferences. The fact that ethanol is created from sugars is also likely to increase our propensity to drink. For example, research suggests that some individuals have a predisposition to prefer sugar and this can make them more prone to developing alcohol addiction.

Alcohol also seems to act on some of the same brain areas activated by sweet tastes.

Yet ethanol is not always perceived as pleasant; it can be quite bitter. If ethanol is given over time rats show increasing “tasty” responses in their mouth and facial expressions. However, if it’s given after naltrexone, a substance that reduces opioid activity – which signals “liking” something among other things – in the brain, “aversive” reactions increase, and less alcohol is consumed. This suggests that the opioid receptors mediate how much we like alcohol. And substances like naltrexone are used to treat people with alcohol use disorder.

2. I REALLY WANT A DRINK

Dopamine, a neurotransmitter involved in controlling reward and pleasure in the brain, plays a key role in motivated

behaviour and is also associated with many forms of addiction. Ethanol, like all other known addictive substances, increases the release of dopamine. This can cause you to drink more – why you might want a second, or a third drink, after the first one.

However, after repeated experience with addictive substances like alcohol, dopamine connections can remodel themselves, sometimes decreasing the numbers of receptors that bind dopamine. The size of this reduction is associated with a higher risk of relapse in alcohol addiction.

3. IT MAKES ME FEEL BETTER

Drinking alcohol can be a form of “self-medication” used to unwind from workplace stress or ease study pressures, making it less “aqua vitae” (water of life) and more and “Aqua ad vitae” (water to counteract life).

Stress is biologically mediated by the hypothalamic pituitary adrenal axis – a feedback system between the brain and the pituitary and adrenal glands. But acute alcohol consumption can stimulate this, increasing the production of several stress hormones including corticosterone and corticotropin.

4. IT HELPS ME OVERCOME MY INHIBITIONS

Alcohol is known to reduce inhibitory control in the prefrontal cortex – the part of the brain associated with decision-making and social behaviour – coming more under the control of mid-brain dopamine neurons. This leads to the loss of self-restraint that people report when drinking.

One noticeable effect – after just a few drinks – is an increase in sociability.

5. IT HELPS ME SLEEP

Despite the fact that we may opt to partake in a night cap, research shows that certain doses of alcohol may reduce the amount of slow wave and REM sleep we have. So it may help us to drop off faster, but alcohol doesn't result in a better quality of sleep. REM sleep is important for cognitive processes such as memory consolidation so reducing the time in which this process occurs has a detrimental effect on memory. Consolidation of emotional memories may be particularly affected.

6. IT EASES MY PAIN

This known effect has been used to support alcohol's consumption throughout history: consume it and you can successfully dull your perception of pain. Pain-causing signals are detected by sensory neurons (or nociceptors) that pass this information through chemicals such as glutamate, via synapses in the spinal cord, up into the

brain. But this ascending signal can be "dampened down" by alcohol, which is how it achieves some of its pain-dulling effects.

Unfortunately, research suggests that this pain dampening effect is highly variable. And while some people do consume alcohol to help relieve chronic pain, it is possible for tolerance to occur such that pain relief lessens over time. Enhanced pain sensitivity may even happen in chronic drinkers.

7. A DRINK WILL WARM ME UP

Not quite. While alcohol can make you feel warm temporarily this is a perception generated by heat sensitive neurons (thermoreceptors) located in your skin that detect a rise in your skin temperature from an increase in blood flow in the vessels close to the skin's surface. In fact, alcohol actually lowers your core body temperature because the rush of blood to the skin's surface is a means of body cooling.

So while you may feel warm on the outside, you are getting cold on the inside.

www.nzherald.co.nz/lifestyle/news/article.cfm?c_id=6&objectid=11646047



Is it true that red wine keeps you young?

There is evidence that resveratrol, a polyphenol compound with antioxidant properties found in red wine, can keep organs healthier as they age, at least in mice.

Research conducted by scientists from the National Institute on Aging and from Harvard Medical School in 2008 showed that resveratrol provides cardiovascular benefits, greater motor coordination, bone density and kidney function, reduces cataracts and keeps the heart and other muscles healthier as they age. However, that study found that it did not extend the lifespans of the mice.

What has been observed, time and time again, in actual human beings, is that a Mediterranean diet – with an emphasis on olive oil, nuts and fish, and including moderate red wine consumption – has been

anecdotally shown to have myriad health benefits.

More recently, researchers from the Swiss National Science Foundation published a review of studies in the *European Heart Journal* that partially focused on a class of proteins called sirtuins, which “play a crucial role in [moderating] oxidative, genotoxic and metabolic stress processes, all of which increase with aging ... [and] counteracting deleterious consequences of biological events triggered by aging.” And can you guess which polyphenol is a natural activator of sirtuins? That’s right: Resveratrol. “Resveratrol has been demonstrated to exert several beneficial effects,” the Swiss review states, “but its effects in humans are still unclear.”

www.winespectator.com/webfeature/show/id/Is-It-True-That-Red-Wine-Keeps-You-Young-53227





Minding your waistline? Fruits, berries and a little wine may help

Scientific studies have shown that diets that include wine can improve cardiovascular health. Now, a review of several large studies has found strong evidence of a link between keeping trim and the polyphenolic compounds found in wine and some fruits and vegetables. The review, published January in the *British Medical Journal*, looked at three cohort studies – the Health Professionals Follow-Up Study, Nurses’ Health Study and the Nurses’ Health Study 2 – involving more than 124,000 male and female participants. The analysis conducted by researchers from the Harvard T.H. Chan School of Public Health studied the eating patterns of the participants to determine whether foods rich in flavonoids had any effects on managing body weight. Flavonoids are naturally occurring compounds that are found in specific fruits and vegetables, including grapes, blueberries, apples, pears and prunes.

What was unique about this study is that previous weight-loss research had targeted one small subset of flavonoids, flavan-3-ol, which is found in high concentrations in

green tea. This megastudy focused on several subclasses of flavonoids and found that most had a positive effect on participants’ long-term health.

The Harvard study centered on seven specific subclasses of flavonoids. Wine, especially red wine, is high in dietary flavonoids. The principal flavonoids consumed by the participants were anthocyanins, which were derived from blueberries and strawberries, flavan-3-ols, acquired from beer, tea and apples, and flavones from oranges, onions, teas, beer and wine.

The researchers observed a significant correlation between a diet that is heavy in fruits, vegetables and flavonoid-heavy drinks, and participants who were healthier overall and less overweight. Most positive dietary changes correlated with flavonoid consumption were small and incremental. But, according to the researchers, “A single serving per day of many fruits can often increase the effect of weight loss. For example, one half-cup of blueberries provides about 121 mg of anthocyanins.”

And losing even small amounts of weight can improve health.

www.winespectator.com/webfeature/show/id/Fruits-Berries-Wine-Linked-to-Better-Health

70% OF NUTRITION EXPERTS AGREE: Wine is good for you

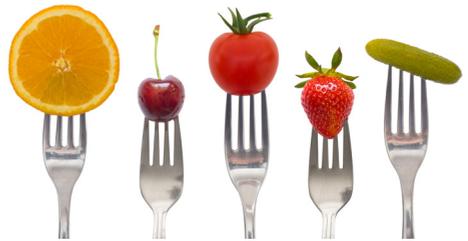
The New York Times along with the Morning Consult, a media and polling company, conducted a survey in which they polled hundreds of nutritionists and regular Americans, asking whether they thought a certain food item was healthy or not. The results demonstrate the difference of opinion between the general populace and experts.

What we found most fascinating was that 70% of nutrition experts say that wine is healthy. A lot of research has been conducted in the past couple of years aimed at answering the specific question of whether wine is healthy or not, and what we've seen is that the research overwhelmingly agrees that it is, but only when consumed in moderation. According to nutritionists, wine is actually more healthy than orange juice, granola, diet soda, and steak. Kind of surprising, right?

Also surprising, the general populace doesn't think it's as healthy as the experts do. When polled, just slightly more than 50% of the public thought wine was healthy. This is most likely because wine is seen as an indulgence and indulgences are easily thought of as unhealthy.

Other food items that a higher percentage of nutritionists found more healthy than the general populace are sushi (75%/47%), popcorn (62%/47%), hummus (92%/65%), olive oil (97%/83%), beer (25%/12%), and even butter by a slight margin (40%/35%).

www.vinepair.com/booze-news/70-percent-nutrition-experts-wine-good-for-you/



Bubbly Booming: The U.S. becomes Champagne's top export market

The Champagne category is bubbling over in the U.S. market, driven by a dynamic premiumization trend. With per-case value up 20% to over €300 (\$334) last year, the U.S. overtook the U.K. as Champagne's top export market by value in 2015.

www.shankenewsdaily.com/index.php/2016/06/29/15298/bubbly-booming-u-s-becomes-champagnes-top-export-market/

Argentine harvest drop 25%

Argentina's grape harvest dropped 25% by volume in 2016 in what was described as a "very different" but "very good" year, with delayed maturity resulting in fresher wines with less alcohol.

www.thedrinksbusiness.com/2016/07/el-nino-sees-argentine-harvest-volumes-drop-25/

EU offers temporary approval of weedkiller glyphosate

The European Commission extended approval of the weedkiller glyphosate in Europe for up to 18 months amid disagreements over whether the chemical could cause cancer.

The EU's 28 member states are bitterly divided on the dangers of glyphosate, one of the world's most popular weedkillers first used in the Monsanto herbicide Roundup.

www.yahoo.com/news/eu-offers-temporary-approval-weedkiller-glyphosate-172414389.html



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