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What's new in the Grapevine this week?

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What your gut is telling you about red wine

Recently, Wine Spectator ran an article on red wine and health that is important to everyone. It may help explain the French Paradox (the French drink a lot of wine, eat rich foods and smoke yet the red wine part of their diet seems to afford some protection against heart disease.) The article reflects recent research on this little understood topic. I have re-published it here with some minor edits for space.

Here's some health news that's easy to stomach: Wine, especially red, is positively associated with increased biodiversity in the microbiota of your gut, according to a new study. What does that mean for wine drinkers? Well, it's a helping hand in staying healthy, perhaps promoting a higher metabolism and assisting diet efforts.

The study, published last week in the journal *Gastroenterology*, was conducted by a team of researchers at King's College London and the VIB-KU Leuven Center for Microbiology in Belgium. Their goal was to investigate the effect of moderate consumption of various alcohols on gut microbiome diversity.

Research increasingly suggests that the trillions of microbes that live in our digestive tract, collectively known as the gut microbiome, contribute to our overall well-being. The gut microbiome aids in everything from digesting and metabolizing food, to moderating our mood, to regulating our immune system. Intestines with a diverse range of bacteria are better equipped to produce a variety of vitamins, enzymes and other compounds that affect us positively.

For this study, the team collected microbiota data and other health information from three sources, including surveys of more than 2,000 people in Belgium and the U.S. The third group was composed of 453 pairs of female twins in the U.K. By using twins, the researchers were able to control for things that are normally out of scientists'

hands, such as early life exposure, socioeconomic background, and most importantly, genetics.

They found that people who enjoyed even an occasional serving of red wine—as little as one glass every two weeks—showed a positive uptick in gut biodiversity. White wine drinkers showed a more modest uptick, while beer, spirits and cider drinkers showed no difference from people who drank rarely or not at all.

The authors hypothesize that the rich and varied polyphenols found in red wine encourage greater and healthier biodiversity in the gut. Lead author Dr. Caroline Le Roy was quick to caution that she's not advising people to start drinking more. "I would say [red wine] can be part of a healthy diet, *in moderation*," she told *Wine Spectator*. "But it is not so healthy that if you don't drink red wine already that you should start now. You can find polyphenols in many other foods besides wine."

Le Roy added that wine is unlike yogurt and probiotic pills—which add specific beneficial strains of bacteria to your gut: "Red wine is less of a probiotic, and more of a prebiotic-like-effect," she said. "You're not necessarily adding things that are missing, but rather helping things that are already there."

And the research is far from over. Dr. Le Roy wants to continue down this path, highlighting especially the possible differences in disparate styles of red wine: "They're all different, in terms of polyphenols and other molecules that may affect gut health."

Name your poison

We have run a few articles in the last few months about additives in wine, contamination with Roundup, and sulfite sensitivity. It is not out of the realm of possibility that with all this negative press, people would be concerned about the toxic effects of wine and wine making.

First of all, let me put your mind at rest. Even with the miniscule amounts of Roundup and sulfites in wine, there is no toxic effect. Just because a chemical can be detected doesn't mean it is at a toxic level. Arsenic, one of literature's most famous toxins is present in our drinking water as well as many fresh, organic fruits. No one gets arsenic poisoning from having a cup of tea made with City of Bozeman water or dies in agony after eating a golden delicious apple. It would take almost a million times the concentration of Roundup found in a glass of wine to get to the level of toxicity one would need to cause arsenic poisoning. Parts per billion is a pretty good indicator that the toxic effects are non-existent. Environmentalists used to have a saying: "The solution to pollution is dilution". That is: a small amount of something toxic mixed with a global volume of air or water renders the threat to near zero.

As far as I know, the only part of wine that can make you sick is alcohol. That is not to say wines don't have problems—just none of them are toxic to humans. When Dom Perignon got to Champagne, they had a problem with wine restarting fermentation in the bottle. The wine was considered defective (not toxic though) and until heavier glass bottles were developed much of it exploded in the cellar or on the cart on the way to market. Wine exposed to too much oxygen may "sherry". Some wines

have a barnyard smell from a spoilage yeast called *Brettanomyces* but, in spite of the wet corral in springtime odor, it will not poison anyone. Even wines with cork taint are not toxic and cork taint is caused by a potent sounding chemical called 2,4,6 trichloroanisole (TCA). We can say that even Wines that have turned to vinegar are not poisonous no matter how unpleasant they are to drink.

As I noted in one of my last articles, a few parts per billion of an herbicide are not likely to be toxic. But, look at the label on your next wine bottle—there is percentage of ethyl alcohol posted on the label to warn you that there are 140,000,000 parts per billion of something that can make you sick if you take too much. Life is full of choices and things to pick. You can pick your nose, pick your friends, pick your battles and pick your poison.

What makes wine Kosher?

The end of September brings the Jewish New Year—Rosh Hashanah. That holiday is closely followed by one of the most important days in the Jewish calendar, Yom Kippur (the Day of Atonement). Bozemanites of the Jewish faith stock up on apples, honey, nuts and challah for the New Year's celebration but they also look for kosher wine to accompany the traditional dishes of Rosh Hashanah.

Contrary to popular belief, modern kosher wine isn't much different from any other wine. Grapes are already kosher but to ensure that the process stays kosher from vineyard to glass, there are some requirements to follow under Jewish dietary law, or *kashrut*. Any additives, like commercial yeast, would need to be approved by a kosher-certification organization. Some things need to be avoided altogether, like fining agents made from non-kosher ingredients. Isinglass, for example, which is made from the bladder of the sturgeon fish, would not be permitted in a kosher wine. Though not mandatory, a winery can also opt to be certified kosher by an official organization like the Orthodox Union, which would require all winemaking to be overseen by a rabbi.

Typically, only Sabbath-observant Jewish people are permitted to handle kosher wine during every step of the winemaking process, from crush to bottling—including drawing a sample from barrel to taste.

There is a loophole, however, that keeps wine kosher without the worry of who's touching it—a particularly appealing workaround for kosher restaurants with staff members who aren't Sabbath-observant. Even though there is no biblical teaching, historically, someone decided that if the wine was heated to a certain temperature, or boiled, it would technically not be considered wine. Therefore, if it wasn't technically wine, then it wouldn't have the same requirements as normal wine. These wines are designated as *mevushal* (which means "boiled" in Hebrew), and are considered ritually impervious to desecration by idolaters like the ancient Greeks.

Heating a wine can obviously damage it, and the process gave kosher wines a poor reputation for quality in the past. But that is no longer the case thanks to modern techniques for achieving *mevushal* status. One is flash pasteurization, wherein a wine is heated to a temperature that meets kosher requirements, about 185° to 190° F, for just a few seconds. A newer method, called flash-détente, heats the grapes instead.

Once the grapes are picked, they are transported directly to the flash-détente machine and heated whole to about 190° F, then immediately cooled to about 80° F in a vacuum chamber.

In the last decade, flash-détente has picked up steam at both kosher and non-kosher wineries for its additional benefits. Flash-détente will heighten fruitiness in the juice and the wine, and will also soften tannins in red grapes.

For anyone interested in the principals of kashrut (kosher) diet, it is one of the healthiest and disciplined life styles ever invented. Rabbi Chaim Bruk of Bozeman's own Chabad Lubavich is my source for all kosher knowledge. If you have a question about kosher food preparation, kosher law or just what foods are traditional for the Holy Days, call him at 585-8770.

Art Walk next Friday

Next Friday, September 13th Bozeman will host the final Art Walk of the summer from 6 PM to 8PM. I will be at Miller's Jewelry in their beautiful new store to serve some delicious wines while you take part in a remarkable art event.

First of all, the September birthstone is the sapphire and Miller's has a HUGE selection of Montana Yogo sapphire jewelry. But as a kicker, renowned international artist **Angie Crabtree** will in attendance. The folks at Miller's knew she specialized in spectacular detailed portraits of gemstones and they commissioned her to create one for Miller's. Ms. Crabtree will be at Miller's to finish the portrait in the showroom between 6 and 8 pm during the Art Walk. She will also have some of her hand painted gemstones on display throughout the evening.

I will be there to pour some delicious wines to sip while you peruse the Yogo Sapphire collection and Angie Crabtree's breathtaking art. See you next Friday!!