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Raisins are NOT a significant source of nutrients in mead

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Many older mead recipes suggest adding raisins to mead as a source of 'nutrients' for the yeast. The amount of nitrogen added by a handful or two of raisins is miniscule, unfortunately this myth persists.

Raisins and other dried fruit such as figs, dates, or cherries certainly add flavor. I have added dried fruit to many of my meads over the years and I enjoy using them for that purpose. Raisins are not a 'nutrient' however, in that they are not significant source of YAN (yeast assimilable nitrogen).

In order for healthy yeast fermentation to take place, yeast requires not only carbohydrate (sugar) and oxygen but also other nutrients including nitrogen, as well as micronutrients such as vitamins and minerals. Without sufficient nutrients, yeast fermentation can become stressed and sluggish- or even become stuck entirely. Sufficient nutrition results in faster and cleaner alcoholic fermentation, while also minimizing formation of unwanted flaws and off aromas (such as H2S). [1, 2, 3, 4]

The nitrogen sources utilized by yeast are further distinguished into FAN and YAN. FAN is "free amino nitrogen" including organic sources of nitrogen such as amino acids and peptides. YAN is "yeast assimilable nitrogen" which is the total amount of nitrogen available to yeast. YAN is the total of both the inorganic sources of nitrogen (ie ammonia) as well as the organic sources of nitrogen (amino acids ie FAN).[1, 2, 3, 4]

Compared to wine or beer, mead is extremely deficient in YAN. A study by Ken Schramm found that the FAN of various honey musts ranged from 5 – 21 ppm. [5]

In contrast, the YAN in grape musts is higher than in mead, though the YAN can be quite variable, depending on variety of grape, the location of the vineyard, or even the year in which they were grown. In a Penn State study from 2006 - 2011, the YAN of grape musts ranged from 50-400 ppm. [6] This is why many winemakers routinely measure YAN and if the grape must is deficient, they add additional nitrogen.[3,4]

Wine is made from grapes; which are the same fruit from which raisins are also made. If raisins and grapes had enough nutrients for healthy yeast fermentation, wine makers would never have to add nutrients to their grape must. However that is certainly not the case: nutrient additions are considered standard and commonplace in the wine industry. [1, 2, 3, 4]

Although the amount of YAN required varies depending on the needs of the specific yeast strain, how high the initial °Brix is, and/or if there are other additions (such as fruit or fruit juice)- in general mead needs at least 200-350 ppm YAN. [1, 7, 8]

There is a great deal of information available regarding the theory behind and techniques of how to do nutrient additions for mead; this subject has been covered in much greater detail elsewhere. Some of the commonly used sources of YAN and other nutrients include DAP (diammonium phosphate), Fermaid-K™, Fermaid-O™, and Superfood™. [1, 2, 8, 9, 10]

So then, how do raisins stack up as a possible nutrient source in mead?

- 50 raisins (26 gms) contain 0.8 gms protein [11]

This protein content only includes amino acids and not the total nitrogen (including inorganic nitrogen). Although which nitrogen to protein conversion factor should be used in nutritional analysis have been debated, the accepted N:P conversion factor for raisins is 6.25. [11]

- Thus 0.8 gms/6.25 = 0.128 gm.

Therefore, if you added 50 raisins per every 1 gallon, then you would be adding 0.128 gms (128 mg) of nitrogen per gallon.

- If every gallon is 3.785 liters, then 128/3.785= 34 mg/L.

That would mean that adding 50 raisins per gallon of mead would provide only 34 ppm of nitrogen (mg/L is the same as ppm). Some old style recipes suggest adding a lower amount of raisins- such as only 25 raisins per gallon. [12]

The actual amount of nitrogen provided by raisins will be a bit less than this, because less than 100% of the nitrogen will be available to be consumed by the yeast. A significant portion of the amino acids in grapes and raisins is proline- which is an amino acid not readily utilized by yeast. [4]

Thus, at most adding a handful of raisins to your batch of mead will give you perhaps one-tenth of the required nutrients needed for healthy yeast fermentation.

For raisins to be a significant source of YAN for yeast fermentation, you'd literally have to add them to your mead by the POUND- and not by the handful.

Use them for flavor if you wish, but raisins are not a significant source of nutrients in mead.

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