

Urea based Nutrients

Q: Will I have a problem using a Urea based nutrient?

A: **Perhaps**. Most, if not all, energizers & nutrients have some amount of nitrogen forming compounds in them. It is my opinion, and that of other more learned sources, that using urea based yeast nutrients contributes to forming off flavors in fermented beverages:

- 1) The use of urea as a fermentation supplement is prohibited. The BATF has found that the use of urea is not considered acceptable in good commercial practice among wine producers and has rescinded the listing of urea as an authorized treatment (Federal Register, Vol. 55, No. 118, 24974-24982, 06/19/90). (ref 1)
- 2) Urea is the major precursor for Ethyl carbamate (EC, urethane) in wine. EC is a naturally occurring component of all fermented foods and beverages. Because EC has shown a potential for carcinogenicity when administered in high doses in animal tests, the wine industry is interested in reducing EC levels in their products. (ref 1)
- 3) Wine yeast strains differ in their ability to rapidly catabolize urea during fermentation. When excess urea accumulates in the cell's cytoplasm, it is released into its environment, the must.(ref 1)
- 4) To avoid sluggish or stuck fermentations, it is permitted by BATF to add up to 8 lbs of diammonium phosphate (DAP) per 1,000 gal (960 mg/L) to a nitrogen deficient must, which translates into ca. 200 mg of nitrogen/L. However, excessive levels of nitrogen may contribute to urea formation and excretion by yeast. (ref 1)
- 5) Both Red Star & Lallemend refrain from using urea in their Superfood and Fermaid-K nutrient formulations - this is so stated in their sales literature. I wonder why...?

As such, I don't feel it is worth the chance of ruining a batch of wine, mead, etc. because I used a urea based nutrient. Consequently, I do not use, or recommend the use of, urea based nutrients. I'd also urge caution with generic nutrients that either do not state their ingredients, or do not specifically state "contains no urea". However, in the end the choice is yours... JFTR, I do not work for, or have any affiliation with either Red Star or Lallemend.

Ref 1) [ETHYL CARBAMATE PREVENTATIVE ACTION MANUAL](#), UC Davis Cooperative Extension, in cooperation with: Wine Institute, San Francisco, CA, U.S. Food & Drug Administration, Washington, DC

Ref 2) Red Star & Lallemend