

# **TTB Webinar: Domestic Wine Formulas**

Presented January 2018



# TTB Disclaimer

## Notice:

- This information is being presented to help the public to understand and comply with the laws and regulations that the Alcohol and Tobacco Tax and Trade Bureau (TTB) administers.
- It is not intended to establish any new, or change any existing, definitions, interpretations, standards, or procedures regarding those laws and regulations.
- In addition, this presentation may be made obsolete by changes in laws and regulations.
- Please consult the applicable laws and regulations for the most current requirements.





# General Formula Background



# *Common Formula Questions*

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- What is a formula?
- Why is a formula required?
- When is a formula required?
- How is a formula submitted?



# ***What is a Formula?***

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- A formula is a recipe.
- It must indicate a Total Yield, or Batch Size.
- It must have a quantitative list of ingredients.
- It must include a description of how the product is produced.
- It must provide the alcohol content of the finished product.



# *Why is a Formula required?*

- Regulation requirement - 27 CFR 24.80
- Formula review finds a “home” for a product and assigns it a particular classification.
- A Statement of Composition describes the product in a generic fashion and identifies the base product and any added flavoring or coloring materials. For example “Grape Wine with Natural Flavors and Certified Colors.”



# *When are Formulas required?*

- TTB Industry Circular 2007- 4 lists formula requirements for wine, distilled spirits, and malt beverages. Not all products require a formula and consulting these commodity-specific charts prior to submission clarifies if a formula is required.
- In general, a wine formula is required if:
  - Flavors with or without alcohol are added
  - Compounded flavors are added
  - Colors are added
  - Artificial sweeteners are used.
  - The base wine is not produced according to regulatory requirements.



# *How to Submit a Formula*

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- Electronic Submission - *Formulas Online* is part of TTB Online.
- Paper Submissions - use *TTB F 5100.51* and mail to TTB.



# *What TTB Looks For*

- Correct designation (Class and Type) – Is the base produced according to the relevant regulation?
- Colors, flavors, and artificial sweeteners.
- Flavors and Flavor Ingredient Data (FID) sheets.
- GRAS (generally recognized as safe) ingredients.
- Restricted and Prohibited Ingredients.



# *Helpful Hints*

- Supply a quantitative list of ingredients.
- Provide a complete method of manufacture.
- Flavor Ingredient Data Sheets (FIDS) should include a TTB number, a Flavor Product Number, and the TTB Approval status (Nonbeverage Lab Approval).
- Provide the common name and scientific name (genus and species) for any unusual herbal ingredients. Ensure that ingredients are GRAS (generally recognized as safe).





# Wine Types



# *Wine Classes*

Wine products can be grouped into several kinds of wine.

- *Natural Wine*
- *Special Natural Wine*
- *Other than Standard Wine/ Wine Specialty*
- *Agricultural Wine*

Wine standards of identity are defined in 27 CFR 4.21 while production requirements are stated in 27 CFR 24.





# Natural Wine



# *Production Requirements*

- A natural wine does not require a formula, provided the wine is produced according to the stated standards in the regulations.
- However, a natural wine base is often used in the production of a wine specialty product. Background information regarding natural wines useful when explaining Other than Standard Wines/Wine Specialty requirements.
- 27 Code of Federal Regulations (CFR) part 24: Wine
  - Subpart D: Establishment and Operations
  - Subpart F: Production of Wine
  - Subpart G: Production of Effervescent Wine
  - Subpart L: Storage, Treatment, and Finishing of Wine



# *Natural Wine Requirements*

- Natural wine – Product of the juice or must of sound, ripe fruit and containing not more than 21 percent by weight of solids.
- Natural wine may be:
  - Ameliorated
  - Chaptalized
  - Sweetened
- Natural wine may be fortified.



# *Natural Grape Wine Requirements*

- Crushing and fermentation
  - Added water cannot reduce Brix below 22 degrees (SG 1.092).
  - Before or during fermentation, you can add:
    - Water
    - Sugar or concentrated fruit juice from the same kind of fruit
    - Yeast
    - Yeast nutrients
    - Malo-lactic bacteria
    - Sterilizing agents



# *Natural Wine Requirements*

- Brix is a measurement for sugar.
- 1 degree Brix = 1% sugar by weight
- Many wineries use specific gravity for their sugar measurements.
- Specific gravity is a measurement for density.
- 1.0 specific gravity – water
- Specific gravity to Brix calculators available online.



# Natural Grape Wine Requirements

- Amelioration
  - Only for juice having a fixed acid level exceeding 5.0 grams per liter.
    - Grape Wines (tartaric acid)
    - $FA(g/L) = TA - 1.25*VA$
  - The fixed acid level of the final product cannot be less than 5.0 grams per liter.
  - If FA is 7.69 g/L or higher, a maximum of 538.4 liters of ameliorating material to 1000 liters of wine or juice.
  - Ameliorating materials are sugar, water, or a sugar-water solution.



# *Natural Grape Wine Requirements*

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- Chaptalization
  - Only pure dry sugar or concentrated fruit juice from the same fruit may be used.
  - Original density cannot be raised to more than 25 degrees Brix (SG 1.106).
  - If grape juice or grape wine is ameliorated after chaptalization, the sugar is counted as ameliorating material.



# *Natural Grape Wine Requirements*

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- Sweetening
  - Sugar, fruit juice, or concentrated fruit juice of the same kind of fruit may be used.
  - Natural grape wine, less than or equal to 14% abv.
    - Total solids cannot exceed 21 percent by weight
  - Natural grape wine, more than 14% abv
    - Total solids cannot exceed 17 percent by weight.



# *Natural Grape Wine Requirements*

- Addition of acids in natural grape wine:
  - Before or during fermentation, tartaric or malic acid may be added
  - After fermentation, citric acid, fumaric acid, malic acid, lactic acid, or tartaric acid may be added.
  - Fixed acid level of finished wine cannot exceed 9.0 g/L.
  - If the wine contains more than 8.0 grams of total solids per 100 ml, finished wine cannot contain more than 11.0 g/L of fixed acid.



# *Wine Treating Materials*

- All natural wines must be made with authorized treating material listed at 27 CFR 24.246 or the items administratively approved on TTB's website.
  - ([http://www.ttb.gov/wine/wine\\_treating\\_materials.shtml](http://www.ttb.gov/wine/wine_treating_materials.shtml))
- The use of an unapproved treating material may render the product an “other than standard wine.”



# *Adding Spirits*

## Domestic Products:

- Only domestic wine spirits (26 U.S.C. 5373) can be used.
- The spirit is produced only from natural wine, special natural wine, or fruit wine.
- Water cannot be added to reduce the spirit's proof.
- Spirit is distilled at 140 proof or higher, except that commercial brandy aged for at least two years may be stored at 100 proof or higher.



# *Adding Spirits*

- Tax paid alcohol may not be used.
- Base wine must ferment to at least 0.5% abv.
- Added spirits cannot raise alcohol content above 24% abv.
- No requirements on the percentage of the total alcohol that must come from the wine.





# Special Natural Wine



# *Special Natural Wine*

- 27 CFR 24 Subpart H defines the production of a special natural wine.
- Prior to production, a special natural wine requires a formula.
- A special natural wine must contain a natural wine as its base.
- The flavoring added may include natural herbs, spices, fruit juices, natural aromatics, natural essences, or other natural flavorings. 27 CFR 24.195
- Only 100% natural flavors may be used for flavoring.
- Only caramel color may be used for coloring purposes.





# Other than Standard Wine & Wine Specialty



## *Other than Standard/Wine Specialty*

Classes of wine other than standard –  
4.21(h)(2) / 24.218

- Includes wine treated with excess sugar and water.
- Wine made with sugar other than pure dry sugar, liquid pure sugar, and invert sugar syrup.
- Wine made with materials not authorized for use in standard wine.



# *Wine Specialty*

- TTB provides a suggested statement of composition during formula review.
- TTB's suggestion is general; industry can choose to be more specific. Not a complete list of ingredients.
- FD&C Yellow #5 and carmine/cochineal extract must be explicitly listed.
- No statement of composition is provided for wines under 7% abv.



# *Statement of Composition*

- For wine specialties, statements of composition must state:
  - 1)Source(s) of alcohol
    - If the spirits are added that are not from the same fruit, then they must be listed
  - 2)the flavors
  - 3)the colors
  - 4)the artificial sweeteners
- E.g., “Carbonated grape wine with orange brandy, artificial flavors, and cochineal extract.”



# *Statement of Composition*

- Statements of composition do not state:
  - Water
  - Yeast or yeast nutrients
  - Sugar
  - Preservatives
  - Processing aids
  - Wine spirits from the same fruit as the base wine.



# *Statement of Composition*

- If different fermentables are combined before fermentation, the SOC lists all of them followed with the word “wine.”
  - e.g., “Honey-apple-grape wine.”
- If different types of finished wine are combined, the SOC lists them as separate wines.
  - e.g., “A blend of Grape and Rhubarb wines.”



# *Wine Kits*

- Ingredients for base wine must meet the requirements under 27 CFR part 24.
- Flavors are often referred to as “flavor packs” or “f packs.”
- These flavors are often compounded flavors that have flavor ingredient datasheets (FIDs) listing the concentration of limited ingredients.





# Agricultural Wine



# *Class and Type Designations*

- Agricultural Wine – 4.21(f) / 24.200
- Made from non-fruit agricultural products (except grain, cereal, malt, or molasses)
- Pure dry sugar may be added before fermentation, as long as the weight is less than the weight of the water and the agricultural product.
- May not be flavored or colored.
- May only be sweetened if the alcohol content is less than 14% abv.



# *Class and Type Designations*

Formula review not required for these types of agricultural wine, as per TTB Ruling 2016-2:

- Honey Wine
- Carrot Wine
- Dried Fruit Wine
- Maple Syrup Wine
- Onion Wine
- Pepper Wine
- Pumpkin Wine
- Rhubarb Wine
- Sweet Potato Wine
- Tomato Wine





# Nonbeverage Wine



# *Nonbeverage Wine*

- Formulas required for salted wine and vinegar.
- Salted wine must contain at least 1.5 grams of salt per 100 ml of wine as per 24.215(b).



# Summary & Questions

