

MEMORANDUM

TO: Virginia Wine Producers

FROM: Bruce Zoecklein

DATE: November 25, 2003

SUBJECT: **VQA Draft**

On November 17, 2003, there was a meeting of Virginia winemakers interested in the establishment of a VQA-like system.

The questions posed at the meeting were the following:

1. Should there be a Virginia VQA?
2. How should it be structured?
3. How can it be funded?
4. How should it be promoted?

The November 17 meeting mainly addressed item 2 above. Item three was reviewed and for now it was suggested that an initial fee of \$150/label be established.

The primary concern expressed was that of improving Virginia wine quality. The question was asked – Is a VQA system the best way to address the problem?

How high the ‘bar’ should be set for acceptance or rejection was also an important topic. The initial, primary goal is to eliminate wines with sensory defects.

The issue of lab analysis vs. sensory was also an important point of discussion. Most wanted to see the analysis of physical/chemical stability done in conjunction with the sensory evaluation. It is possible that the Enology-Grape Chemistry Lab at Virginia Tech could be involved, but only if there is some additional support mechanism provided. As most know, the budget for Extension has been cut significantly. At the meeting of the Virginia Wineries Association it was suggested that some support for the lab service must be activated, otherwise additional reductions in service would likely occur. Time will tell how we proceed in this area.

Please review the attached draft and provide to me your comments via an email note by December 15.

Virginia Quality Alliance System Draft

Introduction

The Virginia Quality Alliance, or VQA, is a Virginia Appellation of Origin and quality monitoring system, that is designed to improve quality and aid consumer awareness of Virginia wines and their quality.

With the VQA system, Virginia will join several other leading wine-producing countries and regions in developing high standards for its finest wines.

The Virginia Quality Alliance is a voluntary, independent alliance of Virginia wine producers.

Statement of Goals & Purposes

The Virginia Quality Alliance (VQA) will be an independent body responsible for introducing and maintaining standards and appellations adopted by its members. The VQA will be established for the following goal addressed in the draft:

1. To establish sensory standards, to help assure that the best products are produced.

Additional goals of the program may include the following:

1. To help coordinate marketing efforts, in order to create a quality image for all Virginia wines that bear the trademark of the Virginia Quality Alliance.
2. To help develop and implement educational material, in order to inform the public and interested members of the wine community about Virginia wines, and growing regions in the state
3. To disseminate information with regard to the uniqueness of Virginia wine growing regions in order to define the characteristics and qualities of the wines that are produced in those regions
4. To discuss and exchange ideas of clonal selections, training methods, viticultural management practices, wine varieties, and winemaking and blending issues, for the mutual benefit and development of the Virginia wine industry.

Laboratory Analysis

All products submitted may be subject to analysis of chemical, physical, microbiological and sensory stability, as described by Zoecklein et al. (1999). The extent of chemical and physical analysis is yet to be determined.

It has been suggested that wines which pass the VQA Sensory Panel, but fail the above listed stability tests, are subject to VQA rejection.

An additional sample of all wines which pass sensory evaluation shall be maintained in a library for future reference.

Sensory Evaluation Panel

Composition

The VQA sensory panel shall consist of five members of the Virginia winemaking community, five at-large members from the wine wholesale, retail or restaurant industry, and two Virginia grape growers.

Membership on the Sensory Evaluation Panel will rotate every twelve months.

Each Virginia winery may nominate one member of its winemaking staff, and one additional person from the grape-growing, wine retail, wholesale or restaurant industry.

Nominees will be selected based on a lottery system held two times per year. No more than one person representing a particular winery will be allowed on the panel at any given time.

Sensory evaluation will occur quarterly, with a one year calendar posted in advance.

Prior to each sensory evaluation, each panel member selected must complete one or more sensory training sessions on wine aroma flavor defects and structural balance, conducted by members of the Enology-Grape Chemistry Group of Virginia Tech. Standards will be made as described by Zoecklein et al. (1999).

Sensory Evaluation

Serving temperatures and evaluation methods will be those outlined in Zoecklein et al. (1999) and include the following:

All products shall be tested blind, and grouped according to varietal, vintage year, and sugar concentration.

Wines will be in flights, but evaluated hedonically, not contrasted.

The scoring system used shall be a 20 point scale, as outlined below under the section titled Sensory Evaluation Scoring System.

In order to monitor panel consistency, duplicate samples shall be introduced to the VQA Sensory Evaluation Panel. In the case of duplicate wines, the higher mark will be accepted.

The panel will also be provided with wines not produced in Virginia.

In the event that a wine is perceived as having a sensory defect, a second bottle will be opened and evaluated by the VQA Sensory Evaluation Panel. If the second bottle contains a similar defect, the score assigned to the first bottle will stand.

Score Notification

The VQA designate will notify individual wineries of the VQA panel's response to their products, along with a detailed summary of reason(s) for rejection.

Each producer of wines submitted will receive a composite statement outlining the panel's perceptions of both the positive and negative attributes of their wines.

Evaluation responses will remain proprietary, and will be kept in strict confidence.

Appeal Panel

Wines which have been rejected by the panel may be resubmitted at any time.

Criteria For Submission

Only wines, which carry a Virginia Appellation of Origin, are eligible for participation in the VQA program.

Any wine found not to be in compliance with both TTB and ABC regulations shall have its VQA approval revoked.

Three bottles of each label to be evaluated must be submitted prior to the posted submission deadline dates.

Either bottled or unbottled samples may be submitted. In the case of unbottled wines that are evaluated, such wines must be resubmitted immediately post bottling and are subject to reevaluation by the sensory panel.

At least one bottle of all wines which pass the VQA sensory panel shall be stored and maintained for future reference.

Four evaluations will occur each year with a calendar of submission deadline dates and sensory evaluation dates posted at least six months in advance.

Sensory Evaluation Scoring System

A 20-point system shall be used with the following components and point values:

Wines will initially be evaluated in flights, but blindly and without discussion.

The varietal and year will be indicated to the panel.

After an evaluation period, each panel member's scores will be posted and a discussion period will follow in which the wine's features are recorded.

The brief discussion by the panel will be lead by the monitor. After the discussion period, the monitor will call for a vote. The vote is to pass the wine for VQA status or reject.

Point System

- 5 points for a wine defect
- +2 trueness to type
- +6 structural balance
- +2 body
- +2 color
- +2 clarity
- +3 aroma/bouquet
- +3 flavor/deliciousness

Wines with sensory defects will be noted. The sensory defects include those categorized below:

Sensory Defects

Vegetal: trans-2-hexanal is formed through enzymatic oxidation of linoleic acid. Immature fruit, excessive pressing, mechanical damage during fruit transport, and immature stems can contribute to this problem. Wines containing greater than 0.5 g/L trans-2-hexanal will have their aromas unbalanced.

Oxidized: Acetaldehyde is the product resulting from ethanol oxidation. Excessive oxygen exposure and/or growth of film yeast, such as *Candida mycoderma*, can produce acetaldehyde concentrations greater than 75 mg/L, which are perceived as rotten or overripe apple-like and walnut-like.

ATA/UTA. Wines with suspected atypical or untypical aging will be subject the ATA evaluation test as described by Zoecklein (2003).

Acetic Acid: Wines which contain more than 700-800 mg/L are perceived as having a spoilage or biological character. Acetic acid magnifies the sensation of acidity and bitterness and, therefore, impacts wine structure. White wines with 880 mg/L or more, and red wines with 980 mg/L or more acetic acid, are generally substandard.

Ethyl acetate: In wine, acetic acid reacts with ethyl alcohol to form ethyl acetate. This ester is reminiscent of fingernail polish remover or glue. Wines with an ethyl acetate concentration of 150-180 mg/L or more are impaired.

Soap: Fatty acids produced during fermentation can depress the perception of 'fruit' and provide soap, candle, and/or a paraffin-like odor.

Sulfur-containing compounds: Collectively, these add odors of sulfur, rotten eggs, onions, wet rags, cauliflower, etc.

- a. SO₂: smell and taste of sulfur, burnt match heads
- b. H₂S: smell of rotten eggs
- c. R-SH, mercaptans: smell of onions, > 0.7 mg/L
- d. R-S-R, Dimethyl sulfur: smell of boiled cauliflower, > 0.33 mg/L

White wines with more than 0.7 mg/L sulfur derivatives are impaired. Sensory threshold for red wines would be slightly higher.

4-Ethylphenol/Brett. 4-ethylphenol is a volatile phenolic compound responsible for animal, leather, and horse manure-like odors. Wines with a concentration greater than 4 mg/L are sensorially impaired.

Moldy/Earthy: The result of poor sanitation and the extraction of organic compounds into the wine. Wines smell and taste of beetroot and/or mushrooms.

Cork: Moldy-type smells and taste due to 2,4,6-trichloroanisole (TCA) and several alcohols. Due to environmental TCA, this is not always a cork closure issue.

Structure: Unbalance in the harmony of structural elements: sweetness, acidity, astringency, and/or bitterness.

Color: Inappropriate color hue and/or color purity.

Physical Instability: Haze and/or precipitate due to fermentation, protein, bitartrate, tartrate or carbon dioxide formation.