



## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX COMMITTEE ON FOOD ADDITIVES

#### Forty-Eighth Session

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### DISCUSSION PAPER ON THE USE OF FOOD ADDITIVES IN THE PRODUCTION OF WINE (Food category N° 14.2.3 "Grape wines")

Prepared by the electronic working group led by France and Australia with assistance of Argentina, Brazil, Canada, Chile, China, Czech Republic, European Union, Germany, Hungary, India, Italy, Japan, Kenya, Netherlands New Zealand, Peru, Poland, Portugal, Russia Federation, Slovak Republic, South Africa, Spain, Switzerland, United Kingdom, United States of America, CEFIC (European Chemical Industry Council), FIVS (International Federation of Wines and Spirits), ICGMA (International Council of Grocery Manufacturers Association), OENOPPIA (International Association of Oenological products Manufacturers and marketers) and OIV (International Organisation of Vine and Wine).

#### Introduction

1. The 47<sup>th</sup> Session of the Codex Committee on Food Additives (CCFA47) agreed to establish an electronic WG, chaired by France and co-chaired by Australia, open to all members and observers, and working in English only, with the following terms of references:

*In the context of the general use of the following functional classes of additives in the production of wine:*

- *emulsifiers;*
- *stabilizers;*
- *thickeners;*
- *acidity regulators;*
- *antioxidants*

a) *Provide clarity and specificity on the general concerns of*

- *wine identity;*
- *wine stability;*
- *global applicability of limitations for the use of food additives in wine; and*
- *innovation in wine production.*

b) *Based on the outcome of point "a" above, perform an examination on the effect of expressing a maximum use of additives in wine:*

- *on a Numerical Basis; and*
- *as GMP*

2. 32 Members and Observers expressed their interest to participate in the eWG and comments were received from 23 members.

3. A first call for comments was circulated on June 23, 2015. eWG members were requested to identify their concerns of:

- using the functional class of additives in winemaking with each concern (wine identity, wine stability, global applicability or innovation);

- expressing the maximum use of an additive as either a numerical maximum limit (NML) or as good manufacturing practice (GMP).

## Preamble

4. Following the eWG mandated by the CCFA45 and CCFA46, this eWG is the third mandate on additives in the grape wines category.
  - The first eWG was successful in eliminating from the list of the proposed additives many additives not used for wine production or used as processing aids.
  - The second eWG focused on additives used in wine production. The discussions showed a deep gap between the members in favor of listing additives with numerical maximum limits versus GMP.
  - This third eWG was mandated to study the reasons for these two different approaches, with the purpose of proposing a common approach. Four concerns on the use of additives in grape wines were defined: wine identity, wine stability, global applicability of limitations and innovation in the wine sector.
5. There appears a general agreement within the eWG on the two following points:
  - a. Firstly, that the primary role of the *General Standard for Food Additives* (GSFA) regarding the definition of a list of additives for the food category “grape wine” (food category 14.2.3) is both:
    - to ensure human health and safety, and
    - to prevent misleading consumers
  - b. Secondly, that the functions of stabilizer, antioxidants and acidity regulators are legitimate technical functions in winemaking regarding the justification referred to in section 3.2(c), which is “*To enhance the keeping quality or stability of a food or to improve its organoleptic properties*”.
6. The eWG members agreed that the functions of emulsifier and thickener do not need further consideration as there is no technological need for these functions in winemaking.
7. However, there was a difference of opinion on whether the CCFA should recommend maximum levels of use that:
  - are numerical, or
  - are consistent with GMP.
8. Regarding GMP, some members were concerned about the potential for an additive to be used at a level that is higher than is needed for the technical effect for which GMP is permitted, such that the additive is, in fact, being used in a manner that results in consumers being deceived about the nature of the wine. Other members were concerned that additives without an acceptable daily intake (ADI) limit as set by JECFA should not be limited by a maximum numerical concentration.

### **The importance of the criteria used to establish the list of additives under consideration**

9. Some members believed that the criteria used to admit an additive to the food category “grape wine” was of paramount importance.
10. One member believed that the goal of the positive list of additives is to mention the substances that can be used and to forbid other additives.
11. Another member considered that the criteria for inclusion in this list should be those additives that are used in one or more regions where wine is produced for trade, and argued that this has been the basis for most of the entries in the GSFA to date.
12. Finally, some members pointed out the need to move quickly to include commonly used winemaking additives in the GSFA so as not to preclude trade.
13. There was general agreement that additives in wine production must be limited because:
  - regarding the complex chemical nature of wine, this may have an impact not only on the nature of the wine itself but also on its quality;
  - the additives must be used correctly in order to maintain (stabilize) the properties of the original product as long as possible, without changing its identity;
  - point 3.3 of the preamble of the GSFA provides that all food additives subject to the provisions of the Standard shall be used under conditions of good manufacturing practice (GMP);

- these limits must be defined with a numerical value when necessary to protect the consumer against health or fair trade risks.

### Wine identity

14. EWG members outlined two different understandings of “wine identity”.
15. On one hand, some members considered that wine identity is subjective, depending on the consumers.
16. They believed that different consumers expect different characteristics in the wines they prefer (e.g. alcohol content, acidity, sweetness, malo-lactic fermentation, barrel aging) and a very wide and differing range of sensory characteristics meet different consumer preferences and perceptions.
17. On the other hand, several members argued that wine identity is defined by the local vine growing conditions.
18. These members referred to the definition adopted in 2010 by the OIV member-States<sup>1</sup>: *“terroir” is a concept which refers to an area in which collective knowledge of the interactions between the identifiable physical and biological environment and applied vitivinicultural practices develops, providing distinctive characteristics for the products originating from this area”*.
19. They considered that wine has always been a particular and complex product, with distinctive characteristics that come from the terroir: a combination of different factors that create its particular identity. The wine identity is unique to each terroir, which requires different oenological practices, including using different types and concentrations of additives.
20. They also considered that wine is more than a food product: it is a cultural product that has marked human societies since ancient times, shaping landscapes, locations and lifestyles for centuries. They consider wine as a product of 'civilization', whose main value lies in the identity of places where it is produced including its history, geography, gastronomy, agriculture, climate, etc.
21. These members believe that it is necessary to enforce restrictive regulations (positive lists of oenological practices, numerical maximum limits, etc.) to defend wine's identity in order to maintain and sustain its value throughout the world.

### The effect of expressing the maximum use of additives in wine as GMP on wine identity

22. Members considering that wine identity is linked to the consumer's expectations believe that wine can be produced to suit consumer preferences.
23. These members argue that wines from different growing areas, made in different vintages and from different grape varieties, need different levels of additives to achieve the winemakers' desired results and be optimized for consumers in the destination market(s).
24. They conclude that GMP will help to produce better quality wine that suits the preferences of consumers, allowing for seasonal and regional variations of grapes.
25. One member stated that the authorization of a new additive for wine production is not only assessed on the basis of health concerns (possible ADI) but also on the basis of the wine identity itself. The assessment of the hypothetical “misleading effect” of a potential additive takes place during the authorization process, both at a national and international level, for which the international work has been mainly done by the International Organisation of Vine and Wine (OIV).
26. One member noted that regarding the wine additives proposed for inclusion in the GSFA, there are no potential consumer deception issues, especially regarding the addition of naturally occurring substances, e.g. organic acids.
27. Several members, in favor of GMP, considered that the reasons for establishing a numerical limit are not legitimate. They argue that the CCFA has, as a matter of practice, been recommending GMP in cases where:
  - the use of an additive is technologically justified;
  - the additive has been assigned a non-numerical Acceptable Daily Intake (ADI) by JECFA;
  - there is no risk to deceive the consumer.

<sup>1</sup> Resolution OIV/VITI 333-2010: Definition of Vitivinicultural “terroir” <http://www.oiv.int/oiv/info/enresolution>

28. On the point related to safety concerns, a member noted that, no health or safety related concerns have been raised regarding the particular emulsifiers, stabilisers, thickeners, antioxidants or acidity regulators presently under consideration, as all have been assessed as ADI “not specified” or “not limited” by JECFA.

29. Referring to GMP for these additives would be entirely consistent with section 1.4 of the Preamble to the GSFA, which states “*The primary objective of establishing maximum use levels for food additives in various food groups is to ensure that the intake of an additive from all its uses does not exceed its ADI.*”

30. On the point related to fair trade concerns, several members could not identify a substantive example that the use of an additive, in the minimum amount needed to achieve the technical related effects, was likely to violate the principle set out in section 3.2(c), i.e. that a change in the nature, substance or quality of the wine could “deceive the consumer”. They pointed out that:

- there are only a limited number of additives that are approved for use in wines around the world, generally considered and approved on the basis that they do not alter the vinous characters of the wine;
- those substances are already present in the grapes;
- those additions are tightly regulated in producing countries and do not allow for the use of flavourings or colourings.

31. These members consider that the risk to deceive the consumer must be assessed on the basis of scientific evidence, tested with globally acceptable methods, referenced in peer reviewed literature, and that cultural, regulatory or historical limits are not scientific evidence.

32. Finally, although GMP can be incorrectly used by an unscrupulous manufacturer in a manner that leads to consumers being misled, it is an enforcement problem, not an issue with the provision.

#### **The effect of expressing the maximum use of additives in wine on a numerical basis on wine identity**

33. The members in favor of numerical maximum limits considered that, during the determination of limits for additives, not only the technological justification but also the risk to mislead the consumers must be taken into account.

34. These members considered that wine is a successful product, not considered by the consumer as a processed food, but on the contrary as an agricultural product made up of a single ingredient (grape), which gets its main characteristics from:

- the location of the vines
- the climate
- the grape variety
- the vine grower, and
- the winemaker

35. One member noted that wine has even been described as the “perfect beverage” due to the fact that the grapes contain all the ingredients necessary to create their transformation.

36. The variability in wine types depends primarily on the grape cultivar of origin as well as on the agronomic practices and climate rather than on winemaking processes.

37. The consumer is misled if the five main characteristics listed above are substantially changed by the use of a large quantity of an additive in a way that changes the nature, substance and quality of the wine. In particular, the oenological practices must not mislead the consumers about the real quality of the grapes used for wine production. The more severe fair trade risk is that the additives be used to disguise the effects of the use of faulty raw material or of undesirable practices or techniques.

38. Thus, wine makers must not add more of an authorized additive than the lowest quantity necessary to achieve the desired effect.

39. Food laws are intended to protect the interests of consumers and shall provide a basis for consumers to make informed choices in relation to the possible risk of being misled from their well-established perception of the product and their corresponding expectations.

40. There is an even greater need to protect the consumer by law as the quantities of the additives cannot be identified on the wine’s label.

41. Therefore, specific bodies at the national and international level (such as the OIV) are necessary to guarantee consumer rights and wine identity, through the study of the additives to be used and of their correct employment.
42. Oenological practices should allow the preservation of the natural and essential characteristics of the wine and not cause a substantial change in the composition of the wine.
43. Some members believed GMP will not prevent the winemaker from using a quantity of stabilizer to accomplish the desired effect, which may be to change completely the characteristics of the wine and not only stabilize the wine.
44. Consequently, the authorized oenological practices, the conditions and limits on use shall be defined by law and not left up to the single wine producer.
45. A member pointed out the necessity to guarantee consistency between international technical standards and food law to ensure that the high level of consumer protection adopted in the European Union (EU) is not reduced.
46. Finally, one member reported that several winemaking countries and the OIV established numerical maximum limits for most of the additives, considering that the use beyond these maximum limits is not GMP because it does not correspond to the lowest possible level necessary to accomplish the desired effect.

### **Wine stability**

47. One member noted that “wine stability” is the capacity of the wine to maintain its sensory characteristics (colour, flavour and taste) over time and to remain clear without any deposits.
48. Another member explained that wine stability is a technical factor linked to its great chemical complexity: wine is a hydroalcoholic solution containing sugars, free and salified acids, mineral salts, phenol compounds, volatile substances, proteins, polysaccharides and many other components. Each of these components has a specific flavour and interacts with all the others. These interactions can cause precipitation reactions (tartaric acid and potassium/calcium salts, tannins, proteins, etc.) or stabilization reactions (colloidal reactions), which may be reversible, i.e. they are unstable. In addition, wine contains both beneficial and harmful microorganism populations. Adding any additive may affect the overall balance of these components.
49. In most cases, additives perform a stabiliser function and all members agreed that wine needs to be stabilized. Wine can be unstable depending on aging, storage and transport conditions. During transport, particularly international transport, wines experience a variety of non-ideal storage conditions (large temperature fluctuations and much “shaking” of the wine), especially if non-insulated shipping containers are used, and unless precautionary measures are taken by the winemaker. This is important given the increase in international trade, which represents more than a third of the world wine production.
50. Additives used to stabilize can:
- prevent colour, colloidal or bitartrate precipitations (*stabilizers*);
  - delay the darkening of the colour (‘browning’) of white and rosé wines by chelating metals (*stabilizers*);
  - prevent wine oxidation (*antioxidants such as sulphites, ascorbic acid*);
  - control microbial development (*lysozyme, acidity regulators such as sorbic acid*).
51. Such precipitation or haze would not only be seen by the consumer as a mark of inferior wines, but would also not be in-line with the consumers’ expectations of the “identity” of the wine.
52. There appeared to be a general agreement that acidity regulators can help to maintain wine sensory characteristics when affected by climatic variations and can inhibit undesirable bacterial growth.
53. Members agreed that antioxidants maintain the original fresh characteristics of grapes and improve the stability of the wine by preventing browning or turbidity caused by oxidation of polyphenols.
54. One member noted that additives with stabilizing properties are used after proof of their effectiveness, doses and safety to human health.

### **The effect of expressing the maximum use of additives in wine as GMP on wine stability**

55. A member considered that the use of all winemaking additives is self-limiting, arguing that in general, the use of allowed additives beyond the amounts prescribed under GMP principles:
- results in increased costs to the producer;

- does not alter the wine to be more desirable (and thus possibly misleading to the consumer). Moreover, the use of additives according to GMP, but at levels just above what are often arbitrary numerical limits that have little or no clear scientific justification, seems very unlikely to cause consumer deception.

### **Stabilizers**

56. Some members considered that GMP is appropriate as the necessary amount of stabilizer depends on the amount of crystal- or flock forming compounds such as tartrates.

57. The use of stabilizers, even at high levels, will have little effect on wine identity.

58. Moreover, they argue that the addition of stabilizers is self-limiting given that:

- once the minimum amount of additive required to stabilize the wine has been added, more stabilizer does not make the wine more stable;
- an excessive use of stabilizers is unlikely.

59. Finally, regarding gum arabic, one member argued that if excess gum arabic is used to thicken a wine, the additive is not being used for its intended purpose (stabilization), which violates GMP principles (i.e. use only approved additives for their intended purpose, use only if necessary, use minimum amount required to achieve the intended purpose).

### **Acidity regulators**

60. Some members consider that the addition of acidity regulators doesn't significantly affect the identity of wine concerned and should be limited by GMP.

61. They note that the necessary level of acidity regulators depends on the grape varieties, climatic variations for growing grapes and that the use of acidity regulators is important in both cooler and warmer grape growing countries.

62. They see that wine identity is defined by the consumers' expectations and assume that the use of acidity regulators is technologically justified to acidify or deacidify a wine to improve wine quality/suit consumer preferences, and limited by the consumers' organoleptic preferences.

63. Finally, they note that the addition of acidity regulators is self-limiting as the correct dose is driven by the desired taste and excess acid will cause the wine to be sour and unpalatable.

### **Antioxidants**

64. Some members believed that the maximum use level of antioxidants should be limited by GMP because:

- even at high levels, the use of antioxidants does not significantly affect the identity of wine;
- the necessary level depends on the amount of polyphenols in grape wine;
- different varietal and regional grape wines may need different amounts of antioxidants;
- the use of antioxidants is self-limiting because addition beyond the necessary level will be deleterious to the quality of the wines as perceived by the consumer.

## **The effect of expressing the maximum use of additives in wine on a numerical basis on wine stability**

### **Stabilizers**

65. Some members noted that in some cases, the use of "stabilizer" in grape wines is not aligned with the principles for use of food additives expressed in GSFA preamble (item 3.2) as the use of stabilizer can affect negatively the identity of some types of wine, such as sparkling wine.

66. They considered that the use of a stabilizer without numerical maximum limit may be used to change the perception of the wine.

67. These members point out that some food additives that function as "stabilisers" exert also a "thickener" function, and their indiscriminate and unlimited use can negatively affect the identity and quality of the product, since the viscosity is an important parameter to grape wines (e.g. gum arabic).

68. Moreover, the indiscriminate use of some "stabilisers" can disguise the consumer perception of tannins in grape wines, and affect the sensory characteristics of the product, which are also important quality and identity parameters for grape wines.

69. An excess of some stabilizers may lead to a defect in wine.

70. For example, an excess of citric acid may introduce citric flavours and lead to the production of acetic acid. The use of citric acid has been consequently limited to 1000 mg/l in the OIV Code of Oenological Practices (in the case of red or white wine with low SO<sub>2</sub>, high levels of citric acid could be degraded by lactic acid bacteria and increase the acetic acid content in wine: 0.5 g of citric acid increases the volatile acidity from 0.18 to 0.24 g/L acetic acid).

71. An excess of some additives can cause wine instability.

72. In particular, the use of gum arabic should be limited with a numerical value. Gum arabic is a high molecular weight polysaccharide that has long been known to have protective colloid action on red wine colour. In controlled doses, it has a positive impact by promoting various chemical combinations that reduce tannin astringency. When used in excessive doses, the wine loses its chemical balance and balance of flavours.

73. Moreover, according to the scientific literature, gum arabic can cause precipitation at doses of 1 g/L or more (Ribereau-Gayon et al., 1998).

#### **Acidity regulators**

74. Some members noted that the acidity of a wine is intrinsically related to the grape variety and regional characteristics.

75. A member explained that acidity is a marker of a wine's geographical identity, reflecting a given climate with a known variation margin. Indeed the organoleptic properties are based on a series of equilibria (the first being the balance between pleasant sweet flavours and less attractive acidic, bitter flavours) directly linked to vineyard climate conditions (grape organic acids are broken down by heat during ripening). Acidity is always a major determining factor of wines' organoleptic profile and acidification can have an impact on quality. Acidification is known to make wine harder.

76. These members considered that the use of acidity regulators beyond the level necessary to correct the climatic variations can substantially affect the intrinsic characteristics of wine related to the nature of the grape.

77. Another member explained that excessive acidity correction strongly affects the identity of wines altering both the taste and the colour. When grapes are not cultivated under favourable conditions, the metabolism changes of the vine not only changes the acidity level in the grapes (in very warm zones grapes could reach a too low acidity content; in very cold zones the level of acidity can often be too high), but are also associated with other important changes in the chemical composition. For example, the polyphenolic content may decrease, which is an important quality factor for the grapes and the corresponding wines.

78. Consequently, a numerical limit is important to ensure optimum respect for the original raw materials, driving the producers to vinify only grapes with a minimum quality level.

#### **Antioxidants**

79. Some members considered that the use of antioxidants should be limited by a numerical maximum as too high levels can affect the wine quality. Two examples are ascorbic acid and citric acid.

80. The use of ascorbic acid (vitamin C) in unsuitable conditions can give the opposite to its desired effect:

- the oxidation product of ascorbic acid can induce further oxidation than the action of oxygen alone, causing browning problems (a concomitant addition of sulfur dioxide reduces this risk);
- the use at higher than 8 g/HL, can induce bitter flavors;
- in wines with traces of copper, ascorbic acid can cause copper haze.

81. The OIV International Code of Oenological Practices sheet OENO 10/01 (Treatment of must with ascorbic acid) and OENO 12/01 (Treatment of wine with ascorbic acid) give detailed prescriptions for the use of ascorbic acid.

82. Citric acid, naturally present in grapes at lower levels than the other organic acids (tartaric acid and lactic acid) can be used as an acidifying agent but must be limited since the fermentation of citric acid by lactic bacteria increases volatile acidity (especially acetic acid and ethyl acetate, which makes wine sour).

#### **Global applicability of limitations on the use of food additives in wine**

83. Regarding the global applicability of GMP or maximum numerical limits on additives in wine, three themes were discussed:

- to adapt to regional diversity;

- to account for naturally occurring additives;
- to avoid trade barriers.

### **To adapt the limit to a wine growing region's diversity**

84. Many members pointed out the diversity of wine producing regions regarding their soil types, climates, winemaking practices and their organoleptic particularities. The wine identity is likely to be more critical to wine of a particular style or region rather than wine generally.

85. These members argued that wine additive limits need to have the flexibility to allow for such diversity of grape growing conditions, as different growing regions (particularly between northern and southern hemispheres) require different winemaking practices and the use of different additives and processing aids.

86. A member gave the example of balance of acid and sugar (sweetness) in a wine as a critical factor in wine desirability. In warmer climates, grapes natural tend to have an excess of sugar, thus acid needs to be added, whereas in cooler regions the reverse is true, and sugar needs to be added.

87. Another member noted the diversity of winemakers not only at regional scale but also at the winery scale. The soil type, age and vigor of the vine, the target style of wine, size of the winery, and available equipment will have an effect on the additives (and their use levels) that are needed in an individual wine.

88. Another member went further, considering that, the winemaker is ultimately responsible for the correct use of an already authorized (assessed) additive so that the natural expression and balance of the wine is maintained.

89. Each wine shall be treated in a different way as its characteristics depend on the characteristics of the grapes, which are dependent on the climate and soils, and determine the required winemaking practices and use of different additives and processing aids.

90. These members considered that:

- i. the use of food additives in grape wines must be defined globally by proposing minimal common guidelines that are largely applicable, recognizing it is not possible to account for all specific technologies and traditions;
- ii. where there is a desire to manage the properties or production of wine in a particular region, this is best determined in the region where the wine is produced.

91. On point (i), these members considered that, the use of an additive at GMP at international level would allow producers a greater degree of flexibility and have better global applicability.

92. On point (ii), all members noted that most winemaking countries have laws, including specific regulations, regarding the geographical regions from which the wine grapes originate, reflecting the cultural and climatic factors in the place of production.

93. A member noted that a GMP limit on additives in wine in no way limits or prevents nations and regions from developing stricter standards for their own producers in order to develop or maintain market place advantages relating to quality, culture or heritage, provided these do not inhibit free movement of goods in the international market.

94. There are very few additives approved for use in wine in various growing regions (including stabilizers, acidity regulators and/or antioxidants) and that before these additives can be approved, regulators generally assess whether their use will alter the wine such that the resultant product could not be identified as wine.

95. These countries generally recognise other wine making practices to permit free trade in wine and comply with World Trade Organisation rules.

96. Concerning a numerical maximum limit, these members believed that this limit must account for the soil types and climates of all wine producing regions. Consequently, a numeric maximum limit adopted internationally that accommodates this global applicability would be higher than a numeric maximum limit adopted locally.

### **The specificity of naturally occurring additives**

97. Some members considered that substances of natural origin which are already present in wine (organic acids for example) should not be subject to a numerical maximum limit as it is not possible to distinguish by analytical techniques between naturally occurring and added substances.

98. Consequently, an uncertainty is noted regarding how a regulator would apply the Codex guideline to differentiate between the naturally-occurring level of an acid and added acid. It appears that numerical limits can result in trade distortions on the global market, particularly concerning wines with naturally high levels of the substance (e.g. food acids).



99. These members considered that:

- use of these additives at GMP would avoid any need to distinguish between added and naturally occurring levels of a substance;
- if a numeric maximum limit is established, this limit should refer to the final concentration and not to an addition.

100. Other members considered that there is no matter if the additive is a naturally occurring substance, like water, alcohol (including glycerol), tartaric and malic acid or a substance not naturally occurring in grapes or wine like fumaric acid or gum arabic (acacia gum).

### **To avoid trade barriers**

101. Members pointed out the need to move quickly to include commonly used winemaking additives in the GSFA so as not to preclude trade.

102. A member provided an overview of the global wine trade:

- the international trade of grapes, wine and spirituous beverages continues to grow. The international trade of wine has developed significantly over the past decade: at over 100 million hectoliters, it is equivalent to 43% of world consumption (25% 10 years ago). Every two bottles in five consumed in the world are imported;
- the number of producer countries increased and different ideas of wine appeared in the world, linked to different regulatory provisions, notably regarding authorized oenological practices.

103. Depending on the countries, oenological practices are regulated by reference:

- to a positive list of additives and processing aids;
- to a positive list of practices (e.g.: European Union).

104. These positive lists are generally set according to the production practices dictated by the legal, cultural and climatic (terroir) nature of the country.

105. All members called for an international harmonization process to avoid trade barriers. Divergent import conditions have the potential to create technical barriers to trade and may lead to disputes.

106. Also, limits adopted by countries for reasons other than food safety should not cause a technical barrier to trade.

107. Regarding the establishment of an international standardization of oenological practices, the challenge is to define some common basic requirements to be globally endorsed, allowing fair trade and good consumer protection.

108. Regarding those common basic requirements, another participant noted that it is important that the GSFA includes commonly used wine additives so as not to restrict trade among all countries, whether they produce wine or not. If the GSFA is not updated, it could become an inadvertent barrier to trade by not listing legitimately used wine additives already approved in a number of producing countries and widely traded amongst them.<sup>2</sup>

109. Finally, the international standard should be a guideline valid for all countries and must not prohibit any countries from defining more stringent legislation for wines.

### **The effect of expressing the maximum use of additives in wine as GMP on trade**

110. Some members consider that a global acceptance of an additive use level expressed as GMP, rather than numerical maximum limit, facilitates global trade of wine.

111. They believe that every country should be guided by internationally recognized standards that provide describe the use of additives and processing aids. They consider that jurisdictions adopting additive limits in the absence of sufficient evidence that the GMP under which their wines are produced and traded is violating any of the principles in section 3.2 of the Preamble would be potentially introducing an “unjustified barrier to trade”.<sup>3</sup>

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<sup>2</sup> During its 31<sup>st</sup> Session in 1999, the Codex Committee on Food Additives and Contaminants indicated in its report that “The Committee noted the necessity for the GSFA to be consistent with the OIV standards for wine”. Report of the 31<sup>st</sup> Session, the Codex Committee on Food Additives and Contaminants 1999 p6 <http://www.codexalimentarius.org/download/report/25/AI9912ae.pdf>

<sup>3</sup> Codex Procedural Manual (23<sup>rd</sup> edition)/ “Statements of Principle Concerning the Role of Science in the Codex Decision Making Process and the Extent to Which Other Factors are Taken Into Account”/ “Criteria for the Consideration of the Other Factors Referred to in the Second Statement of Principle”.

112. A participant notes that GMP provides the flexibility for the use of different levels of the additive based on regional differences (e.g. growing conditions, regulatory status) and that different levels corresponding to GMP worldwide is not an issue, as national authorities have evaluated the technological need and safety of additives used in wine, and apply those national levels for domestic and imported products. This approach is the same for all other additives and foods included in the GSFA that may be used in accordance with GMP.

113. Besides, some countries producing and trading in accordance with the GSFA's description of food category 14.2.3, have national regulations that recognize that stabilisers, antioxidants and acidity regulators can be justifiably permitted for use in accordance with GMP.

#### **The effect of expressing the maximum use of additives in wine on a numerical basis on trade**

114. The food category "grape wine" (14.2.3) is identified in the GSFA as the wine defined by the International Code of Oenological Practices, established by the International Organization for Vine and Wine (OIV)<sup>4</sup>.

115. Any divergence between GSFA and OIV would result in a barrier to trade and weaken the effectiveness of the GSFA and the OIV considering that a maximum use level of GMP in the GSFA would not be compatible with many national legislations of importing countries specifying a numerical maximum limit.

116. Consequently, in order to avoid having two divergent international standards, a participant strongly recommends that the GSFA list of additives and their corresponding maximum use limits should be consistent with the additives listed in the OIV International Code of Oenological Practices.

117. Moreover, GMP could result in creating technical barriers to trade as GMP will allow countries to fix different numerical maximum levels.

118. A member proposed to set numerical maximum limits at a level corresponding to the highest maximum level used by recognised winemakers in order to ensure the global applicability of such limitation. These levels are set in the OIV Code of Oenological Practices and may be revised as necessary by the OIV.

119. Thus setting a numerical maximum limit would be compliant with the general principle of the Codex Alimentarius (i.e. "*the publication of the Codex Alimentarius is intended to guide and promote the elaboration and establishment of definitions and requirements for foods to assist in their harmonization and in doing so to facilitate international trade*") by assisting countries to set a limit beyond which the use of an additive is not GMP because it does not correspond to the lowest possible level necessary to accomplish the desired effect.

120. Besides, a member believed the absence of numerical maximum levels (i.e. GMP), leaving the use open to winemakers, may create unfair competition and fraudulent practices, affecting negatively the global wine market.

#### **Innovation in wine production**

121. All members agreed that as for other foodstuffs, the list of additives in the GSFA and their limits should be periodically reviewed in order to take into account innovation in wine production.

122. The main issues of modern oenology concern:

- climate change (variation of the grapes' composition);
- new consumer habits (e.g. low alcoholic content, lower additives content).

123. Regarding additives, innovation deals with:

- new additives with better performance than the listed ones are being developed, to improve stability of the sensory characteristics of wines, which can be consumed far from the country of production and after many years of storage;
- regarding the dose of additives, a common trend is to produce wines with lower concentrations of additives to improve acceptance by consumers.

#### **The effect of expressing the maximum use of additives in wine as GMP on innovation in wine production**

124. Members considering that GMP are more appropriate to meet the challenge of innovation noted that changing numerical maximum levels require time consuming approval procedures that may delay innovation.

<sup>4</sup> Footnote 87 of the *General Standard for Food Additives* - CODEX STAN 192-1995

125. They consider that flexibility should be given to winemakers to innovate in face of the challenges of climate change, emerging consumer preferences, and new societal demands:

- social demand for lower alcohol wines may need to have higher levels of antioxidants and stabilizers;
- on a short-term basis, climate fluctuations introduce a degree of unpredictability in wine production. As numerical limits can be inappropriate for a given region and year, GMP ensures that oenological practices can be adapted to specific needs due to climate fluctuations in any given year;
- on a long term basis, climate change may necessitate the use of acidity regulators at levels that are higher than numerical limits in some locations.

126. Winemakers will need to adapt existing oenological practices by modifying the types of additives and their use levels. Use levels of individual additives will have to be tailored to the individual wines to maintain consumer perception. Expressing the maximum limit as GMP would give technicians an essential decision-making margin to adapt to variable situations.

### **The effect of expressing the maximum use of additives in wine on a numerical basis on innovation in wine production**

127. Other members consider that a numerical maximum limit does not affect the capacity of a winemaker to face the challenges of innovation.

128. They believe the procedures to modify the rules regarding the listed additives and their level of use are fast enough to adapt to the need of innovation. In the CCFA, the preamble of the GSFA allows a member to request a different maximum limit if needed due to innovation.

129. They note also that in the OIV, new additives are regularly considered, analyzed and possibly recommended. The OIV Code is continuously reviewed, including for limits established some years ago, to ensure a sound and modern scientific basis for its recommendations. As an example, the OIV is currently revising the limit for acidification to 5 g/l (instead of 4 g/l), taking into account a survey lead by Oenoppia throughout the international network of its members. Other examples of current revisions proposed within the OIV are: raising the permitted limit of carboxymethylcellulose (CMC) from 100 mg/l to 200 mg/l, and raising the limit of gum arabic from 0.3 g/l to 0.8 g/l in red wine.

130. Members in favor of numerical maximum limits argue that modifying established rules regarding additives ensure that the identity and stability of wine are guaranteed in innovative techniques.

131. Wine has been produced in the Mediterranean for many centuries and methods have been continuously innovated and transformed, keeping a very strong link with the raw material, agricultural evolution and consumers' tastes. Every innovation has to be analysed and maintain the identity and stability of wine. The standards of national governments and international organisations, like the OIV, are fundamental to guarantee a suitable quality standard and to preserve consumers' health, confidence and fair trade. Within the OIV, recommendations regarding new additives or new limits are preceded by experiments and discussions among international experts from many of the main wine producing countries.

132. The OIV is an international organisation which studies vine and wine, with attention to the evolution/innovation for the sector. OIV experts who come from vine and wine sector at different levels have different sensibilities and look to find answers about how to face new challenges (e.g. climate change) and how to introduce and use oenological practices and additives. This effort is meant to fit producers' and consumers' demands. For research on new products, opinion within the OIV is given by a corps of scientists (coming from 85% of wine producing countries and nearly 80% of consuming countries) and it is constantly updated. This consultation also ensures that innovative techniques guarantee the identity and stability of wine.

133. Some members consider that multiple additives and doses in wines cannot be considered as a sustainable approach, especially when panels of scientists and oenologists have assessed precise doses for obtaining optimal results.

<b>Outcomes and recommendations</b>
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134. From the comments received, there appears to be general agreement that:

- Wine is a food product with a particular identity, linked to the place of production (climate, soil types, grape variety, winemaking practices, consumers' expectations, etc);
- It is necessary and urgent to include a list of winemaking additives in the GSFA to reduce trade barriers in the ever growing international wine trade;
- The additive provisions in the GSFA must ensure both a safe and fair wine trade.

135. The eWG members disagree on the limit to set for the additives.

- Members in favour of a numerical maximum limit believe a GMP limit would:
  - allow producers to use additives in a way that misleads the consumer and result in unfair competition; and
  - create uncertainty, leading countries to set different local numerical maximum limit, resulting in trade barriers.
- Members in favour of GMP believe a numerical maximum limit would:
  - not be applicable to all wine growing situations, particularly regarding climatic issues, resulting in trade barriers;
  - inhibit innovation in the wine sector.

136. Some members from both sides, in the spirit of compromise, proposed a common approach to set the limit on wine additives at GMP with a reference to internationally recognized bodies with expertise in describing GMP for these additives.

#### **Reference to a technical organization**

137. Many members propose to refer to the limits set by an international organization having an expertise in the particular use of oenological additives.

138. Most of these members propose to refer to the International Organization of Vine and Wine (OIV), which is an intergovernmental organization and whose International Code of Oenological Practices set the conditions, instructions and limits for the use of the principle chemical, organic or gas products used to make and store wine. Most winemaking countries recognize the practices recommended by the OIV.

139. Other members propose a broader reference to the international organizations dealing with wine, including the OIV, the Joint FAO/WHO Expert Committee on Food Additives (JECFA), FIVS (a worldwide organisation designed to serve all sectors of the alcohol beverage industry, including wine, beer and spirits) and the WWTG (World Wine Trade Group).

140. All these members consider that such a reference would be a way to overcome the difficulties noted in their comments and summarized in this paper.

141. Firstly, a reference to a technical organization would help to establish the GSFA:

- a list of authorized additives established by the GSFA should take into account the recommendations of international organizations, such as the OIV, JECFA, FIVS and/or the WWTG.
- regarding the limit of use of these additives, the OIV International Code of Oenological Practices gives recommendations for the quantity of additive to be added to wine, which is limited to the lowest possible level necessary to accomplish its desired effect, as an expression of GMP.

142. The OIV confirms that the "International Code of Oenological Practices" could be referenced to provide advice on what concentration of an additive may be considered as GMP.

143. OIV Member States have incorporated in the OIV 2015 work program "a collaboration with the Codex Alimentarius continued especially with the initiation of discussions to eventually lead to a cooperation protocol"<sup>5</sup>.

144. The FIVS proposes to continue to provide scientific and technical advice to the CCFA on additives through its observer status in Codex Alimentarius and welcomes on-going collaboration.

145. Secondly, a reference to a technical organization would ensure the quality of the products placed on the market.

146. A participant believed that the OIV Code of Oenological Practices should be regarded as the technical guarantee of wine defined in terms of quality.

147. Thirdly, a reference to a technical organization would encourage fair trade. A reference to an international organisation, such as the OIV, would help standardize wine regulations.

- a participant notes that a reference to international organizations, such as the OIV, would provide a good shared reference for oenologists and controllers to interpret what may constitute GMP within its International Code of Oenological Practices;

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<sup>5</sup> OIV 2015 Annual work program <http://www.oiv.int/oiv/info/enplanstrategique>

- a country considering a limit for the use of an additive in wine could consider OIV or other standards as a scientific reference, so that the international trade of wine is not adversely affected.

148. Some members propose to introduce a footnote in the GSFA that refers to internationally recognised expert bodies that provide guidance on good manufacturing practice in wine production.

**Recommendation 1**

149. Regarding the use of an additive in the food category 14.2.3 and its subcategories, the Chair and co-Chair of the eWG suggest that the CCFA adopt the principle that, if JECFA recommends an additive has no Allowable Daily Intake (ADI), then a GMP limit should be applied with reference to the following footnote:

*\* The maximum level of the additive in grape wine set as good manufacturing practice must prevent (i) the modification of the natural and essential characteristics of the wine and (ii) a substantial change in the composition of the wine. Countries may seek guidance on GMP from internationally recognised bodies with expertise in oenological practices, such as the International Organisation of Vine and Wine (OIV, which recommends conditions for use for additives in wines) and the Joint FAO/WHO Expert Committee on Food Additives (JECFA, which assesses food additives for their safety and recommends specifications for those additives).*

**Recommendation 2**

150. If recommendation 1 is adopted, the Chair and co-Chair of the eWG suggest that the CCFA adopt the seven following additives whose adoptions were pending an agreement on the maximum level of use<sup>6</sup>;

- a. Citric acid (INS 330) with the technological function “acidity regulator” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories;
- b. Lactic acid L-, D-and DL- (INS 270) with the technological function “acidity regulator” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories;
- c. Malic acid DL- (INS 296) with the technological function “acidity regulator” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories;
- d. Tartaric acid L(+)- (INS 334) with the technological function “acidity regulator” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories;
- e. Ascorbic acid (INS 300) with the technological function “antioxidant” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories;
- f. Gum arabic (INS 414) with the technological function “stabilizer” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories;
- g. Sodium carboxymethylcellulose (INS 466) with the technological function “stabilizer” at GMP with the footnote proposed in recommendation 1, in food category 14.2.3 (Grape wines) and its subcategories.

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<sup>6</sup> see [CX/FA 15/47/10](#) and [Table II of FA/48INF/01](#)