of measuring the materials upon receipt.
(b) Testing instruments. The proprietor shall have ready access to equipment for determining the alcohol content unless the proprietor only receives and stores on wine premises bottled or packed wine with evidence showing the alcohol content has been determined. The proprietor who bottles or packs wine shall have ready access to equipment for determining the net contents of bottled or packed wine. The appropriate TTB officer may require other testing instruments based upon the proprietor's operations. (Sec. 201, Pub. L. 85-859, 72 Stat. 1379, as amended, 1395, as amended ( 26 U.S.C. 5357, 5552))
(Approved by the Office of Management and Budget under control number 1512-0298)
[T.D. ATF-299, 55 FR 24989, J une 19, 1990, as amended by T.D. ATF-409, 64 FR 13683, Mar. 22, 1999]

## Subpart F-Production of Wine

## §24.175 General.

The kinds of wine which may be produced on bonded wine premises are as follows:
(a) Natural wine produced in accordance with subparts $F$ and $G$ of this part;
(b) Special natural wine produced in accordance with subpart H of this part;
(c) Agricultural wine produced in accordance with subpart I of this part; and
(d) Other than standard wine produced in accordance with subpart J of this part. (Sec. 201, Pub. L. 85-859, 72 Stat. 1380, as amended, 1383, as amended, 1384, as amended, 1385, as amended, 1386, as amended (26 U.S.C. 5361, 5382, 5384, 5385, 5386, 5387))

## §24.176 Crushing and fermentation.

(a) Natural wine production. Water may be used to flush equipment during the crushing process or to facilitate fermentation but the density of the juice may not be reduced below 22 degrees Brix. However, if the juice is already less than 23 degrees Brix, the use of water to flush equipment or facilitate fermentation is limited to a juice density reduction of no more than one degree Brix. At the start of fermenta-
tion no material may be added except water, sugar, concentrated fruit juice from the same kind of fruit, malo-lactic bacteria, yeast or yeast cultures grown in juice of the same kind of fruit, and yeast foods, sterilizing agents, precipitating agents or other approved fermentation adjuncts. Water may be used to rehydrate yeast to a maximum to two gallons of water for each pound of yeast; however, except for an operation involving the preparation of a yeast culture starter and must mixture for later use in initiating fermentation, the maximum volume increase of the juice after the addition of rehydrated yeast is limited to 0.5 percent. After fermentation natural wines may be blended with each other only if produced from the same kind of fruit.
(b) Determination of wine produced. Upon completion of fermentation or removal from the fermenter, the volume of wine will be accurately determined, recorded and reported on TTB F 5120.17, Report of Bonded Wine Premises Operations, as wine produced. Any wine or juice remaining in fermentation tanks at the end of the reporting period will be recorded and reported on TTB F 5120.17.
[T.D. ATF-312, 56 FR 31078, J uly 9, 1990, as amended by ATF-338, 58 FR 19064, Apr. 12, 1993]

## §24.177 Chaptalization (Brix adjustment).

In producing natural grape wine from juice having a low sugar content, pure dry sugar or concentrated grape juice may be added before or during fermentation to develop alcohol. In producing natural fruit wine from juice having a low sugar content, sugar, or concentrated juice of the same kind of fruit may be added before or during fermentation to develop alcohol. The quantity of sugar or concentrated juice added may not raise the original density of the juice above 25 degrees Brix. If grape juice or grape wine is ameliorated after chaptalization, the quantity of pure dry sugar added to juice for chaptalization will be included as ameliorating material. If fruit juice or fruit wine is ameliorated after chaptalization, pure dry sugar added under this section is not considered as
ameliorating material. However, if fruit juice or fruit wine is ameliorated after chaptalization and liquid sugar or invert sugar syrup is used to chaptalize the fruit juice, the volume of water contained in the liquid sugar or invert sugar syrup will be included as ameliorating material. (Sec. 201, Pub. L. 85859, 72 Stat. 1385, as amended (26 U.S.C. 5382, 5384))
[T.D. ATF-299, 55 FR 24989, J une 19, 1990, as amended by T.D. ATF-312, 56 FR 31078, J uly 9, 1991; T.D. ATF-413, 64 FR 46844, Aug. 27, 1999]

## §24.178 Amelioration.

(a) General. In producing natural wine from juice having a fixed acid level exceeding 5.0 grams per liter, the winemaker may adjust the fixed acid level by adding ameliorating material (water, sugar, or a combination of both) before, during and after fermentation. The fixed acid level of the juice is determined prior to fermentation and is calculated as tartaric acid for grapes, malic acid for apples, and citric acid for other fruit. Each 20 galIons of ameliorating material added to 1,000 gallons of juice or wine will reduce the fixed acid level of the juice or wine by 0.1 gram per liter (the fixed acid level of the juice or wine may not be less than 5.0 gram per liter after the addition of ameliorating material).
(b) Limitations. (1) Amelioration is permitted only at the bonded wine premises where the natural wine is produced.
(2) The ameliorating material added to juice or wine may not reduce the fixed acid level of the ameliorated juice or wine to less than 5.0 grams per liter.
(3) F or all wine, except for wine described in paragraph (b)(4) of this section, the volume of ameliorating material added to juice or wine may not exceed 35 percent of the total volume of ameliorated juice or wine (calculated exclusive of pulp). Where the starting fixed acid level is or exceeds 7.69 grams per liter, a maximum of 538.4 gallons of ameliorating material may be added to each 1,000 gallons of wine or juice.
(4) F or wine produced from any fruit (excluding grapes) or berry with a natural fixed acid of 20 parts per thousand or more (before any correction of such fruit or berry), the volume of amelio-
rating material added to juice or wine may not exceed 60 percent of the total volume of ameliorated juice or wine (calculated exclusive of pulp). If the starting fixed acid level is or exceeds 12.5 grams per liter, a maximum of 1,500 gallons of ameliorating material may be added to each 1,000 gallons of wine or juice. (26 U.S.C. 5383, 5384).
[T.D. ATF-299, 55 FR 24989, J une 19, 1990, as amended by T.D. ATF-403, 64 F R 50253, Sept. 16, 1999; T.D. ATF-458, 66 FR 37578, July 19, 2001]

## §24.179 Sweetening.

(a) General. In producing natural wine, sugar, juice or concentrated fruit juice of the same kind of fruit may be added after fermentation to sweeten wine. When juice or concentrated fruit juice is added, the solids content of the finished wine may not exceed 21 percent by weight. When liquid sugar or invert sugar syrup is used, the resulting volume may not exceed the volume which would result from the maximum use of pure dry sugar only.
(b) Grape wine. Any natural grape wine of a winemaker's own production may have sugar added after amelioration and fermentation provided the finished wine does not exceed 17 percent total solids by weight if the alcohol content is more than 14 percent by volume or 21 percent total solids by weight if the alcohol content is not more than 14 percent by volume.
(c) Fruit wine. Any natural fruit wine of a winemaker's own production may have sugar added after amelioration and fermentation provided the finished wine does not exceed 21 percent total solids by weight and the alcohol content is not more than 14 percent by volume.
(d) Specially sweetened natural wine. Specially sweetened natural wine is produced by adding to natural wine of the winemaker's own production sufficient pure dry sugar, juice or concentrated fruit juice of the same kind of fruit, separately or in combination, so that the finished product has a total solids content between 17 percent and 35 percent by weight, and an alcohol content of not more than 14 percent by volume. Natural wine containing added wine spirits may be used in the production of specially sweetened natural

