OIV-MA-VI-03 Determination of the volatile acid content

Type II method

1. Definition

By convention, the volatile acidity of vinegar refers to the difference between the total acidity and the fixed acidity.

2. Principle

Calculation of difference between total acidity and fixed acidity, expressed in grams of acetic acid per L.

3. References

See the methods I (determination of total acidity content) and II (determination of the fixed acidity content).

4. Results

4.1. Calculation

Considering:

- A_t to be the total acidity content (expressed in grams of acetic acid per L of sample) and
- A_f to be the fixed acidity content (expressed in grams of acetic acid per L of sample).

The volatile acidity content expressed in grams of acetic acid per L of sample is given by:

$$A_t - A_f$$

4.2. Presentation

The results expressed in grams of acetic acid per liter are given to the first decimal.

5. Interlaboratory validation (Hitos et *al*.2000)

Units: % (m/V)

Sample	r	S_r	RSD_r	R	S_R	RSD_R	RSD_R (Horwitz)	Horrat Index
1 – 8.24% (m/v)	0.0445	0.016	0.19	0.1632	0.058	0.71	2.91	0.24
2 – 11.17% (m/v)	0.0438	0.016	0.14	0.1967	0.070	0.63	2.78	0.23
3 – 11.20% (m/v)	0.0595	0.021	0.19	0.2076	0.074	0.66	2.78	0.24
4 – 11.94% (m/v)	0.0473	0.017	0.14	0.1652	0.059	0.49	2.75	0.18
5 – 11.16% (m/v)	0.0518	0.019	0.17	0.3577	0.0128	1.14	2.78	0.41

6. Bibliography

- Anonymous, 1993, *Métodos Oficiales de Análisis,* Tomo II, Ministério de Agricultura, Pesca y Alimentación, Madrid, Spain.
- AOAC, 1984, *Official Methods of the Ass. Offic. Agric. Chem*., 14th edit., Arlington USA.
- Hitos P., Pons A., Martin de la Hinojosa, I, Gomez R., Hernandez A. and Muñoz J., 2000. Validation of analysis methods for total, fixed and volatile acidity of non-volatile reducing substances, copper and zinc in wine vinegars, *Green Sheet of OIV No. 115*.