RESOLUTION OIV-OENO 634-2020

TREATMENT OF GRAPES BY PULSED ELECTRIC FIELDS – (PEF)

THE GENERAL ASSEMBLY,

IN VIEW OF THE ARTICLE 2, paragraph 2 b) ii of the Agreement of 3 April 2001 establishing the International Organisation of Vine and Wine,

CONSIDERING the work of the "Technology" Expert Group,

CONSIDERING the importance of new physical methods for improving the extraction of grape compounds located inside the cells that may improve the wine processing,

CONSIDERING that pulsed electric fields increases the permeability of the cell membranes,

DECIDES, at the proposal of Commission II "Oenology", to introduce the following oenological practices and treatments into part II, chapter 2 of the International Code of Oenological Practices,

Part II

Chapter 2: Musts

Title: Treatment of grapes by pulsed electric fields (PEF)

Definition:

A process that consists on the application of sufficiently high pulsed electric fields (PEF) to destemmed and crushed grapes that causes the permeabilization of the cell membranes especially of the grape skins.

Objectives:

a. Treatment of red grapes destemmed and crushed by PEF in order to

- Facilitate and increase the extraction of valuable substances such as polyphenols, yeast available nitrogen, aroma compounds including precursors, and other

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substances located inside the grape cells

- Reduce maceration time

b. Treatment of white grapes destemmed and crushed by PEF in order to

- Facilitate and increase the extraction of valuable substances such as yeast available nitrogen, aroma compounds including precursors, and other substances located inside the grape cells.

Prescriptions:

The technique consists on the application of pulsed electric fields in the range of nanoseconds to milliseconds which are sufficiently high to permeabilize the cell membranes. The destemmed and crushed grapes are treated in at least one treatment chamber with at least one pair of electrodes.

OIV recommendation:

Admitted.

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