II.2.2.12 Use of Aspergillopepsin I to remove haze-forming proteins

Definition:

The addition to grape must of Aspergillopepsin I from Aspergillus spp. to remove haze-forming proteins.

Objectives:

To prevent protein haze in still white, rosé wines and sparkling wines.

Prescriptions:

a) Addition of Aspergillopepsin I preparation to must prior to initiation of fermentation

b) After addition of Aspergillopepsin I preparation, one short-term must heating must be applied as it contributes to the unfolding of haze-forming proteins and facilitates their enzymatic degradation by proteases, as well as leads to a denaturation of the protease itself.

This single heat treatment must take into account:

- the activity of Aspergillopepsin I preparation as regards the temperature
- the quantity of Aspergillopepsin I used
- the minimum temperature of treatment should be at or above the denaturation temperature of the proteins, generally comprised between 60 and 75 °C.
- the heating time, generally around 1 minute. Too long heating time could induce negative organoleptic impact.

This loss of three-dimensional conformation of TLPs (Thaumatin Like Proteins) is reversible, so the heating has to be simultaneous to the addition of enzymes for optimal efficiency.

c) The must is cooled to an appropriate temperature prior to yeast inoculation.

d) A filtration must be performed to remove the residual proteins (including added proteases and other proteins).

e) The enzymes used must comply with the prescriptions of the International Oenological Codex.

Recommendation of the OIV:

Admitted