

## **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 (Thaumatococcus 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