

# 11º Encontro de Química dos Alimentos

Qualidade dos alimentos:  
novos desafios

Resumos

Bragança, 2012  
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## Effect of different fining agents and additives in white wine protein stability

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Proteins in white wine could become insoluble and precipitate causing the appearance of a haze in bottled wine. Protein instability may be due to intrinsically or extrinsically factor such as protein molecular weight, isoelectric point, ionic strength, alcohol degree and wine pH or storage temperature. These modifications may occur during aging, storage or when diverse wines are blended. The type and concentration of proteins in the wine depends on grape variety, maturation degree and winemaking operations (pre-fermentative grape maceration, application of tannins, enzymes or bentonite fining). Usually, the treatment for wine protein instability is sodium bentonite fining. The adsorption of wine proteins onto bentonite is due to the cationic exchange capacity of bentonite, which carries a net negative charge and the wine proteins are mostly positive charged at wine pH, and thus can be exchanged onto bentonite. Sometimes even with high level of sodium bentonite wines do not stabilize.

Thus, the main purpose of this work is to understand the interaction of different types of bentonites, tannins, carboxymethylcellulose (CMC) and mannoproteins on white wine protein stability, to get new approaches to stabilize them. Some trials were performed in four white wines with high protein instability. Preliminary results showed that sodium bentonite and mannoproteins increase protein stability, in opposition, CMC and tannins seems to increase turbidity after stability tests, which means more instability. Final results could provide important information to the wine industry to select alternative treatments to remove unstable proteins to maintain or improve wine quality.