

First name/Surname: lin Zhang
Telephone: +39 3792051153
E-mail: lin.zhang@studenti.unipd.it
Nationality: China
Date of birth: 22/1/1998
Place of birth: Hebei, China



Education:

- PhD student in Animal and Food Science (2024-)
- Visiting student in Food and Nutrition (2023-2024)
- Master student in Viticulture and Enology (2020-2023)
- Bachelor student in Viticulture and Enology (2016-2020)

Research areas:

- Wine aroma
- GC-MS

Brief description of Ph.D project:

The production of wine involves different practices to improve colour, taste and stability. These practices consist in adding inorganic (PVPP, bentonite, etc) and organic (animal and vegetal proteins, charcoal, chitosan, tannins, etc.) products to the wine during its production. These products can have also an effect on the aroma, removing some volatile molecules, but also affecting their volatility. In addition, some macromolecules naturally present in the wine (proteins, polysaccharides, polyphenols, mannoproteins) are present in colloidal form and can also affect the volatility of aromatic compounds. The aim of the project is to analyse the effects of different protocols and treatments on the aroma profile of wine, working both in model solutions and in real wines.

Even after bottling, the aromatic molecules, depending on sulphur dioxide content, closure type and storage temperature, can evolve in different compounds. For some type of wine, this evolution is desired and improve the organoleptic

characteristic of the product, but for other wines, like Prosecco, the modification of the aroma during the aging decreases the freshness and the shelf life of the wine. For Prosecco it is generally considered that the wine should be consumed before 12-18 months after bottling, and this can be a problem for this kind of wine that is exported in many different countries.

A part of the thesis will focus on the evolution of aroma compounds in Prosecco wine over a period of around 30 months (taking samples every three months). At each sampling time the chemical and aroma composition will be correlated to sensory parameters determined by a trained panel. This will allow to determine the real shelf life of Prosecco wine. Analysing Prosecco wines obtained with different protocols it will be also possible to find out the production parameters able to increase the wine shelf life.

Supervisor:

Professor Simone Vincenzi