Industrial yeasts, selected by good fermentation performance and desirable organoleptical characteristics, are traditionally used in winemaking. As the wineries are open spaces, commercial yeasts can be disseminated into the environment around the winery. From an ecological point of view, they are non-indigenous S. cerevisiae strains, which are annually introduced in large amounts into the ecosystem of the vineyard. There is very little data on the behaviour of these industrial yeasts in a natural habitat or on their potential impact on the natural microflora. In order to obtain a better understanding of the potential risks associated with the use of genetically modified wine yeasts, a large-scale sampling plan was devised in different geographical locations, using commercially available yeast as a model.

**Sampling plan:** This includes 36 sites in 6 vineyards (3 in France and 3 in Portugal) that use industrial starter yeasts for at least 5 years. Samples were taken before harvest (annual remanence) and at late harvest (immediate release), at 3 distances from the winery (20-1000 m) and from opposite directions.

**Yeast isolation:** For each sample about 2 Kg of grapes were collected to perform small-scale fermentations (60-60.5%). Must samples were plated when 70 g/l of CO₂ were released and 36 randomly selected colonies were analysed.

**Conclusions:**
- The dissemination of commercial yeast strains in the vineyard can be detected easily in close proximity to the winery (20-40 m).
- Commercial yeasts do not seem at distances of more than 150 m from the winery. In vineyard 5 two samples collected at a distance of 300-500 m contained isolates with identical fingerprints to the commercial yeast strain 414 E. 2004. To confirm this, the yeasts were isolated in the same region of the South of France where commercial yeast is considered to be non-pathogenic.
- In vineyard 6, two isolates were identified as S. cerevisiae and S. bayanus, respectively.
- Significant genetic diversity is found in the different vineyards, varying from year to year.
- Liquid effluents are an important vector for the release of yeasts into the environment.
- These results indicate that the distribution of commercial yeasts in the vineyard and their impact on the ecosystem is very limited in terms of space and time. The associated risks of contamination of grape must are consequently very weak.