

FREE SO₂ ORGANIC SPONTANEOUS FERMENTATION: PREVALENCE AND MANAGEMENT OF H₂S PRODUCING YEASTS

SO₂ adding tends to suppress non-*Saccharomyces* yeasts spoiling wines by producing H₂S. Both conventional and organic wine producers are increasingly trying to lower amounts of SO₂. Our aim was to investigate the prevalence of these spoiling yeasts in such fermentations, their ability to produce unwanted compounds and the way to avoid their expansion.

The study took place during 2 years, in Muscadet area.

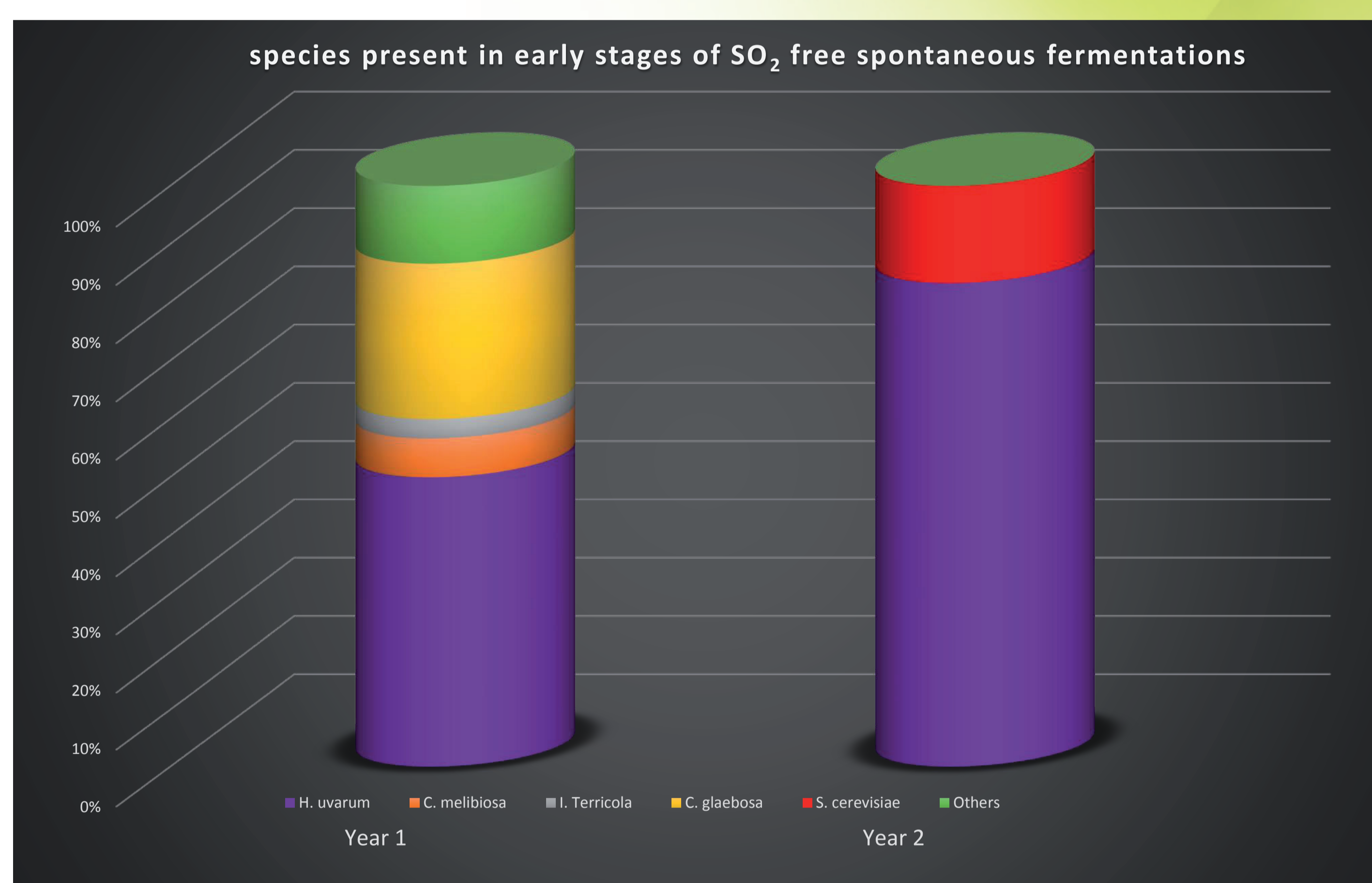
The organic must was divided in two batches:

- one with 3 g/hl of SO₂
- and one without any SO₂ adding.

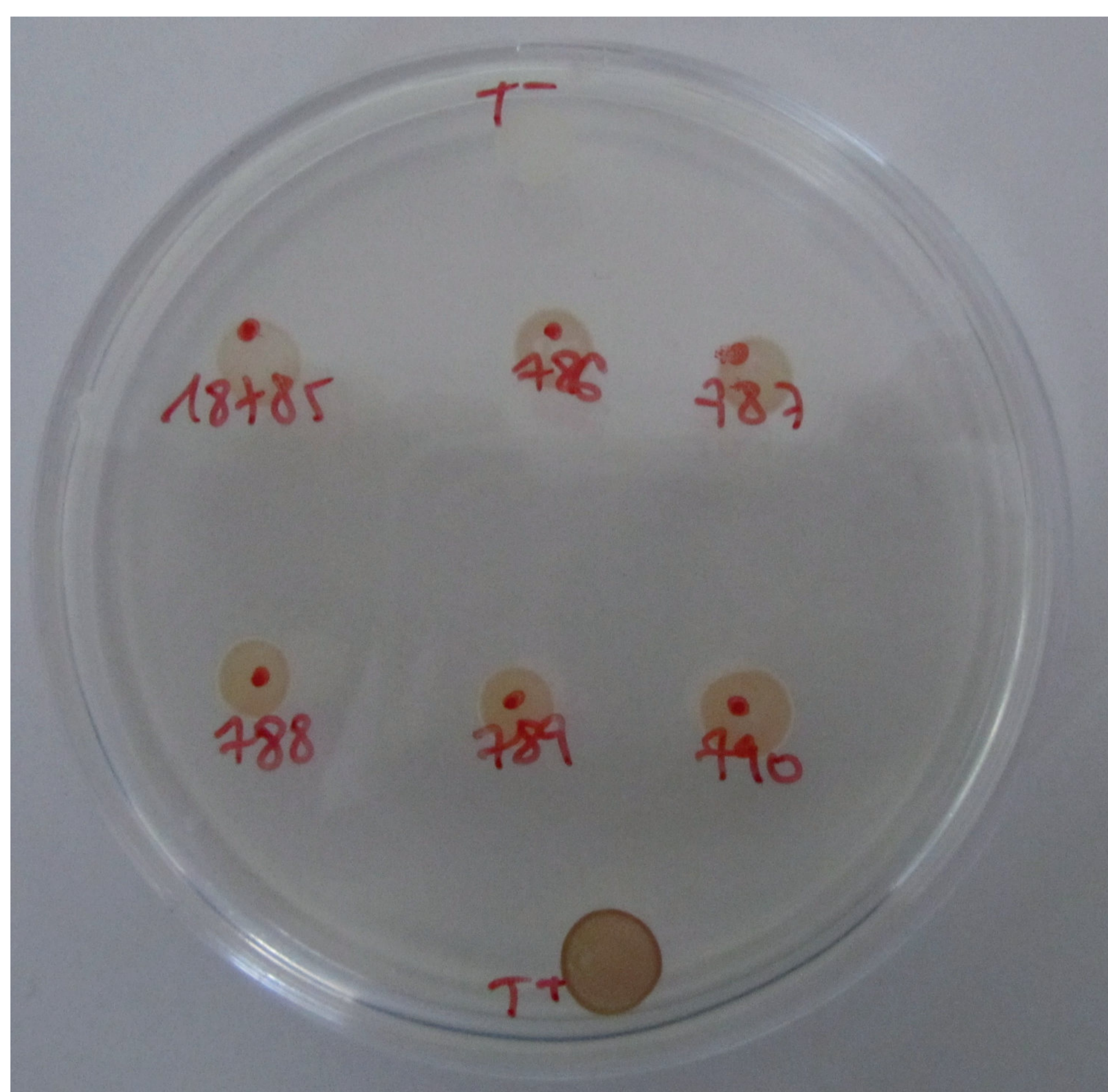
From each batch, two fermentations were led with native yeasts or with Active Dry Yeasts.

In early fermentation stages, yeasts have been isolated and genetically characterized. Species have been determined through ITS PCR RFLP and, when occurring *Saccharomyces* strains, Interdelta PCR delineation have been used.

In order to assess H₂S production, culture on BIGGY agar plates have been led for 48h and production capacity noted from 0 to 5.



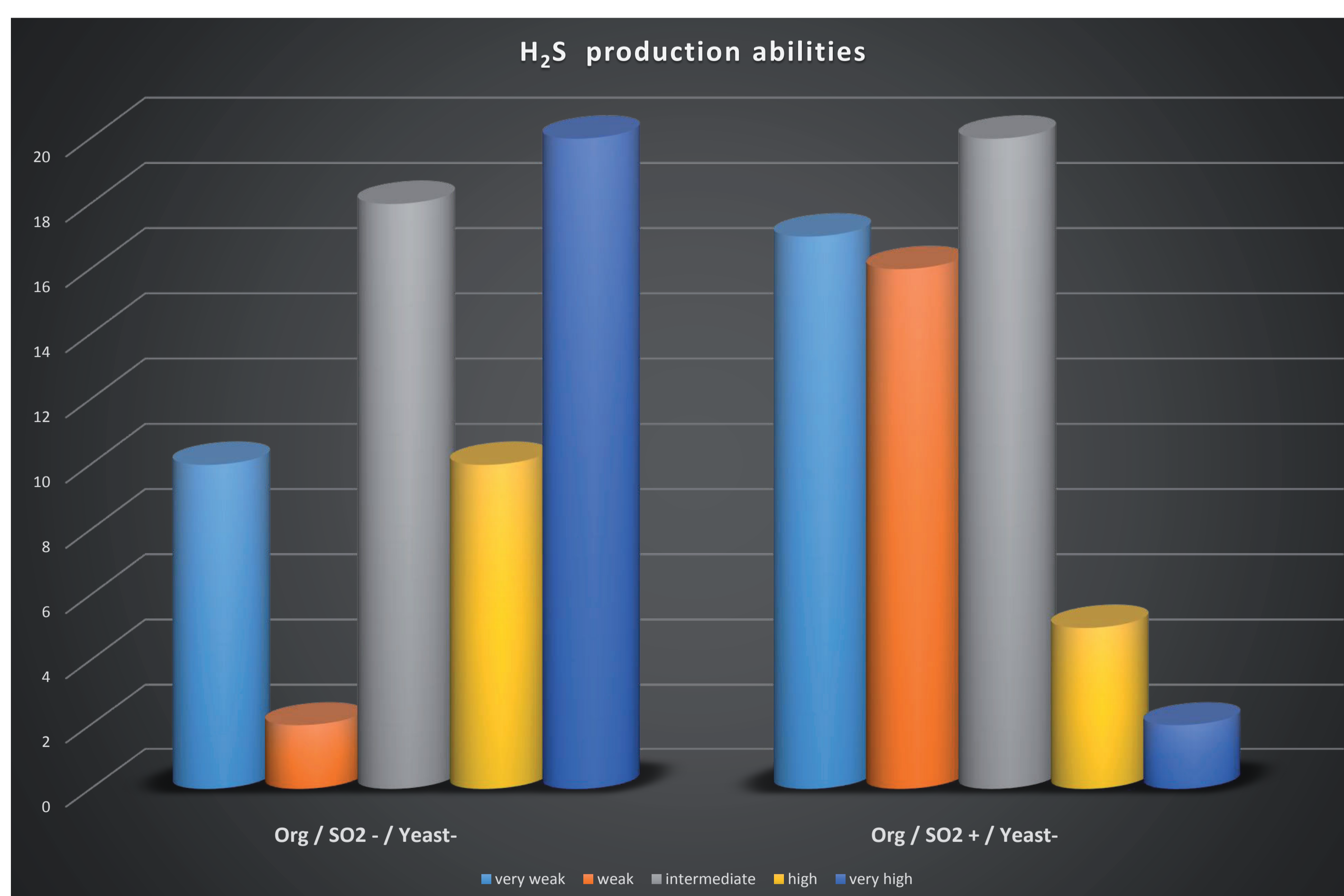
The average ability to produce H₂S was 2.3 with SO₂ and 3 without SO₂, due to *H. uvarum* presence.



Batches with SO₂ gave 9 different *S. cerevisiae* strains the first year and 6 the second.

SO₂ free fermentations were composed of 8 and 2 different species.

Hanseniaspora uvarum was the main species.



Lowering SO₂ allows the growth of high H₂S producing species. One way to lower the spoiling risk without adding SO₂ is to use Dry Yeasts.