Viniflora® SPARTA™

Highly adaptable malolactic culture for all fermentation conditions

Bio-control is key for every good wine

Richness and roundness of wines depend on good stabilization and bio-control through masterful malolactic fermentation.

Achieving good malolactic fermentation depends on many parameters, which determine the fermentation difficulty.

FERMENTATION DEPENDS ON:

- pH
- Malic acid concentration
- Sulfite concentration
- Alcohol concentration
- Nitrogen content and others

Winemaking conditions vary greatly and can be costly to control

Malolactic fermentation depends on the thriving of different inoculated bacteria. Some wine environments can be too harsh for bacteria, forcing winemakers to spend time and resources on controlling the parameters before starting bacteria inoculation.

CONDITIONS INFLUENCING MLF

pH	< 3.2	3.2 – 3.5	3.5 – 3.7	> 3.7[1]
Temperature (°C)	< 15	15 – 19	19 – 25	> 25
Malic acid concentration (g/l)	< 1	1 – 2.5	2.5 – 5	> 5
Total SO_2 (ppm)	> 45	15 – 30	< 15	
Free amino nitrogen (FAN mg/l)[2]	< 60	60 – 80	> 80	

- Very favorable
- Favorable
- Difficult
- Very difficult
- No MLF

EASY ASSESSMENT TOOL

It can be complicated to judge the level of difficulty based on all the parameters.

To help you make timely decisions regarding your fermentation, Chr. Hansen offers MaloCheck – a free tool for assessing the fermentation difficulty.

Visit MaloCheck at malocheck.chr-hansen.com

1 Hard to avoid spontaneous malolactic fermentation
2 FAN preferred or PAN/YAN

Be prepared for every situation with Viniflora® SPARTA™

Viniflora® SPARTA™ was selected among 156 strains of *Oenococcus oeni* for its exceptional performance in:

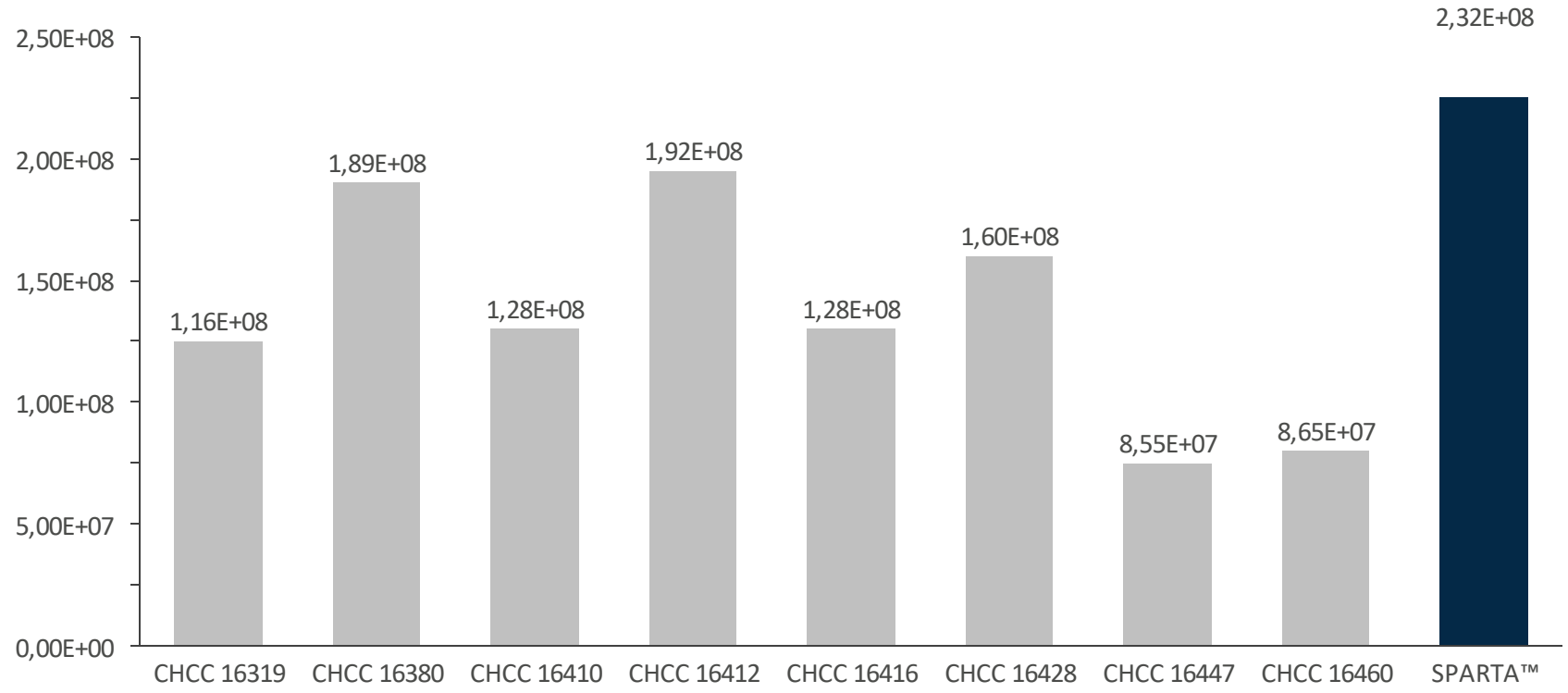
- Low pH
- Low temperature
- High amounts of SO_2

With SPARTA™, inoculation in harsh wine conditions becomes easier and more reliable

Among all selected control strains, SPARTA™ shows the highest growth rate at low pH in white wine[1]

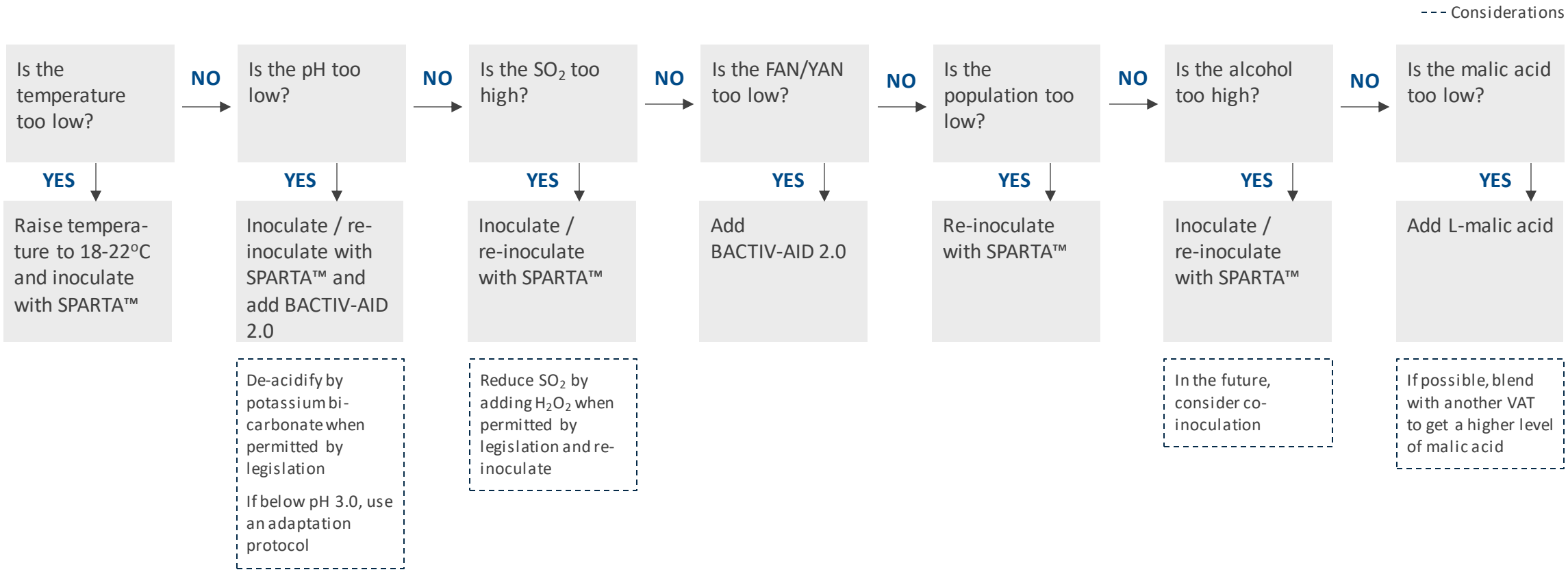
LOW pH - GROWTH 72 HOURS

CFU/ML



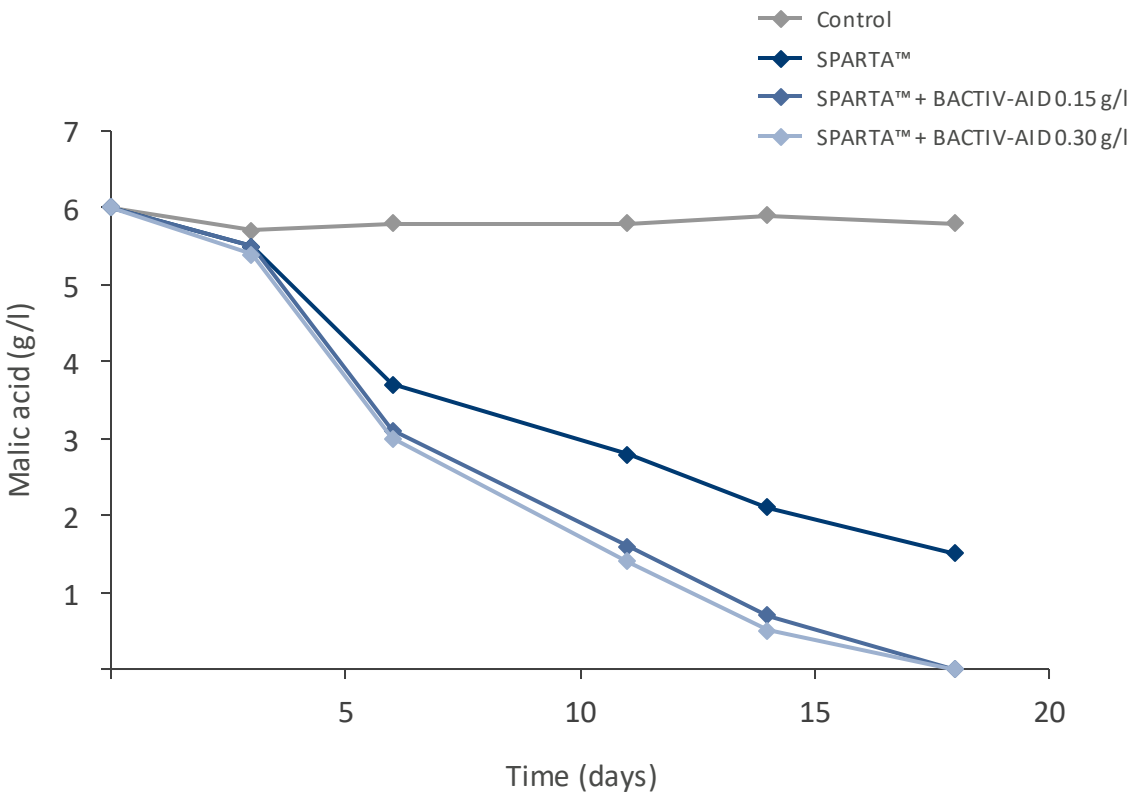
1 Inoculation at: pH: 3.0; alcohol: 13,0 %.

No matter what difficulties your production meets, SPARTA™ can help you overcome them

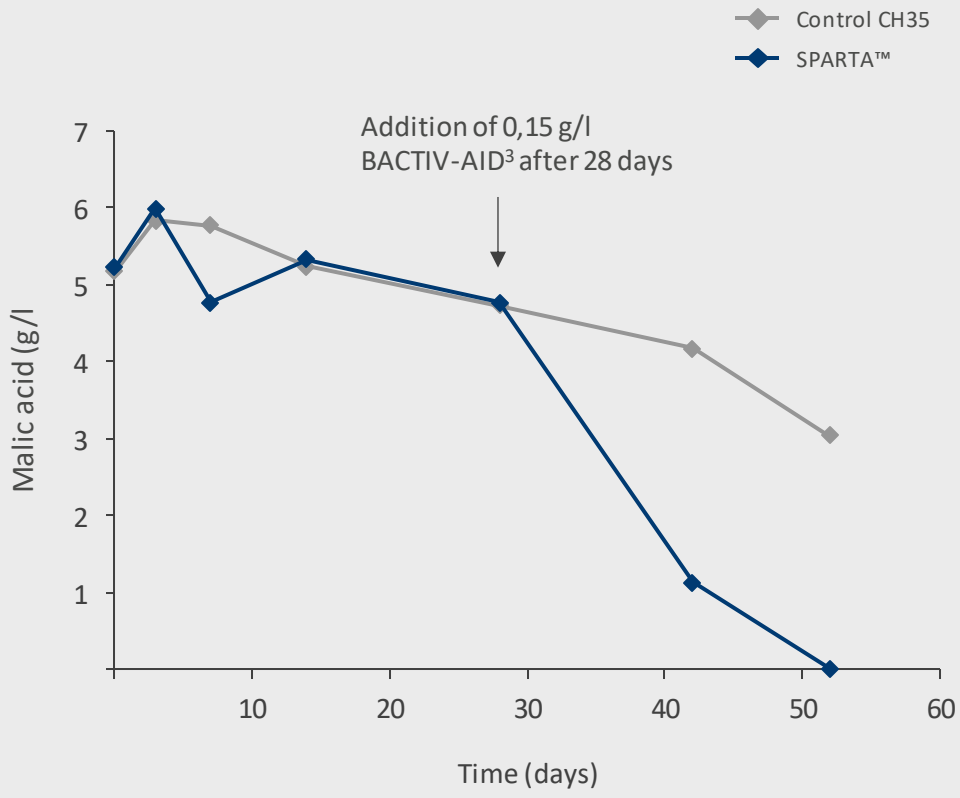


SPARTA™ ferments even at low pH and high SO_2

SPARTA™ PERFORMANCE IN RIESLING AT LOW PH[1]



SPARTA™ PERFORMANCE AT HIGH SO_2[2]

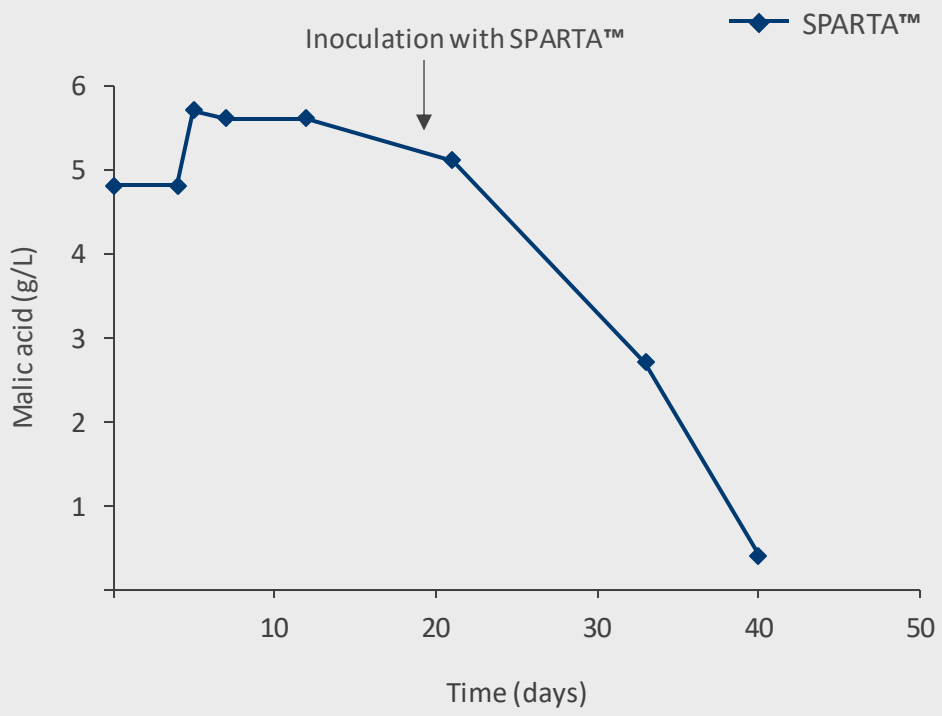


1 Inoculation at: pH: 2,9; temperature: 20°C; alcohol: 11,0%; SO_2 (ppm): N/A.
2 Inoculation at: pH: 3,35; temperature: 21oC; alcohol: 11,32%; malic acid (g/L): 5,22; total SO_2 (ppm): 64; YAN: 9,2.
3 BACTIV-AID – inactivated yeast

SPARTA™ reduces fermentation time at any time of inoculation

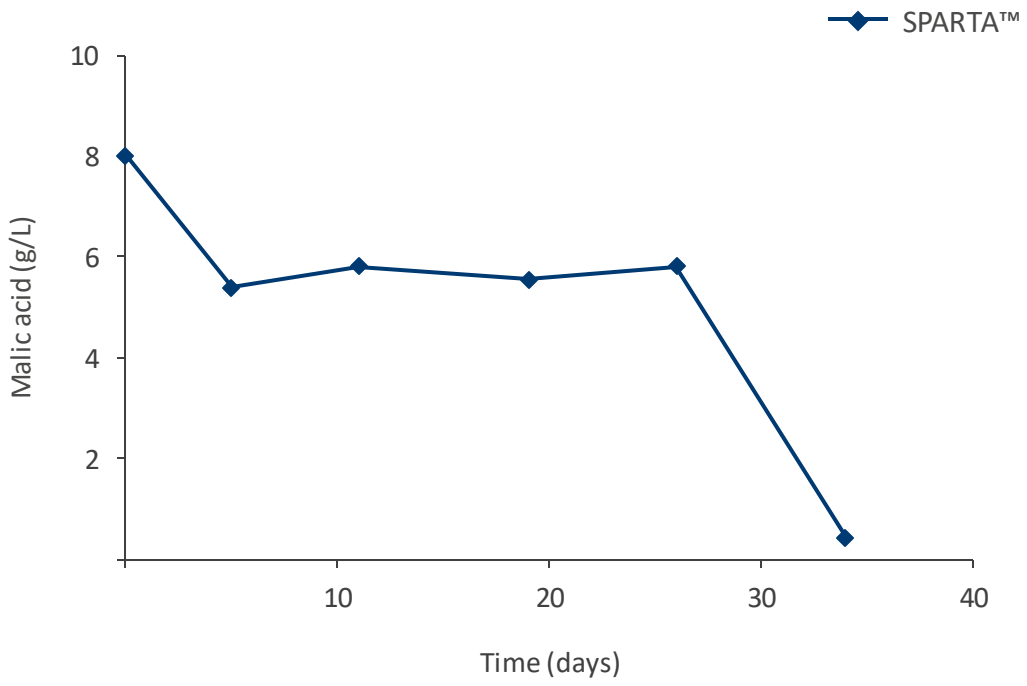
SEQUENTIAL INOCULATION[1]

SPARTA™ in Pinot Noir malolactic fermentation



CO-INOCULATION[2]

SPARTA™ in Pinot Noir and Pinot Meunier blend



1 Sequential inoculation at: pH: 3.10; malic acid (g/L): 5.7; SO_2 (ppm): 45.
2 Co-inoculation at: pH: 3.07; malic acid (g/L): 8.0; SO_2 (ppm): 10.

Unlock stuck malolactic fermentations with SPARTA™

Difficult fermentation conditions may result in slow or stuck malolactic fermentation, affecting the wine's aroma and stabilization.

SPARTA™ + BACTIV-AID is a flexible combination that will restart the malolactic fermentation by adapting to any condition.

TRIAL RESULTS MERLOT THERMOVINIFICATION

Stuck malolactic fermentation (wine inoculated earlier) restarted in 2 days[1]

01	02	03	04	05	06	07
08	09	10	11	12	13	14
15	16	17	18	19 SPARTA™ + BACTIV-AID	20	21 MLF start
22	23	24	25	26	27	28
29	30	31				

1 Inoculation at: 3000hl Merlot; organic nitrogen (NOPA): 60mg/l; malic acid: 1.2g/l. France

SPARTA™ has shown great results in unlocking stuck malolactic fermentations in various conditions

LONG MACERATION

Trial results, Merlot, Bordeaux area

Inoculation with SPARTA™

CHÂTEAU 1 STUCK MLF[2]			CHÂTEAU 2 SLOW MLF[3]			CHÂTEAU 3 NO SPONTANEOUS MLF[4]		
Date	Malic (g/l)	MLF (%)	Date	Malic (g/l)	MLF (%)	Date	Malic (g/l)	MLF (%)
03/01	1.3	50	30/10	0.9	60	19/12	0.8	
29/11	0.7		15/12	0.9		03/01	0.7	
13/12	0.7		22/12	0.6		11/01	0.6	
05/01	0.5		27/12	0.5		18/01	0	
10/01	0.5		03/01	0.5				
12/01	0.4		11/01	0.4				
17/01	0		18/01	0				

PERFERMENTATIVE MACERATION AT WARM TEMPERATURE

Trial results, Gamay, France[5]

CO-INOCULATION (48H) 12.55 VAT			LATE CO-INOCULATION (AFTER PRESSING) 12.1 VAT			LATE CO-INOCULATION (AFTER PRESSING) 12.64 VAT		
Date	Malic (g/l)	MLF (%)	Date	Malic (g/l)	MLF (%)	Date	Malic (g/l)	MLF (%)
09/10	2.9	0	04/10	2.8	0	10/10	2.6	0
10/10	2.9	0	05/10	2.8	0	11/10	2.6	0
11/10	2.9	0	06/10	2.6	3	13/10	2.6	0
12/10	2.9	3	07/10	2.2	14	15/10	2.4	4
13/10	2.8	5	09/10	1.9	27	16/10	2.2	6
14/10	2.6	8	11/10	0.7	60	17/10	1.6	27
16/10	2.4	11	13/10	0.1	94	18/10	0.8	82
17/10	1.6	32	14/10	0.1	94	19/10	0	100
18/10	0.4	80	16/10	0	100			
19/10	0.3	90						
21/10	0.2	92						
22/10	0.1	95						
24/10	0	100						

1 Trials started at the end of the alcohol fermentation with CH16 + BACTIV-AID
2 Inoculation at: pH: 3.50; ethanol: 15.5%; SO_2 22/5
3 Inoculation at: pH: 3.41; ethanol: 14.5%; AM: 1.5; SO_2 5/3; IPT 80
4 Inoculation at: pH: 3.49; ethanol: 14.7%; AM: 0.9; SO_2 10/5; IPT 84
5 Inoculation with SPARTA™ + BACTIV-AID

Adapt to any condition by simply adjusting the dosage of SPARTA™

SPARTA™ is a high-performance strain that is easily adaptable to all fermentation conditions – from easy to the most difficult – by utilizing flexible dosage. SPARTA™ contains a minimum of 2E+13 cfu/bag or 50MLU (500g) frozen hyper concentrated bacteria.

FOR DIFFICULT CONDITIONS

SPARTA™ adapts 1MLU to 1HL for slow, stuck or no malolactic fermentation as well as for difficult vintage wines.

- Add 1 bag SPARTA™ for every 50HL and add Bactiv-AID

FOR EASY CONDITIONS

For easier wines, small doses of SPARTA™, 1MLU to 2-4HL, enables to achieve the malolactic fermentation.

- Add 1 bag SPARTA™ for every 100-200HL

Ferment in any condition with SPARTA™

Viniflora® SPARTA™ can be adapted to any specific requirement, such as:

- Difficult to ferment grapes
- Hard to control conditions for vintage wines
- Stuck malolactic fermentation

SPARTA™ is the most flexible culture on the market as the dosage can be adjusted to adapt to any condition

Thank you

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