

NUTRIENT ADDITION CHARTS

SUPERFOOD, SUPERFERM, CIDERFERM & STARTUP

Lower Brix grapes need less nitrogen, higher Brix grapes need more.

CHOOSE ONE of the blends: Use Moderate Risk Chart on the following page if you cannot test YAN. Add Vitamix or Vitamix+ at Stage 1.

VERY HIGH RISK Initial YAN 50 ppm (or 100 ppm YAN@25+Brix) Select your blend (Ciderferm not recommended at this risk level)		Stage One Addition Inoculation #/1000G (ppm)	Stage Two Addition Active Fermentation #/1000G (ppm)	Stage Three Addition Mid Fermentation ~10 -12 Brix #/1000G (ppm)	NOTE: EXPORT BLENDS USE THE SAME DOSING AS DOMESTIC BLENDS
		SUPERFERM	Superferm: 2 # DAP: 2 #	Superferm: 2 # DAP: 2 #	Superferm: 1 # DAP: 2 #
	SUPERFOOD	Superfood: 2 # DAP: 1.5 #	Superfood: 2 # DAP: 2 #	Superfood: 1 # DAP: 2 #	Total Add Superfood: 5 # (600 ppm) YAN 57 ppm Total Add DAP: 5.5 # (650 ppm) YAN 138 ppm
	STARTUP	Startup: 2 # DAP: 2 #	Startup: 1 # DAP: 3 #	Startup: 1 # DAP: 2 #	Total Add Startup: 4# (500 ppm) YAN 20 ppm Total Add DAP: 7# (840 ppm) YAN 178 ppm
HIGH RISK Initial YAN 100 ppm (or 150 ppm YAN@25+Brix) Select your blend	SUPERFERM	Superferm: 2 # DAP: 2 #	Superferm: 1 # DAP: 1.5 #	Superferm: 1 # DAP: 2 #	Total Add Superferm: 4 # (500 ppm) YAN 38 ppm Total Add DAP: 4.5 # (550 ppm) YAN 117 ppm
	SUPERFOOD	Superfood: 2 # DAP: 0 #	Superfood: 1 # DAP: 2 #	Superfood: 1 # DAP: 2 #	Total Add Superfood: 4 # (500 ppm) YAN 45 ppm Total Add DAP: 4 # (500 ppm) YAN 106 ppm
	CIDERFERM	Ciderferm: 2 # DAP: 0 #	Ciderferm: 1 # DAP: 1.75 #	Ciderferm: 1 # DAP: 2 #	Total Add Ciderferm: 4 # (YAN 500 ppm) YAN 57 ppm Total Add DAP: 3.75 # (YAN 450 ppm) YAN 95 ppm
	STARTUP	Startup: 2 # DAP: 1 #	Startup: 0 # DAP: 2 #	Startup: 1 # DAP: 2.5 #	Total Add Startup: 3 # (350 ppm) YAN 15 ppm Total Add DAP: 5.5 # (650 ppm) YAN 138 ppm

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MODERATE RISK Initial YAN 150 ppm (or 200 ppm YAN@25+Brix) Select your blend		Stage One Addition Inoculation #/1000G (ppm)	Stage Two Addition Active Fermentation #/1000G (ppm)	Stage Three Addition Mid Fermentation ~10 -12 Brix #/1000G (ppm)	NOTE: EXPORT BLENDS USE THE SAME DOSING AS DOMESTIC BLENDS
	SUPERFERM	Superferm: 1 # DAP: 0 #	Superferm: 1 # DAP: 1 #	Superferm: 1.25 # DAP: 1.75 #	Total Add Superferm: 3.25 # (400 ppm) YAN 31 ppm Total Add DAP: 2.75 # (325 ppm) YAN 69 ppm
	SUPERFOOD	Superfood: 1 # DAP: 0 #	Superfood: 1 # DAP: 1 #	Superfood: 1.25 # DAP: 1.5 #	Total Add Superfood: 3.25 # (400 ppm) YAN 37 ppm Total Add DAP: 2.5 # (300 ppm) YAN 64 ppm
	CIDERFERM	Ciderferm: 1 # DAP: 0 #	Ciderferm: 1 # DAP: 1 #	Ciderferm: 1.25 # DAP: 1 #	Total Add Ciderferm: 3.25 # (400 ppm) YAN 46 ppm Total Add DAP: 2 # (250 ppm) YAN 53 ppm
	STARTUP	Startup: 1 # DAP: 0 #	Startup: 0 # DAP: 1.5 #	Startup: 1 # DAP: 2 #	Total Add Startup: 2 # (250 ppm) YAN 10 ppm Total Add DAP: 3.5 # (420 ppm) YAN 89 ppm
MILD RISK Initial YAN 200 ppm (or 250 ppm YAN@25+Brix) Select your blend	SUPERFERM	Superferm: 0 # DAP: 0 #	Superferm: 1 # DAP: 0 #	Superferm: 1.5 # DAP: 1 #	Total Add Superferm: 2.5 # (300 ppm) YAN 24 ppm Total Add DAP: 1 # (125 ppm) YAN 27 ppm
	SUPERFOOD	Superfood: 0 # DAP: 0 #	Superfood: 1 # DAP: 0 #	Superfood: 1.5 # DAP: 0.8 #	Total Add Superfood: 2.5 # (300 ppm) YAN 28.5 ppm Total Add DAP: 0.8 # (100 ppm) YAN 21 ppm
	CIDERFERM	Ciderferm: 0 # DAP: 0 #	Ciderferm: 1 # DAP: 0 #	Ciderferm: 1.5 # DAP: 0.6 #	Total Add Ciderferm: 2.5 # (300 ppm) YAN 35 ppm Total Add DAP: 0.6 # (75 ppm) YAN 16 ppm
	STARTUP	Startup: 1 # DAP: 0 #	Startup: 0 # DAP: 0 #	Startup: 1 # DAP: 1.5 #	Total Add Startup: 2 # (250 ppm) YAN 10 ppm Total Add DAP: 1.5 # (180 ppm) YAN 38 ppm
LOW RISK Initial YAN >250 ppm	STARTUP	Startup: 1 #	Startup: 0 #	Startup: 1 #	Total Add Startup: 2 # (250 ppm) YAN 10 ppm

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PLANNING NUTRIENT ADDITIONS

Fermentation Stages

For use with Nutrient Addition Charts on previous pages.

At yeast rehydration: Startup can be added to the water used to rehydrate yeast.

Stage 1:

At yeast inoculation, or when *Saccharomyces* yeasts start growing in uninoculated musts (instead of *Kloeckera* or other non-*Saccharomyces* vineyard yeast species). Growing yeasts need a wealth of nutrients including nitrogen, mineral, vitamins, and survival factors. If nitrogen is limited during growth, fewer cells will be produced.

Stage 2:

Fermentation is fully underway (actively bubbling, raised cap) and Brix has dropped around 3 to 4 degrees. At this point the yeasts will have taken up most of the nitrogen present in the juice, especially ammonia nitrogen.

Stage 3:

Mid-fermentation, around 10 Brix. Yeast growth has stopped, but alcohol is low enough that yeasts can still take up nitrogen. Nitrogen at this point helps replenish the supply in existing cells without producing more cells.

<p>Recommended levels for YAN (JUICE YAN PLUS ADDED YAN)</p> <p>YAN (ppm) = Ammonia N + Alpha-amino N</p> <p>21 Brix or less: 200- 250 ppm YAN 23 Brix: 250- 300 ppm YAN 25 Brix: 300- 350 ppm YAN</p>	<p>Add last dose before 10 Brix (or test ability of yeasts to still pick up nitrogen)</p> <p>Also add Vitamix (0.1 g/hL; 1 ppm) or Vitamix+ (2.5 g/hL; 25 ppm)</p> <p>ADD STARTUP TO YEAST REHYDRATION WATER FOR A STRONG START</p>	<p>Recommended TOTAL YAN levels (in grapes plus added N)</p> <p>23 Brix: 250 ppm 25 Brix: 300 ppm > 25 Brix: 350 ppm+</p>
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CONVERSION CHART for metric and English measure (100 ppm = 0.10 g/L or 10 g/HL)		
ppm	lb/1000G	g/hL
50	0.4	5
75	0.6	7.5
100	0.8	10
125	1.0	12.5
150	1.25	15
200	1.7	20
250	2.0	25
300	2.5	30
400	3.3	40
500	4.0	50

PLEASE NOTE:

By adding nutrients in stages, you can **SLOW DOWN** or **REDUCE** the additions if the fermentation is going too fast. Adding nutrients all at once, or using sustained-release preparations, does not allow real-time response to different fermentation kinetics.

Add nutrients in portions during the first half of fermentation, **NOT** all at once!

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