

# NUTRIENT ADDITIONS

## PLANNING NUTRIENT ADDITIONS

### Fermentation Stages

For use with Nutrient Addition Charts on next page

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.

Recommended levels for YAN  
(JUICE YAN PLUS ADDED YAN)

**YAN (ppm) = Ammonia N + Alpha-amino N**

21 Brix or less:	200- 250 ppm YAN
23 Brix:	250- 300 ppm YAN
25 Brix:	300- 350 ppm YAN

Add last dose before 10 Brix  
(or test ability of yeasts to still pick up nitrogen)

Also add Vitamix (0.1 g/hL; 1 ppm) or  
Supervit (2.5 g/hL; 25 ppm)

ADD STARTUP TO YEAST REHYDRATION  
WATER FOR A STRONG START

#### Recommended TOTAL YAN levels (in grapes plus added N)

**23 Brix: 250 ppm**  
**25 Brix: 300 ppm**  
**> 25 Brix: 350 ppm+**

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!

# 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 if you cannot test YAN. Add Vitamix or Supervit at Stage 1.

**VERY HIGH RISK**  
Initial YAN 50 ppm  
(or 100 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)	
<b>SUPERFERM</b>	Superferm: 2 # DAP: 2 #	Superferm: 2 # DAP: 2 #	Superferm: 1 # DAP: 2 #	Total Add Superferm: 5 # (600 ppm) YAN 50 ppm Total Add DAP: 6 # (725 ppm) YAN 154 ppm
<b>SUPERFOOD</b>	Superfood: 2 # DAP: 1.5 #	Superfood: 2 # DAP: 2 #	Superfood: 1 # DAP: 2 #	Total Add Superfood: 5 # (600 ppm) YAN 60 ppm Total Add DAP: 5.5 # (650 ppm) YAN 138 ppm
<b>STARTUP</b>	Startup: 2 # DAP: 2 #	Startup: 1 # DAP: 3 #	Startup: 1 # DAP: 2 #	Total Add Startup: 4# (500 ppm) YAN 24 ppm Total Add DAP: 7# (840 ppm) YAN 178 ppm

**NOTE: EXPORT BLENDS USE THE SAME DOSING AS DOMESTIC BLENDS**

**(CIDERFERM NOT RECOMMENDED AT THIS RISK LEVEL)**

**HIGH RISK**  
Initial YAN 100 ppm  
(or 150 ppm YAN@25+Brix)  
Select your blend

<b>SUPERFERM</b>	Superferm: 2 # DAP: 1 #	Superferm: 1 # DAP: 1.5 #	Superferm: 1 # DAP: 2 #	Total Add Superferm: 4 # (500 ppm) YAN 42 ppm Total Add DAP: 4.5 # (550 ppm) YAN 117 ppm
<b>SUPERFOOD</b>	Superfood: 2 # DAP: 0 #	Superfood: 1 # DAP: 2 #	Superfood: 1 # DAP: 2 #	Total Add Superfood: 4 # (500 ppm) YAN 50 ppm Total Add DAP: 4 # (500 ppm) YAN 106 ppm
<b>CIDERFERM</b>	Ciderferm: 2 # DAP: 0 #	Ciderferm: 1 # DAP: 1.75 #	Ciderferm: 1 # DAP: 2 #	Total Add Ciderferm: 4 # (YAN 500 ppm) YAN 58 ppm Total Add DAP: 3.75 # (YAN 450 ppm) YAN 95 ppm
<b>STARTUP</b>	Startup: 2 # DAP: 1 #	Startup: 0 # DAP: 2 #	Startup: 1 # DAP: 2.5 #	Total Add Startup: 3 # (350 ppm) YAN 16 ppm Total Add DAP: 5.5 # (650 ppm) YAN 138 ppm

**MODERATE RISK**  
Initial YAN 150 ppm  
(or 200 ppm YAN@25+Brix)  
Select your blend

<b>SUPERFERM</b>	Superferm: 1 # DAP: 0 #	Superferm: 1 # DAP: 1 #	Superferm: 1.25 # DAP: 1.75 #	Total Add Superferm: 3.25 # (400 ppm) YAN 33 ppm Total Add DAP: 2.75 # (325 ppm) YAN 69 ppm
<b>SUPERFOOD</b>	Superfood: 1 # DAP: 0 #	Superfood: 1 # DAP: 1 #	Superfood: 1.25 # DAP: 1.5 #	Total Add Superfood: 3.25 # (400 ppm) YAN 40 ppm Total Add DAP: 2.5 # (300 ppm) YAN 64 ppm
<b>CIDERFERM</b>	Ciderferm: 1 # DAP: 0 #	Ciderferm: 1 # DAP: 1 #	Ciderferm: 1.25 # DAP: 1 #	Total Add Ciderferm: 3.25 # (400 ppm) YAN 47 ppm Total Add DAP: 2 # (250 ppm) YAN 53 ppm
<b>STARTUP</b>	Startup: 1 # DAP: 0 #	Startup: 0 # DAP: 1.5 #	Startup: 1 # DAP: 2 #	Total Add Startup: 2 # (250 ppm) YAN 12 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

<b>SUPERFERM</b>	Superferm: 0 # DAP: 0 #	Superferm: 1 # DAP: 0 #	Superferm: 1.5 # DAP: 1 #	Total Add Superferm: 2.5 # (300 ppm) YAN 25 ppm Total Add DAP: 1 # (125 ppm) YAN 27 ppm
<b>SUPERFOOD</b>	Superfood: 0 # DAP: 0 #	Superfood: 1 # DAP: 0 #	Superfood: 1.5 # DAP: 0.8 #	Total Add Superfood: 2.5 # (300 ppm) YAN 30 ppm Total Add DAP: 0.8 # (100 ppm) YAN 21 ppm
<b>CIDERFERM</b>	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
<b>STARTUP</b>	Startup: 1 # DAP: 0 #	Startup: 0 # DAP: 0 #	Startup: 1 # DAP: 1.5 #	Total Add Startup: 2 # (250 ppm) YAN 12 ppm Total Add DAP: 1.5 # (180 ppm) YAN 38 ppm

**LOW RISK**  
Initial YAN >250 ppm

<b>STARTUP</b>	Startup: 1 #	Startup: 0 #	Startup: 1 #	Total Add Startup: 2 # (250 ppm) YAN 12 ppm
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