Supplemental Data for:

Schreiner RP, Osborne J and Skinkis PA. 2018.
Nitrogen requirements of Pinot noir based on growth parameters, must composition, and fermentation behavior.
Am J Enol Vitic 69:45-58. doi: 10.5344/ajev.2017.17043.

Supplemental Table 1 Vine phenology, weather, and nitrogen (N) inputs for Pinot noir grapevines grown in microplots at varying rates of N supply from 2012 to 2014.

Year/growth stage	GDD[a] > 10°C	Mean daily temp. (°C)	Rainfall (mm)	Mean daily RH (%)	Solar radiation (MJ/m^2)	N applied (kg/ha)[b]
2012						
Budbreak to bloom — 24 April to 26 June	312	13.5	141	75	1356	18.5
Bloom to veraison — 27 June to 30 Aug	613	19.2	15	69	1563	24.8
Veraison to harvest — 31 Aug to 8 Oct	312	16.8	8	59	743	9.3
Season Total — 24 April to 8 Oct	1237		164		3662	52.6
2013						
Budbreak to bloom — 26 April to 10 June	273	14.7	59	71	1055	16.2
Bloom to veraison — 11 June to 12 Aug	597	19.2	37	66	1607	24.8
Veraison to harvest — 13 Aug to 26 Sept	417	19.1	90	73	758	7.4
Season Total — 26 April to 26 Sept	1287		186		3420	48.4
2014						
Budbreak to bloom — 16 April to 9 June	289	13.7	124	74	1195	17.2
Bloom to veraison — 10 June to 12 Aug	641	19.8	28	66	1566	26.2
Veraison to harvest — 13 Aug to 16 Sept	376	20.4	4	58	760	7.4
Season Total — 16 April to 16 Sept	1306		156		3521	50.8

[a]GDD, growing degree days.
[b]N applied equates to the 100% N control treatment.

Supplemental Data for:

Schreiner RP, Osborne J and Skinkis PA. 2018.
Nitrogen requirements of Pinot noir based on growth parameters, must composition, and fermentation behavior.
Am J Enol Vitic 69:45-58. doi: 10.5344/ajev.2017.17043.

Supplemental Table 2 Cluster zone solar exposure between veraison and harvest in Pinot noir grapevines grown in microplots at varying rates of nitrogen (N) supply in 2013 and 2014. Data are means and standard errors of the mean at each time point (n = 4).

Time of Day (PST)	N Supply[b]	% of PAR[a] in cluster zone	
		10 Sept 2013	28 Aug 2014
0900 hr	100%	83.8 (2.7)	79.9 (1.5)
	75%	83.9 (2.9)	81.7 (1.3)
	50%	81.2 (3.3)	79.3 (2.7)
	30%	80.6 (3.9)	74.3 (4.4)
	15%	85.3 (2.6)	79.2 (2.5)
ANOVA[c] sig. level (*p*)		0.780	0.449
1100 hr	100%	65.0 (3.1)	64.9 (6.4)
	75%	72.1 (4.7)	62.7 (4.1)
	50%	67.0 (7.2)	57.7 (5.3)
	30%	72.8 (5.6)	52.3 (4.9)
	15%	78.3 (4.1)	55.4 (4.3)
ANOVA sig. level (*p*)		0.456	0.435
1300 hr	100%	13.7 (3.4)	14.1 (1.6) bc[d]
	75%	16.8 (3.7)	11.8 (1.1) b
	50%	15.4 (3.3)	15.5 (2.0) bc
	30%	18.7 (1.7)	21.6 (3.2) ab
	15%	26.7 (2.4)	26.8 (2.3) a
ANOVA sig. level (*p*)		0.058	0.001
1500 hr	100%	12.8 (2.2) b	37.5 (2.1) b
	75%	15.5 (1.5) b	33.3 (2.5) b
	50%	18.3 (3.5) b	41.7 (2.1) b
	30%	42.1 (3.7) a	58.6 (1.1) a
	15%	40.3 (1.8) a	58.0 (3.3) a
ANOVA sig. level (*p*)		<0.001	<0.001
1700 hr	100%	70.0 (5.0) b	51.6 (3.2) b
	75%	76.1 (3.6) ab	54.9 (2.2) b
	50%	77.0 (1.7) ab	60.9 (3.4) ab
	30%	84.0 (2.5) a	67.8 (2.3) a
	15%	83.6 (1.9) ab	71.3 (3.3) a
ANOVA sig. level (*p*)		0.037	0.001

[a]PAR: photosynthetically active radiation (400 to 700 nm).
[b]N supply is expressed as % of Control level of N supplied during fertigation events. Control = 7.5 mM total N.
[c]ANOVA, analysis of variance.
[d]Means followed by the same letter in a column within each time do not differ based on Tukey's honest significant difference at 95% confidence.

Supplemental Table 3 Soil water content, θ_v, averaged over the growing season within each nitrogen (N) supply treatment for Pinot noir grapevines grown in microplots from 2012 to 2014. Data are means and standard errors of the mean for each year.

	Soil water content (% volumetric)		
N Supply	2012	2013	2014
100%	18.2 (0.2)	18.9 (0.2)	19.0 (0.3) b[a]
75%	18.1 (0.2)	18.8 (0.2)	18.6 (0.3) b
50%	18.3 (0.2)	18.9 (0.3)	18.7 (0.3) b
30%	18.6 (0.2)	19.3 (0.3)	20.2 (0.3) a
15%	18.6 (0.2)	19.4 (0.2)	20.0 (0.3) a
ANOVA[b] sig. level	0.467	0.217	0.005
n	316	284	252

[a]Means followed by the same letter do not differ based on Tukey's honest significant difference at 95% confidence.
[b]ANOVA, analysis of variance.