

SUPPLEMENTARY DATA

Morel, M., Cookson, S. J., Da Costa, J.-P., Ollat, N., & Marguerit, E. (2024). The role of rootstock and its genetic background in plant mineral status: the relationship between petiole analyses and deficiency symptoms. *OENO One*, 58(2). <https://oeno-one.eu/article/view/7874>

Supplementary data

Supplementary Table 1. Climatic conditions of 2020 and 2021 vintages during the growing period from April to September.

		2020	2021
Rainfall cumulated during vegetative period (mm)		384.5	446.5
Rainfall cumulated by month (mm)	April	94	24.5
	May	109.5	113.5
	June	67.5	180
	July	2.5	40.5
	August	46.5	26.5
	September	64.5	61.5
Mean temperature (°C)		19.6	18.2
Max. temperature (°C)		40.2	34.3
Min. temperature (°C)		3	-0.2

Supplementary Table 2. Soil characteristics of each horizon of the GreffAdapt experimental design.

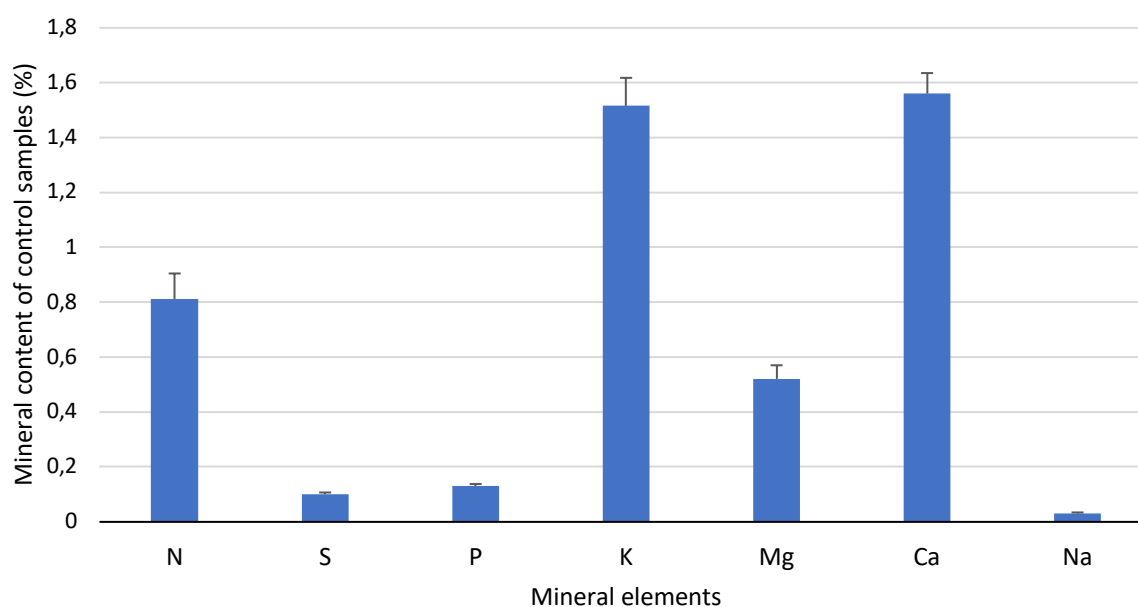
	Block 1			Block 2			Block 3		
	H1	H2	H3	H1	H2	H3	H1	H2	H3
Depth (cm)	0-35	35-60	60-120	0-35	35-80	80-120	0-30	30-60	65-120
Coarse elements (%)	47.6	62.2	62.4	31.0	82.0	8.1	33.6	20.6	11.6
Coarse sand (%)	72.5	68.0	66.4	76.1	74.2	60.0	73.8	75.8	62.9
Fine sand (%)	11.0	11.8	9.2	8.2	10.7	6.5	12.0	10.0	14.6
Coarse silt (%)	1.4	3.3	2.9	4.0	4.0	1.4	3.6	3.2	4.8
Fine silt (%)	7.3	7.0	4.9	6.5	5.2	4.8	6.2	6.6	6.2
Clay Argile (%)	7.9	9.9	16.6	5.2	5.8	27.2	4.5	4.4	11.5
GEPPA texture	S	S	Sa	S	S	AS	S	S	Sa
Available water storage capacity (mm)	28	13	25	38	10	36	28	38	59
Organic matter (%)	2.3	1.3	<0.5	2.2	0.7	0.6	1.2	0.9	0.5
N tot (%)	0.103	0.048	0.029	0.109	0.034	0.033	0.049	0.039	0.034
C/N	12.8	15.3	10.8	11.5	12.3	10.9	14.7	13.4	9.2
pH	6.5	6.6	5.2	7.2	7.4	7.3	6.7	6	6.5
K (cmol ⁺ /kg)	0.151	0.077	0.083	0.060	0.070	0.279	0.151	0.06	0.102
K ⁺ (% of CEC)	2.4	1.5	1.5	1.1	2.3	4.3	5.0	2.7	2.3
Mg ²⁺ (cmol ⁺ /kg)	0.645	0.2	0.17	0.335	0.1	0.26	0.305	0.15	0.21
Mg (% of CEC)	10.4	4.0	3.1	6.3	3.3	4	10.2	6.8	4.7
K/Mg	0.76	1.25	1.59	0.58	2.26	3.48	1.61	1.29	1.58
CEC (cmol ⁺ /kg)	6.2	5	5.5	5.3	3	6.5	3	2.2	4.5

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Supplementary Table 3. Petiole harvest dates of each scion in 2020 and 2021.

	2020	2021
Pinot noir	August 3	August 2
Syrah	August 6	August 5
Ugni blanc	August 13	August 10
Cabernet-Sauvignon	August 10	August 12

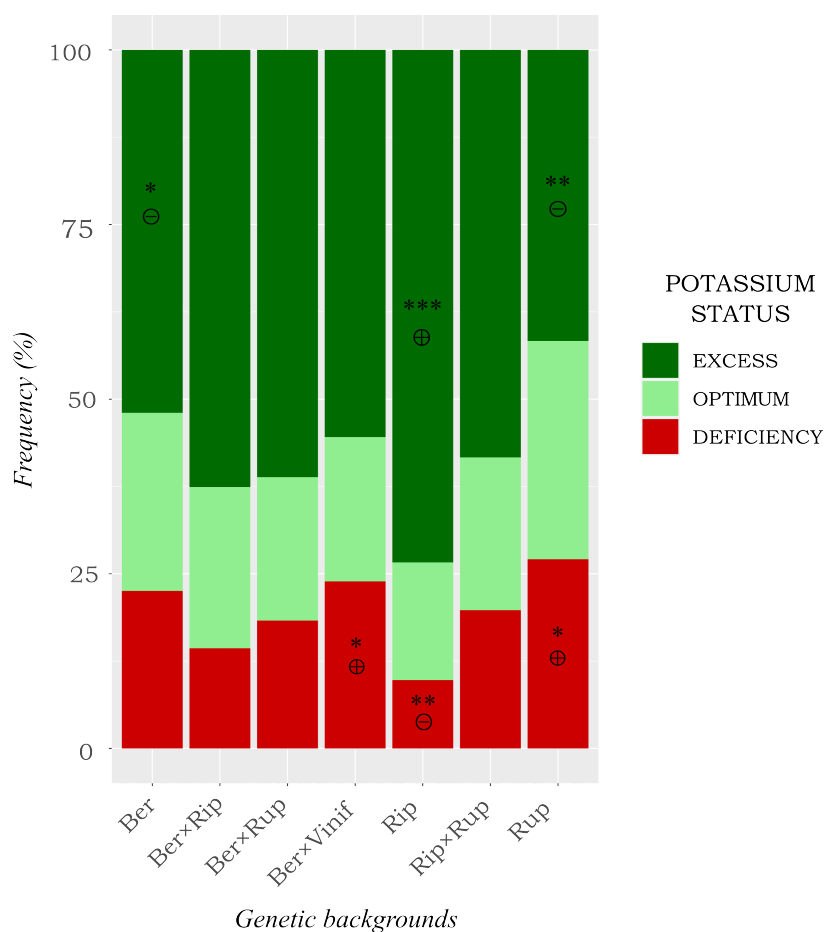
**Supplementary Figure 1. Average petiole macronutrients concentration of standard control samples for the two years (n=32).**

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Supplementary Table 4. Mineral status according to petiole concentrations adapted from Delas (2011).

	Deficiency	Optimum	Excess
N (%)	< 0.4	0.4 to 0.6	> 0.6
P (%)	< 0.1	0.1 to 0.18	> 0.18
K (%)	< 1.5	1.5 to 2.5	> 2.5
Mg (%)	< 0.4	0.4 to 0.6	> 0.6
Ca (%)	< 2	2 to 4	> 4
B (ppm)	< 15	35	> 60
Mn (ppm)	< 20	100	> 500
Zn (ppm)	< 20	> 60	

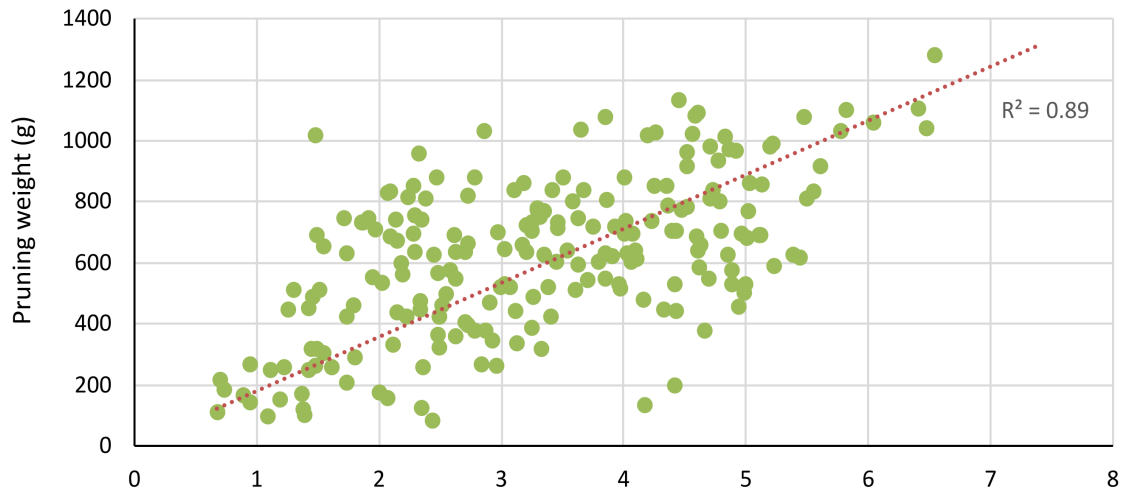


Supplementary Figure 2. Distribution of K status based on petiole analysis according to genetic background in 2021.

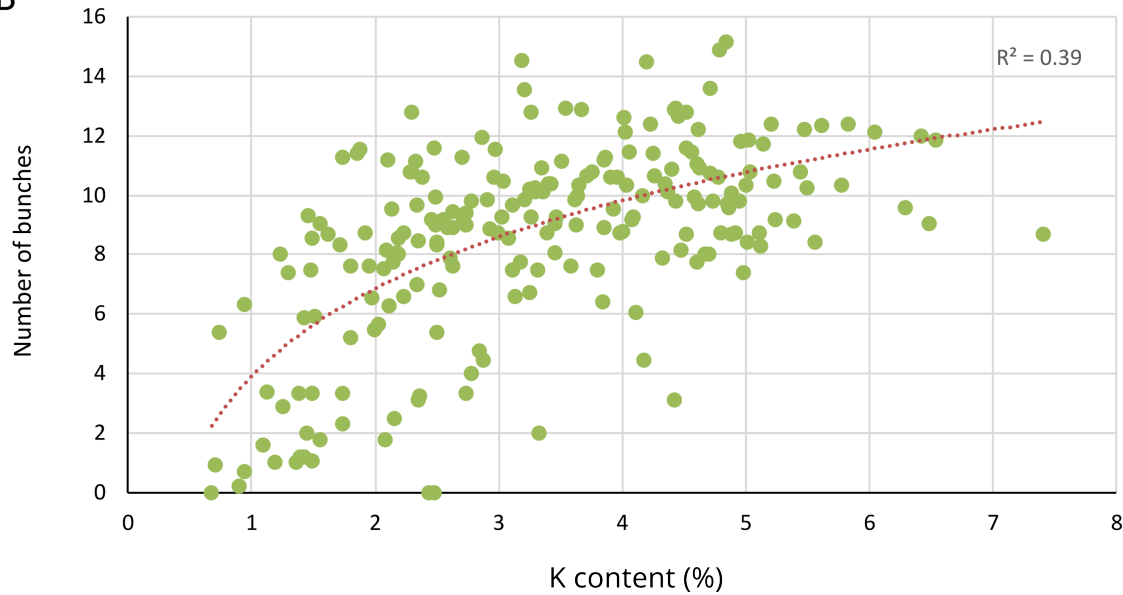
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A



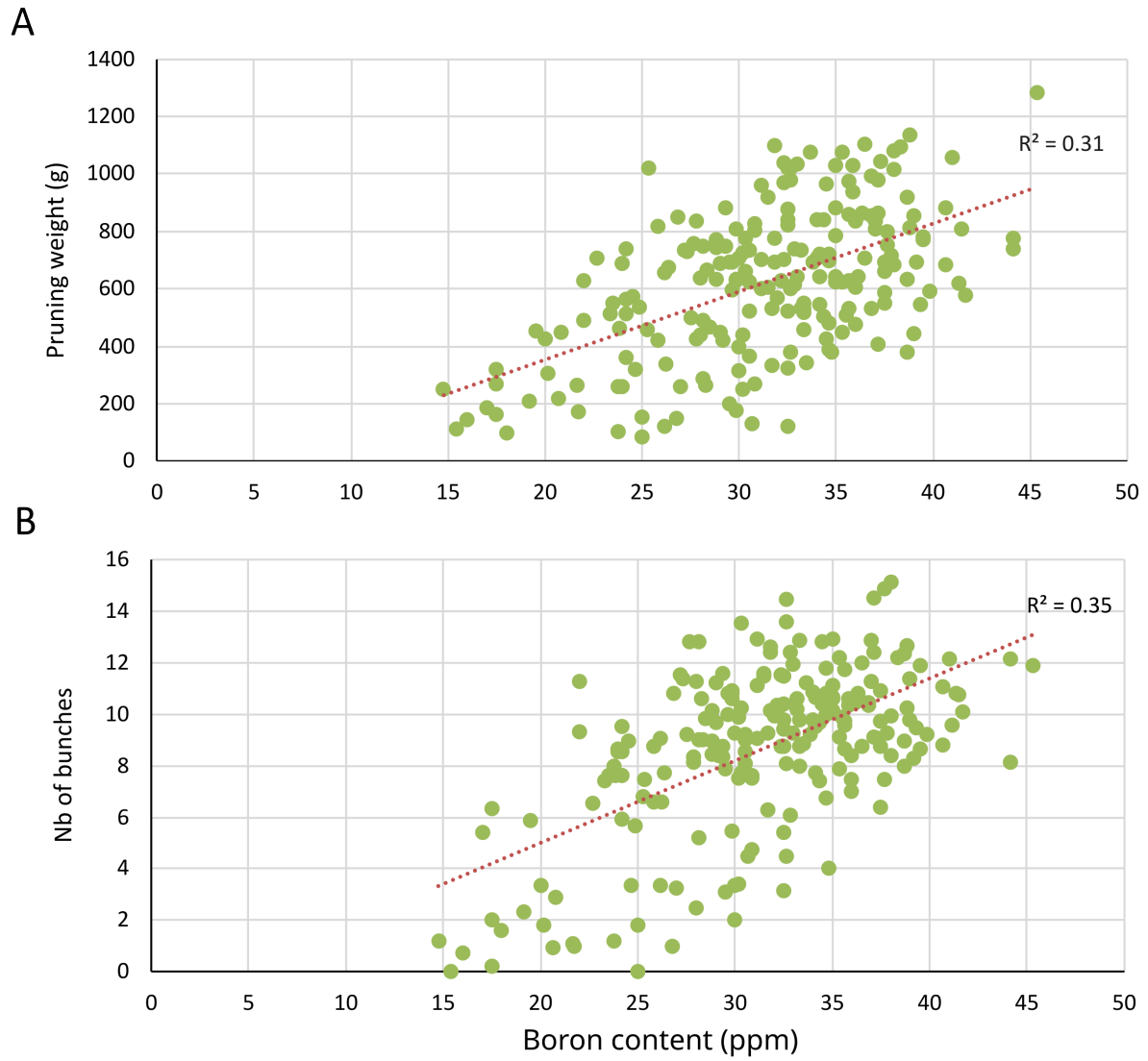
B



Supplementary Figure 3. Correlations between petiole K concentration and winter pruning weight (A) and the number of bunches (B) in 2021.

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Supplementary Figure 4. Correlations between petiole B concentration and pruning weight (A) and the number of bunches (B) in 2021.