

The Influence of Climatic Conditions and Agronomic Practices on Greenhouse Gas Emissions in a Conventional Vineyard (DOCa. Rioja, Spain)

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SUPPLEMENTARY MATERIALS:

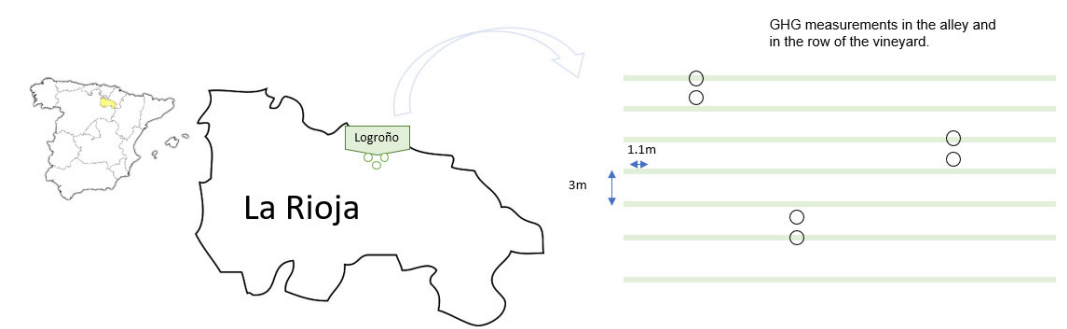


Figure S1. Location of the study plot and experimental design based on rings placed both in the vineyard alleys and rows.

Table S1. Agricultural operations carried out in 2017, 2018, and 2019 in the experimental plot.

Year	Date	Agricultural Operations		Treatment
2017	May 02-05	Mineral Fertilization	NPK (10-0-5)	300 kg/ha
	May 09	Tillage		
	July 03-07	Irrigation		130 m ³ /ha
	July 20	Irrigation		130 m ³ /ha
	November 24	Manure + tillage		15,000 kg/ha
2018	February 15	Pruning		
	March 1-2	Tillage		
	April 07	Mineral Fertilization	NPK (15-15-15)	300 kg/ha
	April 26-30	Digging rows		
	May 20	Tillage		
2019	November 10	Pruning		
	February 25-28	Digging rows		
	March 04-07	Mineral Fertilization	NPK (15-15-19)	300 kg/ha
	March 20	Tillage		
	July 03	Tillage		
	July 14-16	Irrigation		130 m ³ /ha
	September 15	Tillage		

Table S2. Cumulative emissions and minimum and maximum ranges of CO₂ (kg ha⁻¹), N₂O (g ha⁻¹), and CH₄ (g ha⁻¹) for the 2017, 2018, and 2019 measurement years in the alleys and rows.

Year		CO ₂ Emission rate (kg ha ⁻¹ day ⁻¹)			N ₂ O Emission rate (g ha ⁻¹ day ⁻¹)			CH ₄ Emission rate (g ha ⁻¹ day ⁻¹)		
		Cum.	Min.	Max.	Cum.	Min.	Max.	Cum.	Min.	Max.
2017	Alley	295.8±12.1	3.4	47.6	28.0±5.1	-7.6	16.2	-138.9±48.1	-7.6	16.2
	Row	322.0±11.2	5.4	47.4	44.9±5.4	-3.7	16.6	4.1±56.3	-59.8	184.6
2018	Alley	934.7±66.5	21.6	268.8	122.6±13.3	-2.7	41.2	215.5±51.0	-70.1	41.2
	Row	926.8±76.5	13.1	301.7	168.4±17.4	0.2	53.9	238.4±54.9	-101.4	115.1
2019	Alley	232.7±13.9	4.6	44.3	152.9±18.2	-12.7	41.2	-153.2±17.6	-64.9	-1.8
	Row	223.0±16.7	2.3	52.5	181.0±19.9	-14.1	42.7	-155.8±27.2	-88.2	24.3

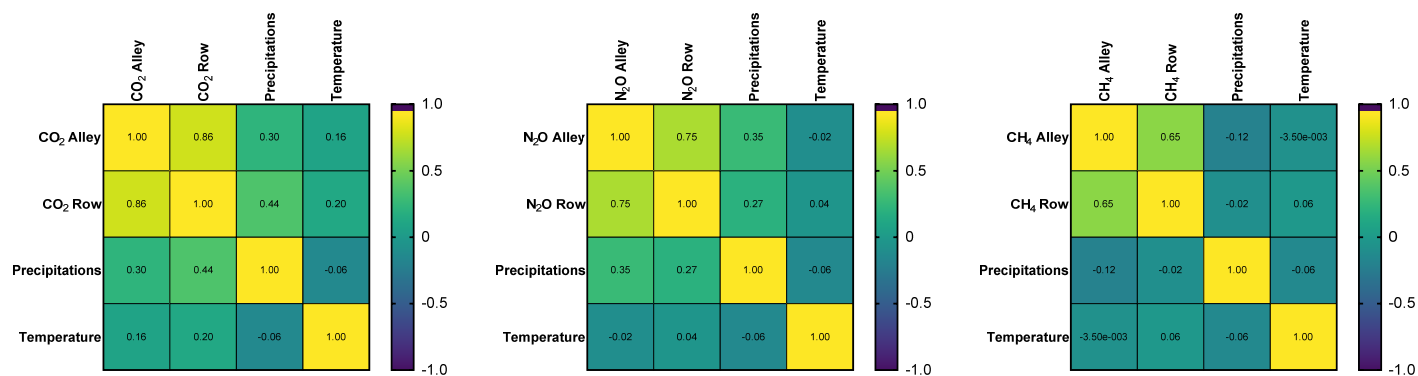


Figure S2. Spearman's rank correlation coefficients (rs) of the analysis between precipitation volumes before measurement and temperatures for CO₂, N₂O, and CH₄ in 2017, 2018, and 2019.