

INTERACTIVE EFFECTS OF NITROGEN-FIXING BACTERIA INOCULATION AND NITROGEN FERTILIZATION ON SOYBEAN YIELD IN UNFAVORABLE EDAPHOCLIMATIC ENVIRONMENTS

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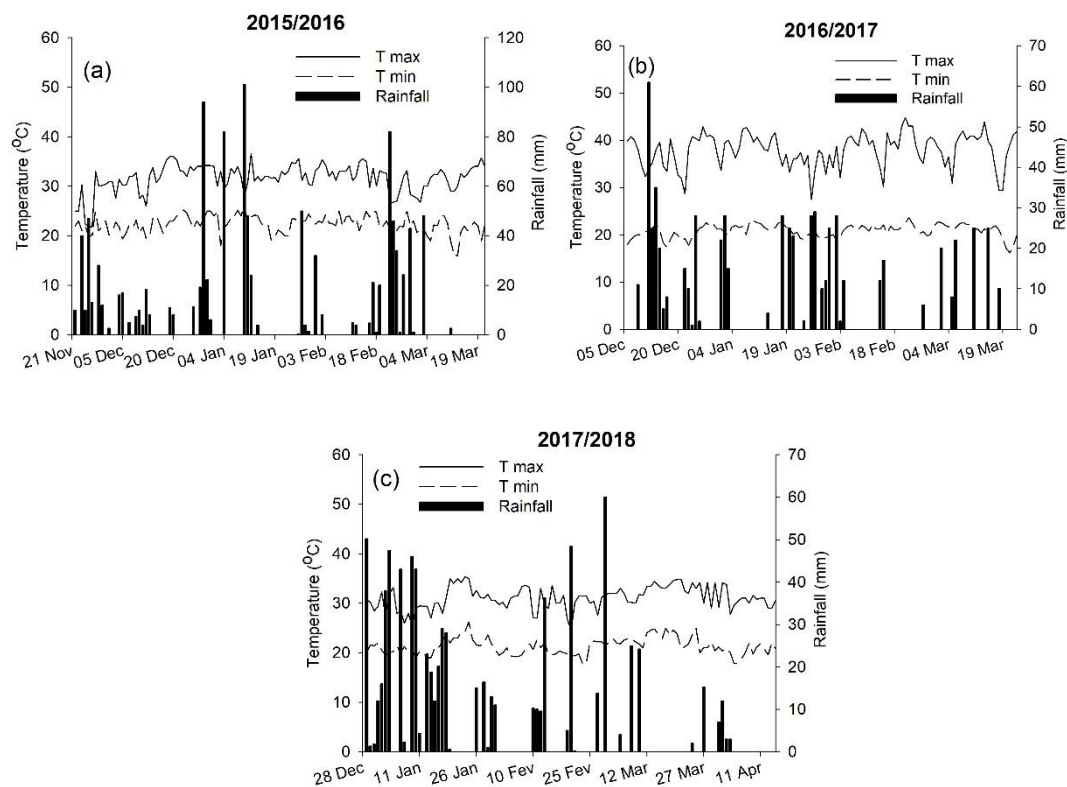


Figure supplementary S1. Rainfall, and maximum and minimum temperatures during the experiments, in the 2015/2016, 2016/2017, and 2017/2018 crop seasons. Presidente Bernardes, São Paulo, Brazil.

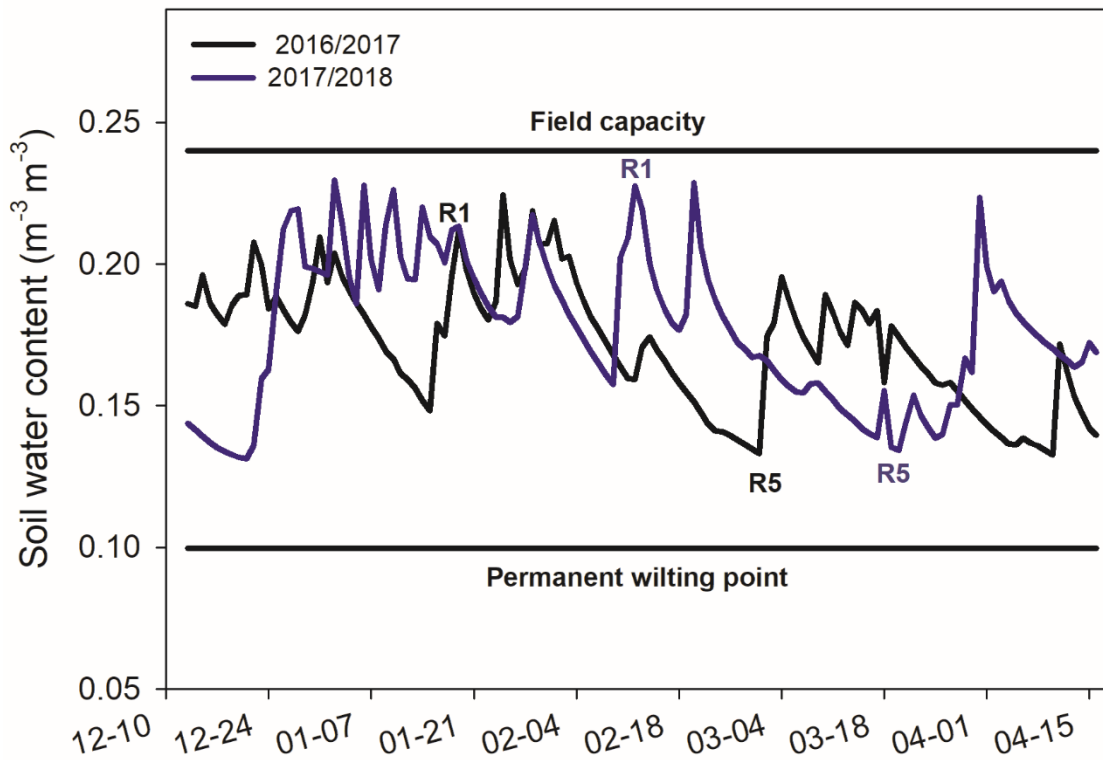


Figure supplementary S2. Soil water volume (m^3) in the 0.0-0.5 m soil layer during the experiments, in the 2016/2017 and 2017/2018 crop seasons.

Crop season	pH	SOM	P	H+Al	K	Ca	Mg	CEC	Sand	Clay	Soil density
		g dm^{-3}	mg dm^{-3} mmol dm^{-3}					g kg^{-1}		g cm^{-3}
Post-pasture area											
2015/2016	5.0	8.9	2.1	15.9	0.6	7.5	3.8	27.5	844	101	--
2016/2017	4.3	16.2	0.1	24.2	0.6	1.6	1.4	27.7	830	105	1.61
2017/2018	5.0	10.9	5.0	17.3	0.7	6.1	3.7	27.8	824	106	1.62
Post-soybean crop area											
2015/2016	5.2	13.8	12.9	19.7	1.8	16.2	11.1	48.8	830	121	--
2016/2017	5.0	12.8	11.8	17.6	0.6	11.8	5.9	35.9	852	110	1.67
2017/2018	4.8	10.3	20.3	22.9	1.3	12.0	2.9	39.2	852	100	1.61

Table supplementary S1. Soil physical and chemical properties (0-0.20 m soil layer) of the post-pasture area and post-soybean crop area, in the 2015/2016, 2016/2017, and 2017/2018 soybean crop seasons.

	2015/2016		2016/2017		2017/2018	
	Post-pasture area	Post-soybean crop area	Post-pasture area	Post-soybean crop area	Post-pasture area	Post-soybean crop area
Liming (kg ha ⁻¹)	1400	900	1800	850	2500	1800
(N-P ₂ O ₅ -K ₂ O) (kg ha ⁻¹)	17-129-73	21-75-43	20-150-50	21-75-43	16-120-40	20-70-40
K ₂ O Topdressing (kg ha ⁻¹)	60					
Sowing time	21/11/2015		05/12/2016		28/12/2017	
Density plant (m ⁻²)	31.1	30.9	29.5	33.4	22.9	23.8

Table supplementary S2. Liming and fertilizer rates, sowing time, and density of soybean plants in the 2015/2016, 2016/2017, and 2017/2018 crop seasons.

Crop season	Post-pasture area		Post-soybean crop area	
	Dry matter	Carbon/nitrogen	Dry matter	Carbon/nitrogen
	kg ha ⁻¹	-	kg ha ⁻¹	-
	Shoot			
2015/2016	1592	50.4	1992	44.9
2016/2017	1615	69.8	2266	38.3
2017/2018	1188	47.7	5574	56.1
	Root			
	kg m ⁻³ (kg ha ⁻¹)	C/N	kg m ⁻³ (kg ha ⁻¹)	g kg ⁻¹
2015/2016	1.0 (2000)	90.5	0.9 (1990)	60.8
2016/2017	1.3 (2760)	112.6	1.12 (2240)	97.8
2017/2018	0.4 (855)	52.7	1.62 (3240)	65.8

Table supplementary S3. Dry matter and carbon to nitrogen ratio of the previous crop (*Urochloa brizantha*) to soybean.