Accumulated carbon fractions in tropical sandy soils and their effects on fertility and grain yield in an integrated crop-livestock system

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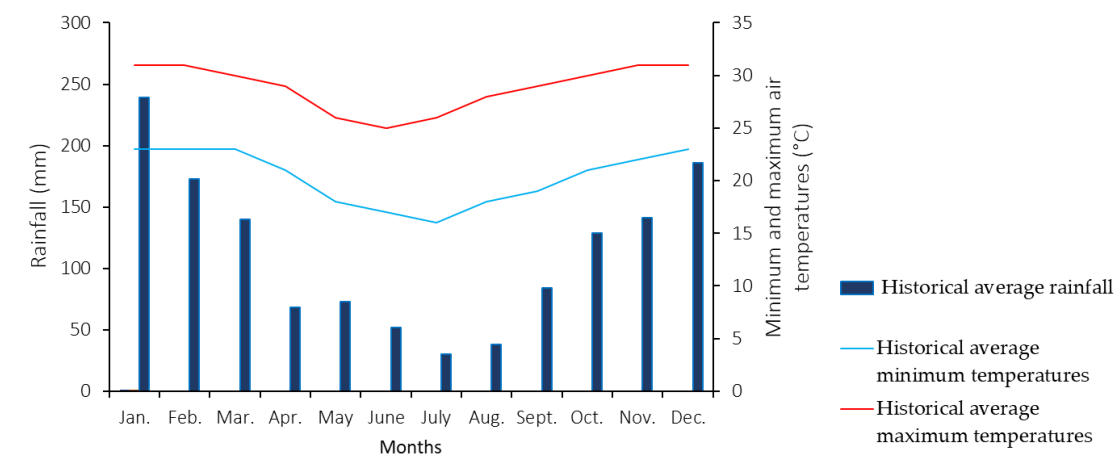dSão Paulo Agency of Agribusiness Technology (APTA), Andradina 16900-970, Brazil

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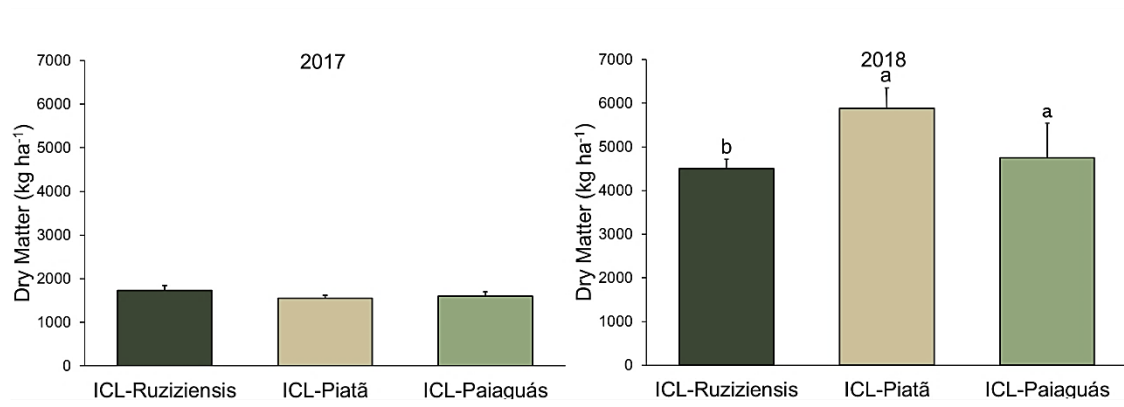
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Supplementary Material

Supplementary Fig. S1. Historical climate data (1992-2022) of the experimental site. Caiuá, SP, Brazil.

Supplementary Fig. S2. Dry matter of the aerial part of *Urochloa ruziziensis* (ICL-Ruziziensis), *U. brizantha* cv. Piatã (ICL-Piatã) and *U. brizantha* cv. Paiaguás (ICL-Paiaguás). Different letters denote significant difference between treatments (Tukey, P ≤ 0.05).

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Supplementary Table S1. Photoperiod at Caiuá, SP, Brazil.

Period	Month											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Photoperiod, h day^{-1}											
Monthly average for 2005 to 2019	13.4	13.1	12.5	11.9	11.1	10.7	10.7	11.0	11.7	12.3	13.0	13.3

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Supplementary Table S2. Information on the cultivar, sowing date, spacing between rows, sowing density, fertilization, top dressing date and date of harvest (corn and soybean) or management for the palisadegrass used in the cropping systems from 2016/17, 2017/18 and 2018/19.

Crop	Cultivar	Sowing date	Spacing between rows	Plant Density	Basic fertilization	Top dressing date	Top dressing	Date of harvest/ management
Corn (Off-season)	DKB 390	08 to 10 Mar. 2016	0.90 m	6 seeds m^{-1}	24 kg N ha^{-1} 84 kg P ha^{-1} 48 kg K ha^{-1}	09 Apr. 2016	46 kg N ha^{-1} 46 kg K ha^{-1}	August 2016
Corn (Off-season)	DKB 177	15 to 16 Mar. 2017	0.90 m	6 seeds m^{-1}	24 kg N ha^{-1} 84 kg P ha^{-1} 48 kg K ha^{-1}	15 Apr. 2016	48 kg N ha^{-1} 35 kg K ha^{-1}	July 2017
Corn (Off-season)	DKB 177	04 to 05 Mar. 2018	0.90 m	6 seeds m^{-1}	24 kg N ha^{-1} 84 kg P ha^{-1} 48 kg K ha^{-1}	07 Apr. 2016	46 kg N ha^{-1} 46 kg K ha^{-1}	July 2018
Palisade grass (Off-season)	*U. brizantha* (BRS Paiaguás and BRS Piatã) and *U. ruziziensis*	Simultaneously with maize	*Between the* corn *rows*	5 kg ha^{-1} (100% seed viability).	-	half the amount applied in November and half in January of each year.	72 kg N ha^{-1} year^{-1} 24 kg K ha^{-1} year^{-1}	07 Oct. 2016 05 Oct. 2017 17 Oct. 2018
Soybean (Season)	cv. TMG 7063	04 to 05 Nov. 2016	0.45 m	14 seeds m^{-1}	14 kg N ha^{-1}		-	13 Mar. 2017

					100 kg P ha^{-1}		
					34 kg K ha^{-1}		
Soybean (Season)	cv. TMG 7063	23 to 24 Oct. 2017	0.45 m	19 seeds m^{-1}	80 kg N ha^{-1} 60 kg P ha^{-1} 95 kg K ha^{-1}	-	26 Feb. 2018
Soybean (Season)	cv. TMG 7063	02 to 03 Nov. 2018	0.45 m	19 seeds m^{-1}	80 kg N ha^{-1} 60 kg P ha^{-1} 95 kg K ha^{-1}	-	25 Feb. 2019

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