

Hunter MO*, Pinto AS, dos Santos CO, dos Santos MP, de Macedo IN, de Lima GSA, Neto MBR, Vieira DLM, Ferreira Jr LG (2026) **Future Land Use Scenarios for Pasture in the Brazilian Cerrado: Agriculture, Livestock and Regeneration**. *Regional Environmental Change*

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ESM 5 Mean and standard deviation of carbon stocks (Mg ha^{-1}) in future land use scenarios for 2025, 2030 and 2050 by land cover, as estimated using the Century 4.5 model simulating land cover change in 2025. Low and medium vigor pastures are specific to Scenario 2. High vigor pastures (old and new), and soy cover the same areas in both scenarios. Regeneration of native vegetation in Scenario 2 covers a subset of areas included in Scenario 1.

Year	Compartment	Pasture Old High Vigor		Pasture New High Vigor		Soy		Regeneration		Regeneration		Pasture Low Vigor		Pasture Medium Vigor	
		Scenario		1 and 2		1 and 2		1		2		2		2	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
2025	ABC	5.56	(0.51)	4.47	(0.36)	3.86	(0.69)	2.95	(0.88)	2.98	(0.31)	2.68	(0.27)	3.37	(0.25)
	BGC	2.54	(0.33)	1.69	(0.14)	1.78	(0.26)	7.75	(1.45)	7.89	(1.48)	1.26	(0.17)	1.61	(0.16)
	Soil*	36.82	(6.16)	29.28	(4.50)	30.78	(4.79)	31.97	(5.73)	31.94	(5.78)	30.81	(5.90)	31.86	(5.47)
2030	ABC	5.51	(0.31)	5.53	(0.20)	4.04	(0.60)	3.69	(0.39)	3.72	(0.37)	2.67	(0.22)	3.35	(0.20)
	BGC	2.61	(0.31)	2.43	(0.21)	1.46	(0.21)	8,11	(1.22)	8.21	(1.25)	1.31	(0.17)	1.68	(0.16)
	Soil*	36.41	(6.08)	30.66	(4.31)	30.58	(4.76)	31,31	(5.43)	31.30	(5.49)	30.02	(5.53)	31.13	(5.20)
2050	ABC	5.49	(0.43)	4.94	(0.27)	3.90	(0.68)	8,34	(1.83)	8.45	(1.79)	2.56	(0.26)	3.23	(0.24)
	BGC	2.44	(0.30)	2.07	(0.18)	1.37	(0.23)	14,33	(3.48)	14.54	(3.44)	1.21	(0.18)	1.56	(0.18)
	Soil*	35.29	(5.88)	32.41	(4.46)	28.51	(4.45)	30,49	(5.31)	30.51	(5.38)	28.29	(4.96)	29.59	(4.72)

*Carbon stocks in soil organic material (0 – 20 cm)