

**Table S2.** Soil nutrient stocks ( $C_{\text{tot}}$ : total carbon,  $N_{\text{tot}}$ : total nitrogen,  $P_{\text{tot}}$ : total phosphorus) affected by fertilization (P0 – no additional P, TSP - triple superphosphate; COM - compost; COM+TSP - compost + TSP) and treatment with/without Serradella in May and July 2019 on the test site Rostock. Mean values  $\pm$  standard deviation; post hoc test Kruskal Wallis  $p < 0.05$ ; abc = differences between fertilization and treatment within the sampling date.

Sampling Date	Fertilization	Treatment	$C_{\text{tot}}$ (g kg <sup>-1</sup> )	$N_{\text{tot}}$ (g kg <sup>-1</sup> )	$P_{\text{tot}}$ (g kg <sup>-1</sup> )
May 2019	P0	Serradella	7.9 $\pm$ 0.6b	0.8 $\pm$ 0.0c	0.5 $\pm$ 0.0ab
		Bare fallow	8.1 $\pm$ 0.1b	0.8 $\pm$ 0.0c	0.5 $\pm$ 0.0b
	TSP	Serradella	8.2 $\pm$ 0.5ab	0.8 $\pm$ 0.0c	0.5 $\pm$ 0.0ab
		Bare fallow	8.0 $\pm$ 0.7b	0.9 $\pm$ 0.0bc	0.5 $\pm$ 0.0ab
	COM	Serradella	10.1 $\pm$ 0.6a	1.0 $\pm$ 0.0a	0.6 $\pm$ 0.0ab
		Bare fallow	10.0 $\pm$ 0.9a	1.0 $\pm$ 0.0a	0.6 $\pm$ 0.0ab
	COM+TSP	Serradella	10.1 $\pm$ 1.1a	0.9 $\pm$ 0.0ab	0.6 $\pm$ 0.0ab
		Bare fallow	10.0 $\pm$ 0.7a	1.0 $\pm$ 0.0a	0.6 $\pm$ 0.0ab
	P0	Serradella	8.8 $\pm$ 1.4abc	0.8 $\pm$ 0.0b	0.5 $\pm$ 0.0cd
		Bare fallow	8.2 $\pm$ 0.3bc	0.7 $\pm$ 0.0b	0.5 $\pm$ 0.0d
July 2019	TSP	Serradella	8.0 $\pm$ 0.3c	0.7 $\pm$ 0.0b	0.5 $\pm$ 0.0bcd
		Bare fallow	8.2 $\pm$ 0.6bc	0.8 $\pm$ 0.0b	0.5 $\pm$ 0.0bcd
	COM	Serradella	10.3 $\pm$ 0.8ab	1.0 $\pm$ 0.0a	0.5 $\pm$ 0.0abc
		Bare fallow	10.3 $\pm$ 1.1ab	1.0 $\pm$ 0.1a	0.5 $\pm$ 0.0ab
	COM+TSP	Serradella	11.0 $\pm$ 0.9a	1.0 $\pm$ 0.0a	0.6 $\pm$ 0.0a
		Bare fallow	9.8 $\pm$ 0.7abc	0.9 $\pm$ 0.0ab	0.5 $\pm$ 0.1abcd