Physical Protection of Soil Carbon Stocks Under Regenerative Agriculture

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Supporting Information

Figure SI 1: *Field cropping history for the arable control, and regenerative blackcurrant fields (2014-2021). Discrete Boxes represent one full cropping cycle and where applicable re-planting of new bushes.*

Table SI 1: *Soil texture classification and relative proportion of sand, NWSA and WSA (%) (n=5) of alley (white) and bush (grey) regimes with increasing years of establishment. Error bars represent ± 1SD. For a given regime (alley or bush) dissimilar lower-case letters indicate significant (p ≤ 0.05) differences across the timeseries. At a given timepoint, the * indicates a significant difference (p ≤ 0.05), between the alley and bush regimes, ** indicates a significant difference (p ≤ 0.01), between the alley and bush regimes.*

Field Site	Sand %	NWSA %	WSA %	Soil Texture Classification
Control Alley	66.5 ± 1.7 **a**	27.6 ± 1.8 **a**	5.8 ± 0.7 **a**	Sandy Loam
Control Bush	66.5 ± 1.7 **a**	27.6 ± 1.8 **a**	5.8 ± 0.7 **a**	Sandy Loam
Blackcurrants Year 1 Alley	74.4 ± 1.2 **b**	16.5 ± 1.0 **b**	9.2 ± 1.0 **ab**	Sandy Loam
Blackcurrants Year 1 Bush	76.4 ± 2.8 **b**	15.2 ± 1.3 **c**	8.5 ± 3.9 **ab**	Sandy Loam
Blackcurrants Year 3 Alley	76.5 ± 3.1 **b**	15.6 ± 1.0 **b**	7.8 ± 2.8 **ab**	Sandy Loam
Blackcurrants Year 3 Bush	77.4 ± 1.9 **b**	17.1 ± 2.0 **bc**	5.4 ± 2.2 **a**	Sandy Loam
Blackcurrants Year 5 Alley	73.8 ± 3.1 **b**	15.9 ± 1.4 **b **	10.3 ± 2.5 **b**	Sandy Loam
Blackcurrants Year 5 Bush	70.2 ± 2.9 **a**	18.8 ± 0.9 **bc **	11.0 ± 2.2 **bc**	Sandy Loam
Blackcurrants Year 7 Alley	71.4 ± 2.6 **ab**	12.6 ± 1.6 **c **	16.0 ± 1.2 **c**	Sandy Loam
Blackcurrants Year 7 Bush	69.5 ± 1.9 **a**	16.1 ± 0.8 **bc **	14.4 ± 1.7 **c**	Sandy Loam
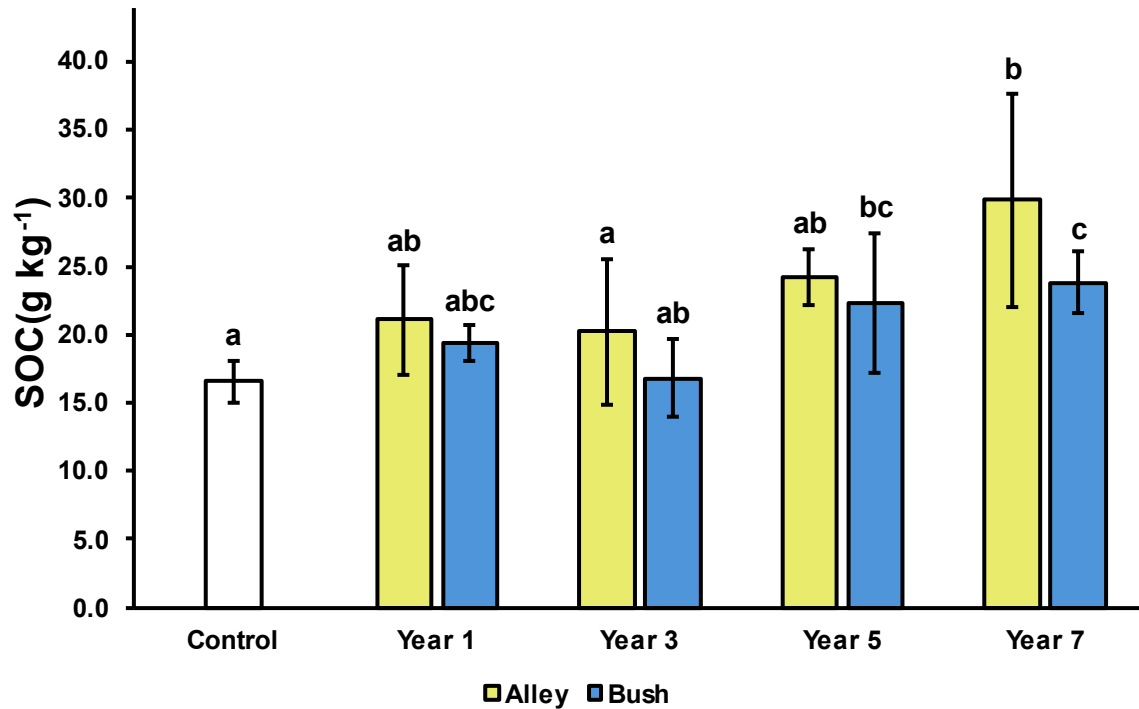
Figure SI2: SOC (n=5) of alley (yellow) and bush (blue) regimes with increasing years of establishment. Error bars represent $\pm$ 1SD. For a given regime (alley or bush) dissimilar lower-case letters indicate significant (p ≤ 0.05) differences across the timeseries. At a given timepoint, * indicates a significant difference (p < 0.05) between the alley and bush regimes.
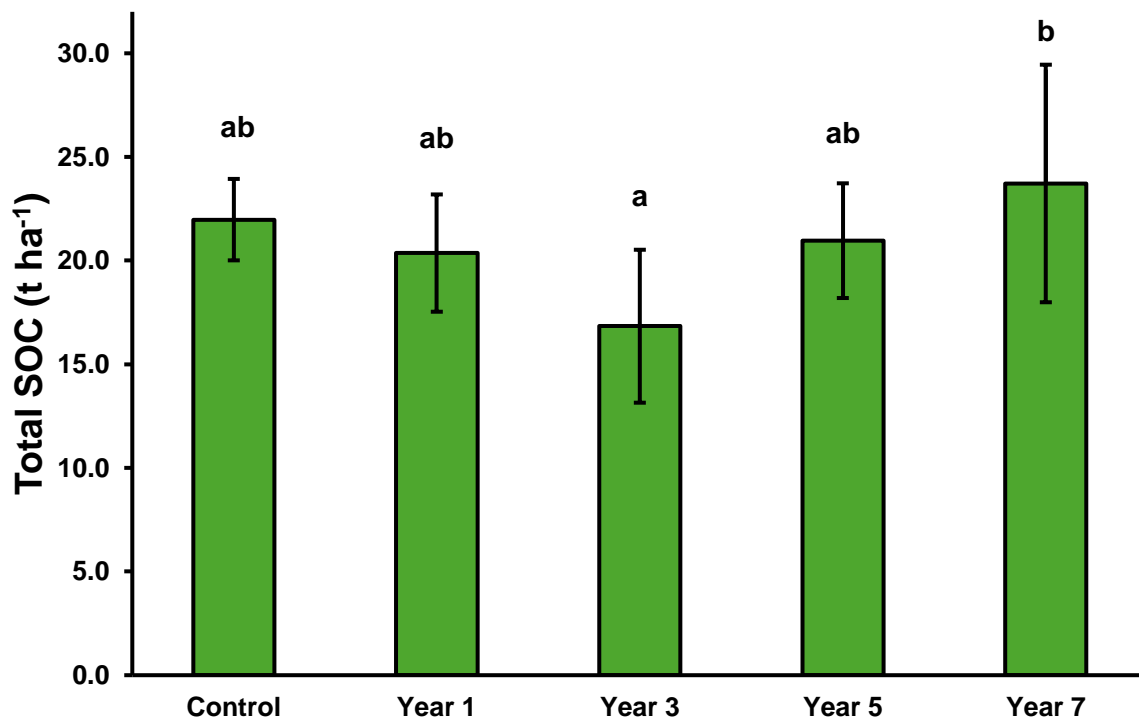
Figure SI 3: Total carbon field stocks (n=5), Error bars represent + 1SD. Dissimilar lower-case letters indicate significant (p ≤ 0.05) differences across the timeseries