

## SUPPLEMENTARY TABLES AND FIGURES

**Table S1. Microbial variables at the end of cover crops.**

Cover crop	Colonization (%)	Hyphal length (cmg <sup>-1</sup> )
<b>CON</b>	0.0	20.69 ( $\pm$ 1.34) c
<b>VET</b>	55.5 ( $\pm$ 9.49) a	8.46 ( $\pm$ 0.93) e
<b>MEL</b>	50.7 ( $\pm$ 9.63) a	24.07 ( $\pm$ 1.38) b
<b>BAR</b>	45.5 ( $\pm$ 12.14) a	27.54 ( $\pm$ 2.57) a
<b>B+V</b>	47.8 ( $\pm$ 3.16) a	12.73 ( $\pm$ 0.94) d
<b>B+M</b>	51.6 ( $\pm$ 9.44) a	14.92 ( $\pm$ 1.60) d

CON: control without CC; VET: vetch; MEL: melilotus; BAR: barley; B+V: barley with vetch; B+M: barley with melilotus; mean $\pm$  standard deviation; different lowercase letters indicate significant differences between the means (HSD Tukey, p < 0.05).

**Table S2. Shoot biomass of cover crops.**

Cover crop	Shoot biomass(kg ha <sup>-1</sup> )
<b>CON</b>	0
<b>VET</b>	852.9 ( $\pm$ 160.1) a
<b>MEL</b>	583.4 ( $\pm$ 210.0) b
<b>BAR</b>	928.2 ( $\pm$ 147.6) a
<b>B+V</b>	863.3 ( $\pm$ 154.9) a
<b>B+M</b>	966.4 ( $\pm$ 128.6) a

CON: control without CC; VET: vetch; MEL: melilotus; BAR: barley; B+V: barley with vetch; B+M: barley with melilotus; mean $\pm$  standard deviation; different lowercase letters indicate significant differences between the means (HSD Tukey, p < 0.05).

**Table S3. Cash crops germination after the different cover crops.**

Cover crop	Wheat germinación (%)	Maize germinación (%)
<b>CON</b>	80.0 ( $\pm$ 19.18) ab	100 ( $\pm$ 0.00) ab
<b>VET</b>	91.67 ( $\pm$ 14.43) ab	93.33 ( $\pm$ 14.91) ab
<b>MEL</b>	70.0 ( $\pm$ 20.07) b	75.0 ( $\pm$ 16.67) b
<b>BAR</b>	98.33 ( $\pm$ 3.73) a	93.33 ( $\pm$ 14.91) ab
<b>B+V</b>	88.33 ( $\pm$ 13.94) ab	100.0 ( $\pm$ 0.00) a
<b>B+M</b>	95.0 ( $\pm$ 7.45) ab	93.33 ( $\pm$ 14.91) ab

± indicates the standard deviation of each mean. Different lowercase letters after the means indicate significant differences with  $p < 0.10$  according to HSD Tukey. CON: control without CC; VET: vetch; MEL: melilotus; BAR: barley; B+V: barley with vetch; B+M: barley with melilotus.

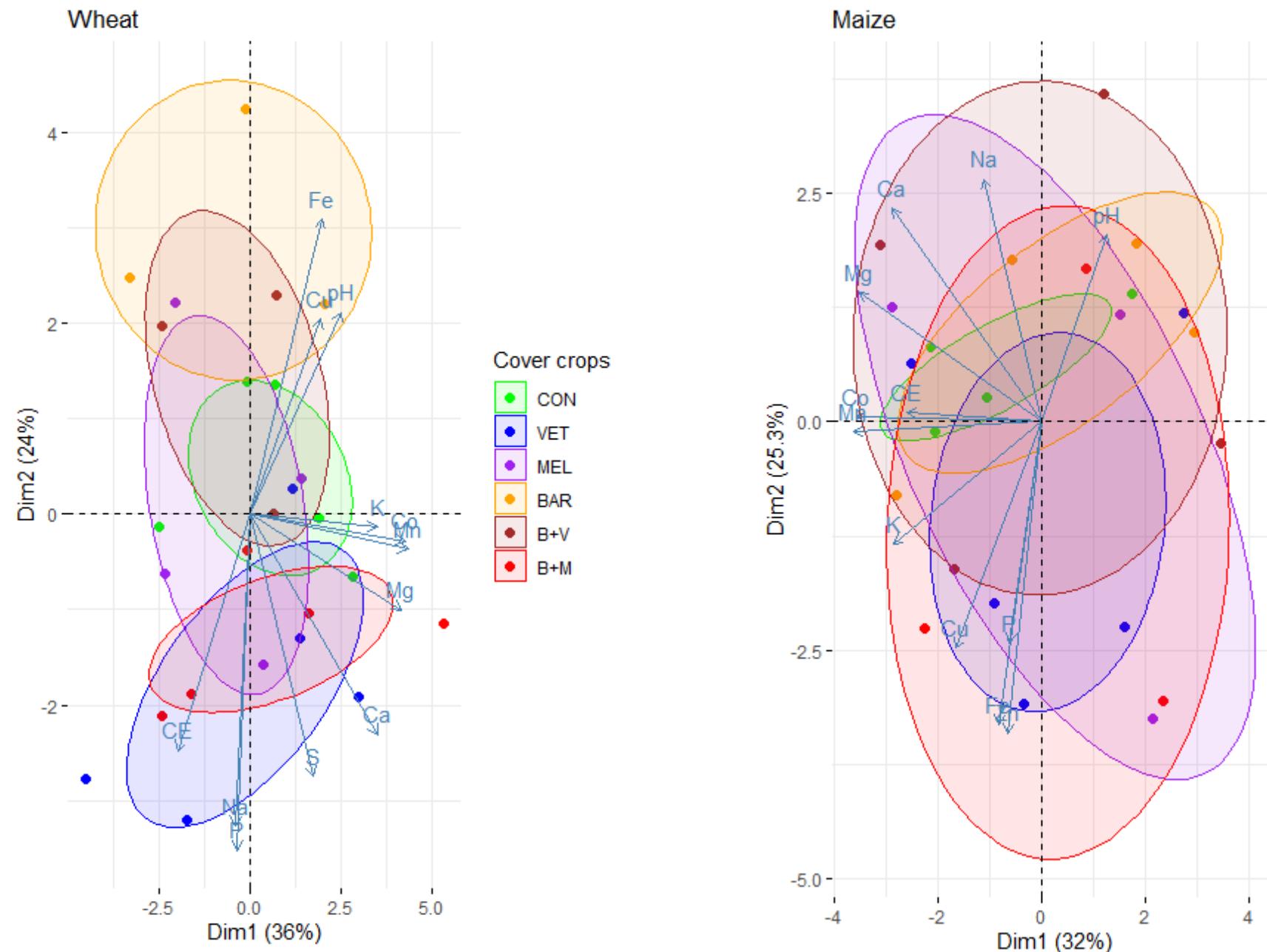








Figure S1. Principal component analysis for soil variables: pH, EC, macro and micronutrients in a) wheat and b) maize.



**(A)**

**(B)**