

## SUPPLEMENTARY

The current document is a supplementary file for the article:

# The Composition of Dissolved Organic Matter in Arable Lands: Does Soil Management Practice Matter?

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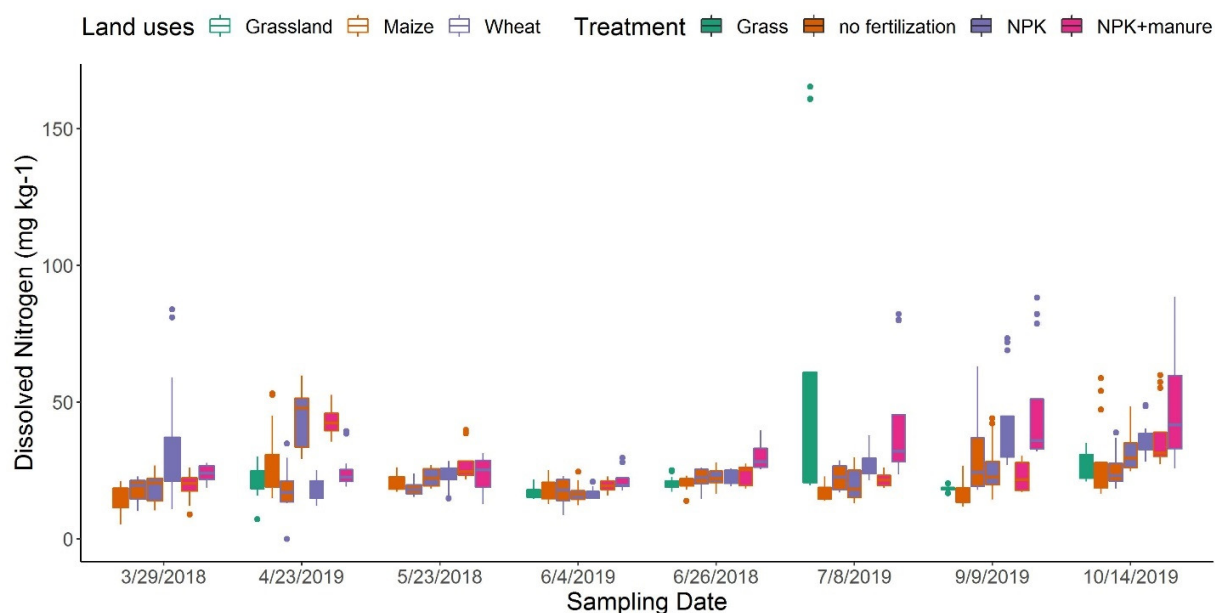
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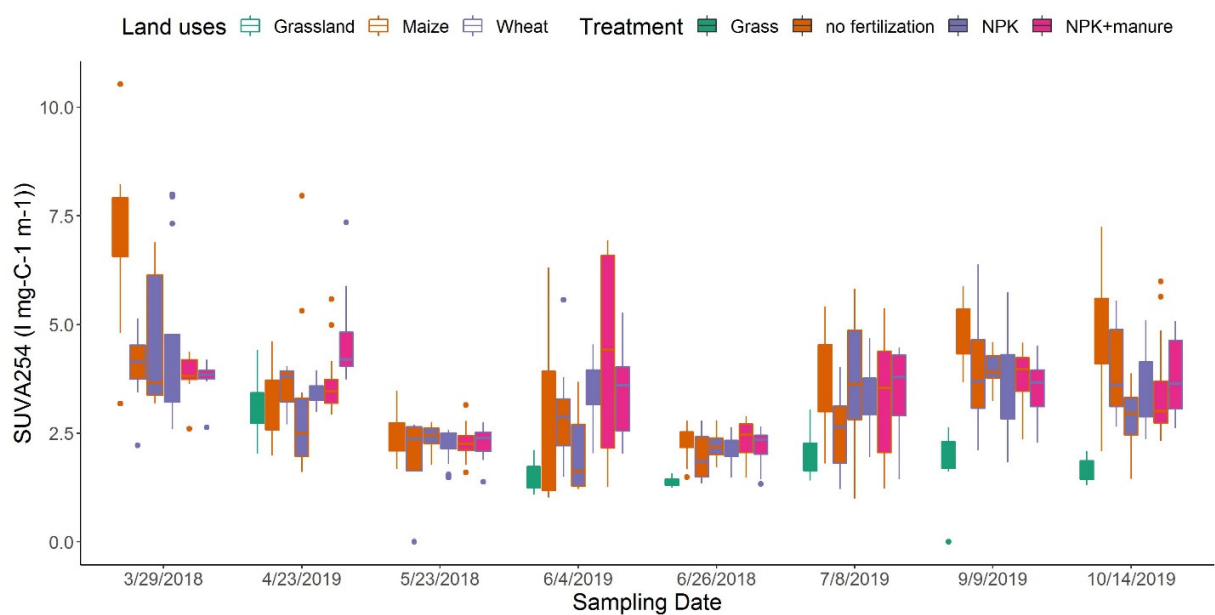
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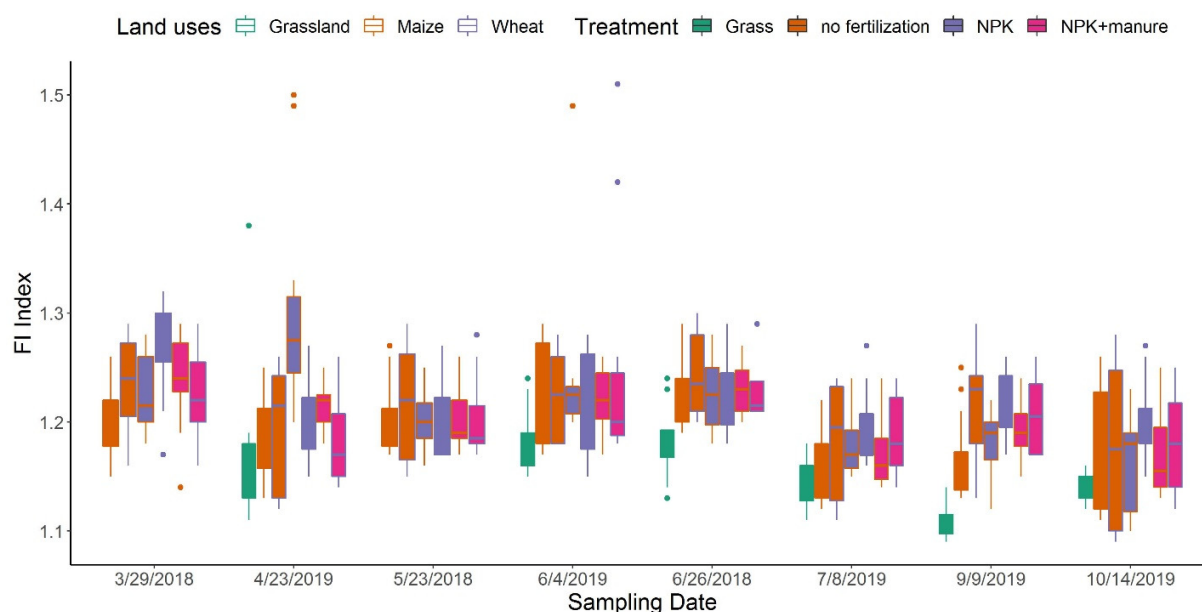


**Figure S1.** The total dissolved nitrogen (DN) concentrations in cropland and grassland plots under different treatments and across crop cover. The total sample size (n=648) and dots indicate outliers.

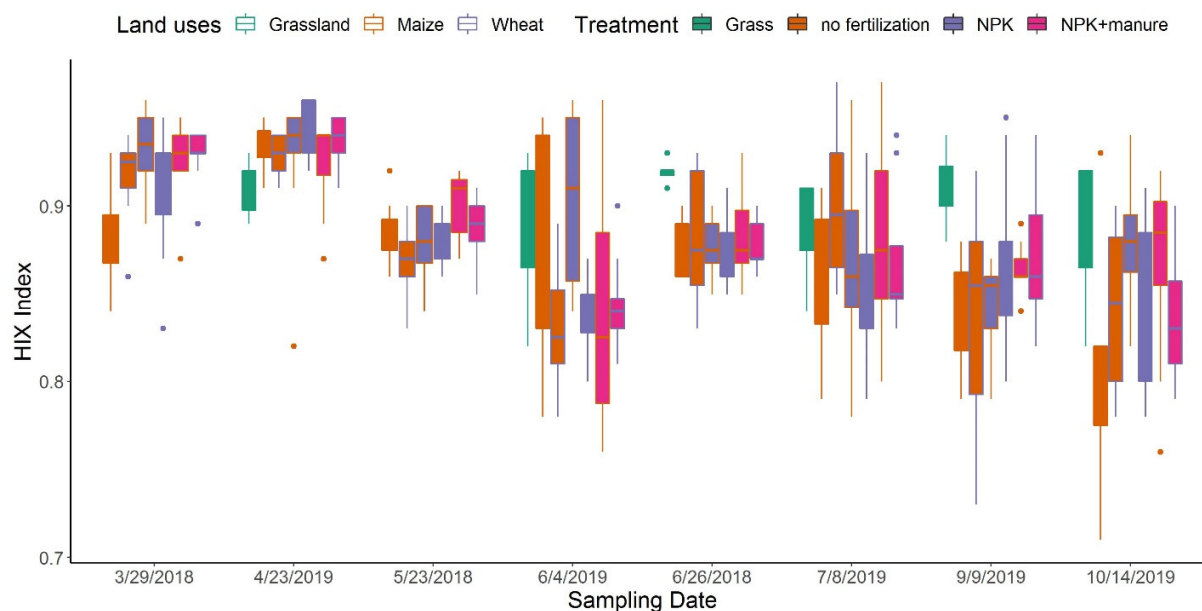


**Figure S2.** The specific absorbance (SUVA<sub>254</sub>) in cropland and grassland plots under different treatments and across crop cover. The total sample size (n=648) and dots indicate outliers.

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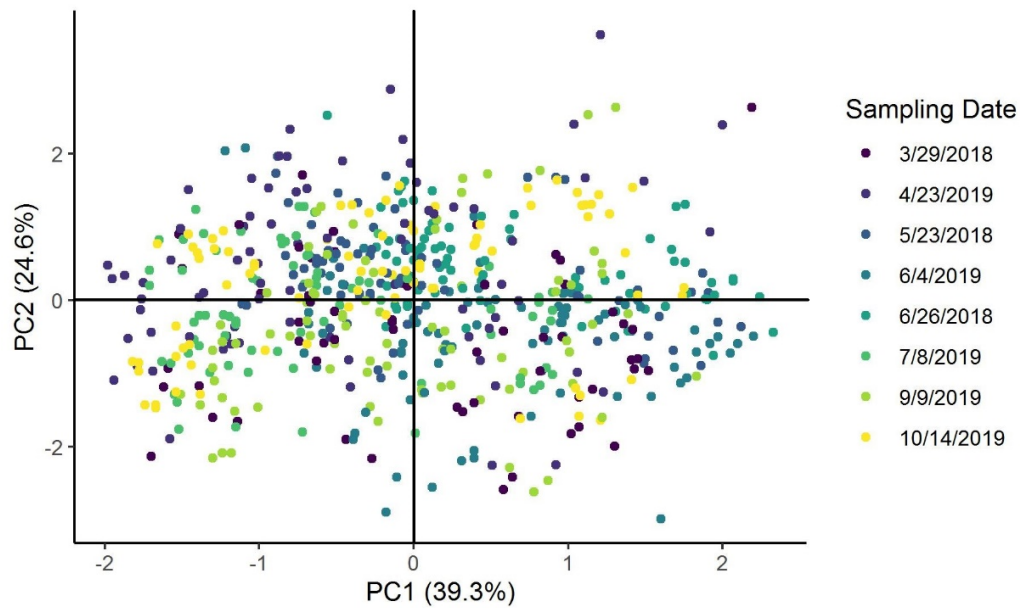


**Figure S3.** The fluorescence index (FI) in cropland and grassland plots under different treatments and across crop cover. The total sample size ( $n=648$ ) and dots indicate outliers. Each treatment and crop cover had a sample size ( $n=12$ ), except that it had ( $n=11$ ) under wheat cover for NPK and NPK+manure treatments in March 2018 and NPK+manure under Maize cover in May 2018.

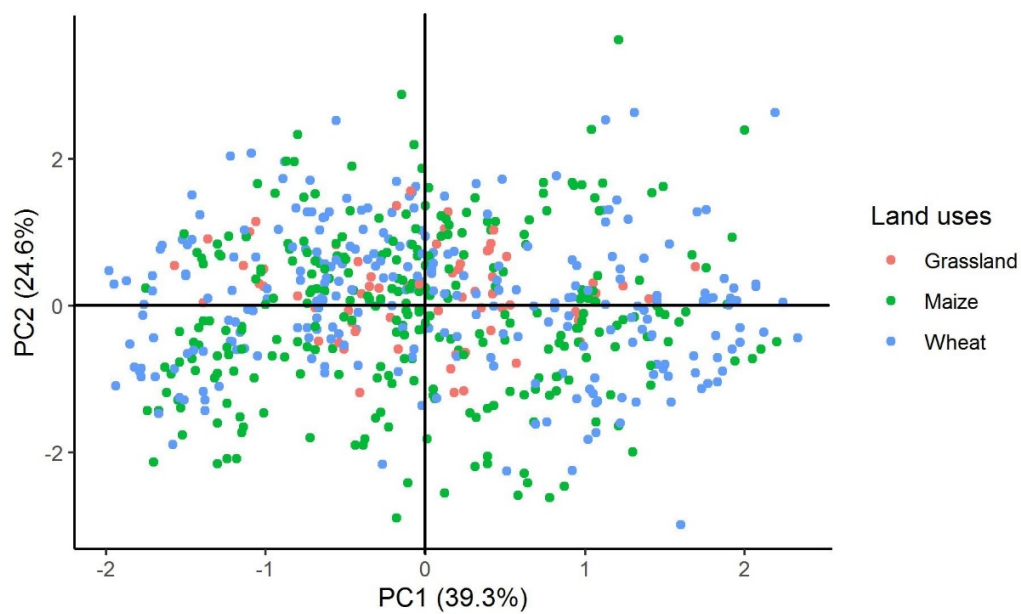


**Figure S4.** The humification index (HIX) in cropland and grassland sites was under different treatments and across crop cover. The total sample size ( $n=648$ ) and dots indicate outliers. Each treatment and crop cover had a sample size ( $n=12$ ), except that it had ( $n=11$ ) under wheat cover for NPK and NPK+manure treatments in March 2018 and NPK+manure under Maize cover in May 2018.

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**Figure S5.** Principle component analysis (PCA) scores for component 1 and 2. Colors highlighted the sampling date effects.



**Figure S6.** Principle component analysis (PCA) scores for component 1 and 2. Colors highlighted the land-uses (Crop cover) effects.

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### Detailed Statistical Data

1- The table shows the corresponding defined date group for each sampling date.

Sampling Date	Defined Date Group in SPSS
June, 2018 (6/26/2018)	1
April, 2019 (4/23/2019)	2
July, 2019 (7/8/2019)	3
June, 2019 (6/4/2019)	4
October, 2019 (10/14/2019)	5
September, 2019 (9/9/2019)	6

2- The tables show the Mann-Whitney test and test statistics for the C/N ratio.

#### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
C_N	1	12	7.42	89.00
	2	12	17.58	211.00
	Total	24		

#### Test Statistics<sup>a</sup>

	C_N
Mann-Whitney U	11.000
Wilcoxon W	89.000
Z	-3.522
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

#### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
C_N	2	12	17.88	214.50
	3	12	7.13	85.50
	Total	24		

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### Test Statistics<sup>a</sup>

	C_N
Mann-Whitney U	7.500
Wilcoxon W	85.500
Z	-3.725
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

### Mann-Whitney Test

#### Ranks

	DateGroup	N	Mean Rank	Sum of Ranks
C_N	2	12	17.42	209.00
	4	12	7.58	91.00
	Total	24		

### Test Statistics<sup>a</sup>

	C_N
Mann-Whitney U	13.000
Wilcoxon W	91.000
Z	-3.406
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

### Mann-Whitney Test

#### Ranks

	DateGroup	N	Mean Rank	Sum of Ranks
C_N	2	12	18.25	219.00
	5	12	6.75	81.00
	Total	24		

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### Test Statistics<sup>a</sup>

	C_N
Mann-Whitney U	3.000
Wilcoxon W	81.000
Z	-3.984
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

### Mann-Whitney Test

#### Ranks

	DateGroup	N	Mean Rank	Sum of Ranks
C_N	2	12	18.50	222.00
	6	12	6.50	78.00
	Total	24		

### Test Statistics<sup>a</sup>

	C_N
Mann-Whitney U	.000
Wilcoxon W	78.000
Z	-4.157
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

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3- The tables show the Mann-Whitney test and test statistics for the BIX index.

### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
BIX	1	12	18.50	222.00
	2	12	6.50	78.00
	Total	24		

### Test Statistics<sup>a</sup>

BIX	
Mann-Whitney U	.000
Wilcoxon W	78.000
Z	-4.174
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
BIX	2	12	9.17	110.00
	3	12	15.83	190.00
	Total	24		

### Test Statistics<sup>a</sup>

BIX	
Mann-Whitney U	32.000
Wilcoxon W	110.000
Z	-2.345
Asymp. Sig. (2-tailed)	.019
Exact Sig. [2*(1-tailed Sig.)]	.020 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

## SUPPLEMENTARY

### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
BIX	2	12	7.50	90.00
	4	12	17.50	210.00
	Total	24		

### Test Statistics<sup>a</sup>

	BIX
Mann-Whitney U	12.000
Wilcoxon W	90.000
Z	-3.474
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
BIX	2	12	6.75	81.00
	5	12	18.25	219.00
	Total	24		

### Test Statistics<sup>a</sup>

	BIX
Mann-Whitney U	3.000
Wilcoxon W	81.000
Z	-4.014
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.

## SUPPLEMENTARY

### Mann-Whitney Test

Ranks				
	DateGroup	N	Mean Rank	Sum of Ranks
BIX	2	12	7.08	85.00
	6	12	17.92	215.00
	Total	24		

### Test Statistics<sup>a</sup>

	BIX
Mann-Whitney U	7.000
Wilcoxon W	85.000
Z	-3.798
Asymp. Sig. (2-tailed)	<.001
Exact Sig. [2*(1-tailed Sig.)]	<.001 <sup>b</sup>

a. Grouping Variable: DateGroup

b. Not corrected for ties.