

2023

Testing the potential use of UK wetland plant species in paludiculture using examples from the Somerset Levels

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The Plymouth Student Scientist

University of Plymouth

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Appendices

Appendix 1



Image: Olivia Bentley

Figure 7: Final vegetation sample pellets produced using the XRF press machine.

Appendix 2

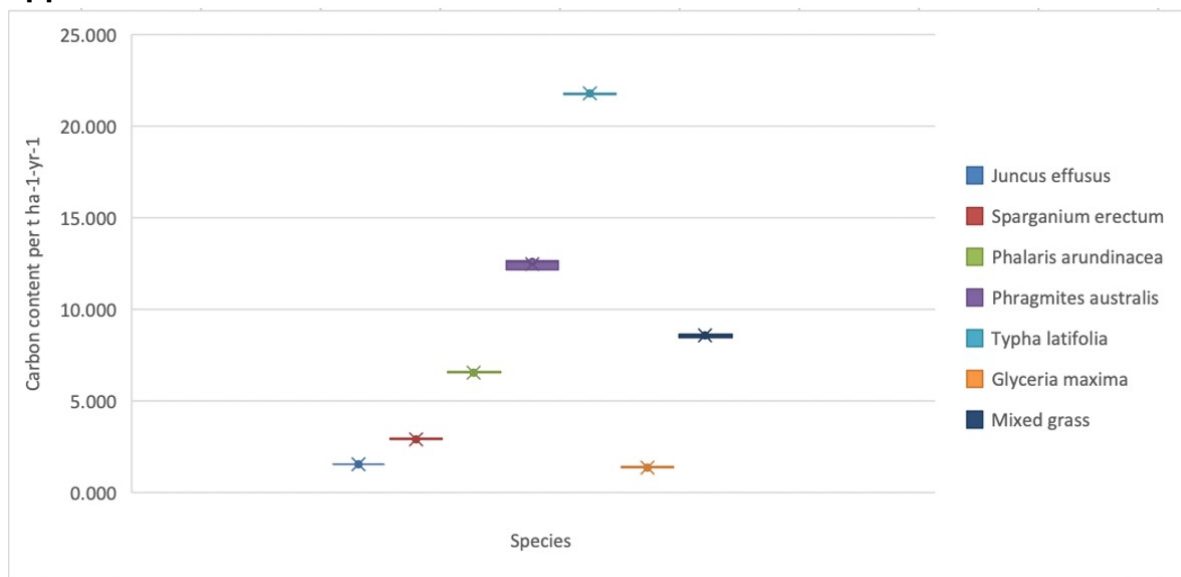


Figure 8: Box plot showing the mean carbon storage capacity per t ha⁻¹-yr⁻¹ of each wetland plant species harvested on the Somerset levels.

Appendix 3

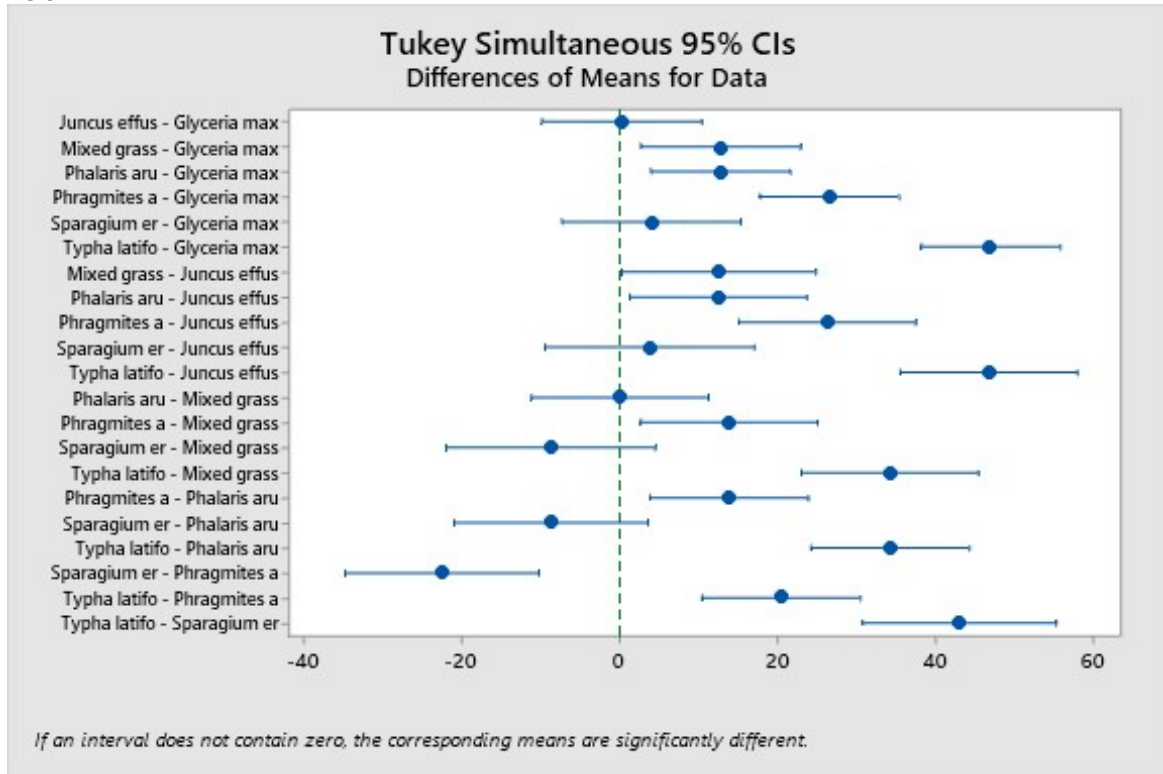


Figure 9: Grouping information of the seven plant species dry biomass production per t ha⁻¹-yr⁻¹ obtained through a post hoc test using the Fisher LSD method. Pairings which do not a zero within the intervals are statistically significantly different.

Appendix 4

Table 8: Output of Kruskal Wallis non-parametric test conducted on the phosphorus content (%) of the seven wetland plant species harvested on the Somerset levels.

Test

Null hypothesis H₀: All medians are equal
 Alternative hypothesis H₁: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	6	19.64	0.003
Adjusted for ties	6	19.66	0.003

The chi-square approximation may not be accurate when some sample sizes are less than 5.

Appendix 5

Table 9: Output of Kruskal Wallis non-parametric test conducted on the phosphorus removal capacity ($t\ ha^{-1}\text{-yr}^{-1}$) of the seven wetland plant species harvested on the Somerset levels.

Test

Null hypothesis H_0 : All medians are equal
 Alternative hypothesis H_1 : At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	6	12.80	0.046
Adjusted for ties	6	12.83	0.046

The chi-square approximation may not be accurate when some sample sizes are less than 5.

Appendix 6

Table 10: Analysis of variance from a one-way ANOVA conducted on carbon content (%) between six plant species excluding *Typha latifolia*.

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Sample_1	5	795.881	159.176	426.52	0.00000000000004468
Error	12	4.478	0.373		
Total	17	800.360			

Appendix 7

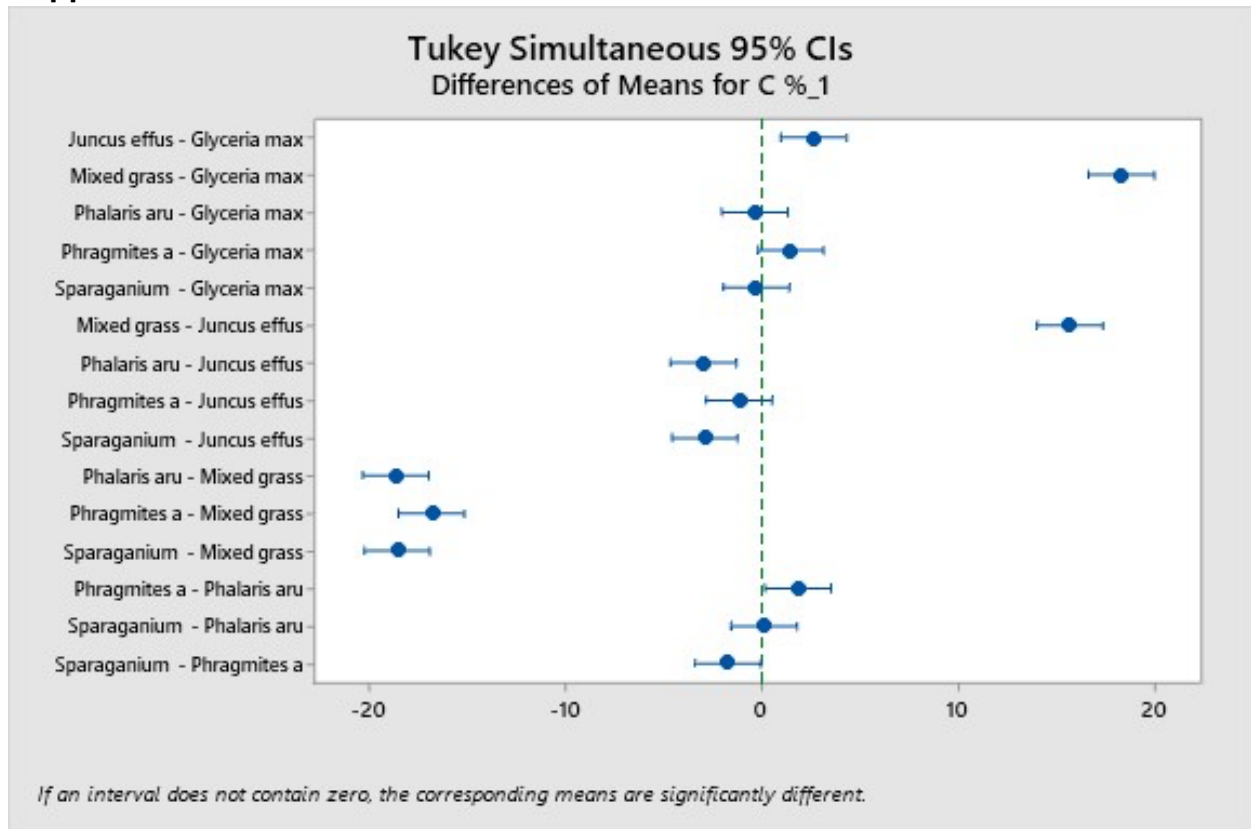


Figure 10: Grouping information of the six plant species carbon content (%), excluding *T.latifolia*, obtained through a post hoc test Tukey test. Pairings which do not a zero within the intervals are statistically significantly different.

Appendix 8

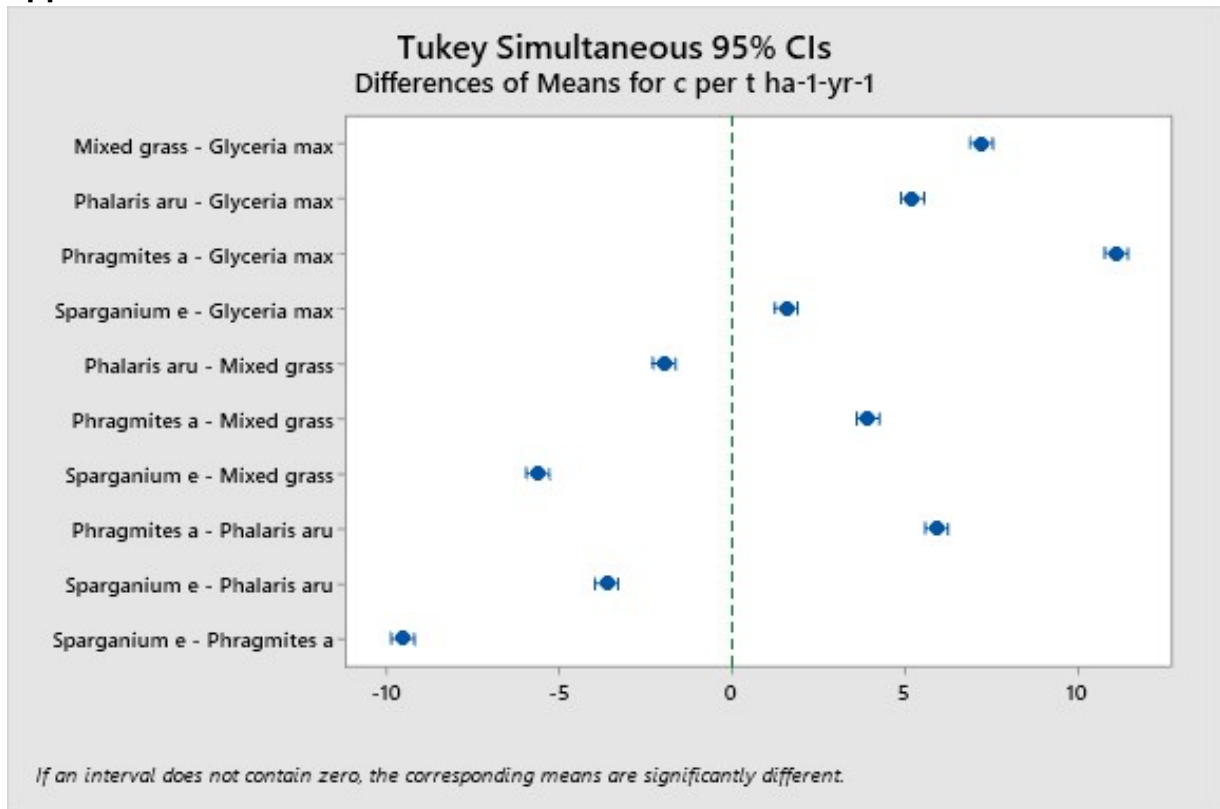


Figure 11: Grouping information of five plant species carbon storage capacity (t ha⁻¹-yr⁻¹), excluding *T.latifolia* & *J. effusus*, obtained through a post hoc test Tukey test. Pairings which do not a zero within the intervals are statistically significantly different.