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| **Table Sx**. Model selection for carbon isotope values of carbon dioxide (δ13CO2) and methane (δ13CH4) with candidate GAM models\* assessed at three time points post addition of burned or unburned plant material to experimental mesocosms. | | | | | | |
| *Metric* | | *Time* | *Model* | *df* | *AIC* | *ΔAIC* |
| δ13CO2 | | Day-0 | ~Treatment + s(plant material, by= Treatment) | 5 | 128.0 |  |
|  | |  | ~Treatment + s(plant material) | 4 | **126.4** | -3.8 |
|  | |  | ~s(plant material) | 3 | 130.2 |  |
|  | | Day-10 | ~Treatment + s(plant material, by= Treatment) | 8.7 | 135.9 |  |
|  | |  | ~Treatment + s(plant material) | 6.5 | 130.6 |  |
|  | |  | ~s(plant material) | 5.5 | **129.1** | 0 |
|  | | Day-31 | ~Treatment + s(plant material, by= Treatment) | 7 | 153.6 |  |
|  | |  | ~Treatment + s(plant material) | 5.6 | 149.8 |  |
|  | |  | ~s(plant material) | 4.6 | **148.9** | 0 |
|  | | Day-59 | ~Treatment + s(plant material, by= Treatment) | 9 | **169.3** | -1.8 |
|  | |  | ~Treatment + s(plant material) | 4 | 170.7 |  |
|  | |  | ~s(plant material) | 3 | 171.0 |  |
|  | |  |  |  |  |  |
| δ13CH4 | | Day-0 | ~Treatment + s(plant material, by= Treatment) | 6.4 | 30.2 |  |
|  | |  | ~Treatment + s(plant material) | 5.3 | 29.0 |  |
|  | |  | ~s(plant material) | 4.4 | **27.1** | 0.0 |
|  | | Day-10 | ~Treatment + s(plant material, by= Treatment) | 7.6 | 13.7 |  |
|  | |  | ~Treatment + s(plant material) | 6.2 | 12.8 |  |
|  | |  | ~s(plant material) | 5.2 | **11.7** | 0.0 |
|  | | Day-31 | ~Treatment + s(plant material, by= Treatment) | 7.4 | 20.1 |  |
|  | |  | ~Treatment + s(plant material) | 6.8 | 13.7 |  |
|  | |  | ~s(plant material) | 5.8 | **12.8** | 0.0 |
|  | | Day-59 | ~Treatment + s(plant material, by= Treatment) | 8.4 | **69.0** | -4.8 |
|  | |  | ~Treatment + s(plant material) | 6.9 | 75.6 |  |
|  | |  | ~s(plant material) | 6.0 | 73.8 |  |
| *\*Treatment +* *s(plant material, by= Treatment)* GAM has parametric terms (*Treatment*) and separate smoothers for each treatment. *Treatment + s(plant material)* GAM has a global smoother allowing for off-set intercepts according to treatments. The *s(plant material)* GAM fits a global smoother to all data. *Bold* represents the selected models. Delta AIC (*ΔAIC*) is the difference between the selected model and the global smoother model | | | | | | |
|  | | | | | |