Chamber Data		
Column Heading	Units	Description
Site		Network site (Aberystwyth is described as either the genotype or the conversion experiment)
Date		Sampling date
Сгор		Crop planted where applicable (particularly important for arable and genotype landuse)
Landuse		Broad landuse category
Chamber		Number assigned to replicate chambers within each sub-site (most sites have 8 replicates, with East Grange (Arable and Willow) having 10 and the genotype experiment having 3)
	· · · · · · · · · · · · · · · · · · ·	Sample point within the measurement period
IRGA CO <sub>2</sub>	mg CO <sub>2</sub> -C m <sup>-2</sup> h <sup>-1</sup>	checked for linearity over the measurement period (up to 2 minutes for low rates of respiration) with non-linear fluxes removed.
Chamber CO <sub>2</sub>	mg CO <sub>2</sub> -C m <sup>-2</sup> h <sup>-1</sup>	Determined using a static chamber with collar inserted into the soil. Samples taken at regular intervals over a 45-50 minute closure and analysed by gas chromatography. Samples were check for linearity of flux. Where non-linearity of flux observed for CO <sub>2</sub> that measurement was removed. If one timepoint over the closure was non-linar but the remaining 3 linear that one timepoint was
		removed.
Chamber N <sub>2</sub> O	μg Ν₂Ο-Ν m <sup>-2</sup> h <sup>-1</sup>	Determined using a static chamber with collar inserted into the soil. Samples taken at regular intervals over a 45-50 minute closure and analysed by gas chromatography. Samples were check for linearity of flux initally with regard to CO <sub>2</sub> . If CO <sub>2</sub> non-linear it is likely chamber was leaking and the result was removed for CH <sub>4</sub> . If linear for CO <sub>2</sub> , data checked for CH <sub>4</sub> linearity. If one timepoint over the
		closure was non-linear but the remaining 3 linear that one timepoint was removed.
Chamber CH₄	µg CH₄-C m⁻² h⁻²	Determined using a static chamber with collar inserted into the soil. Samples taken at regular intervals over a 45-50 minute closure and analysed by gas chromatography. Samples were check for linearity of flux initally with regard to $CO_2$ . If $CO_2$ non-linear it is likely chamber was leaking and the result was removed for $N_2O$ . If linear for $CO_2$ , data checked for $N_2O$ linearity. If one timepoint over the
		closure was non-linear but the remaining 3 linear that one timepoint was removed.
Air temp	°C	Determined from 1 measurement taken around each chamber
Soil temp	°C	Determined from 1 measurement taken around each chamber
Soil Moisture	%	Determined from 3 measurements taken around each chamber
EC Flux Data		
Gap filled NEE	mg CO <sub>2</sub> -C m <sup>-2</sup> hr <sup>-1</sup>	Net Ecosystem Exchange - average monthly flux calculated following processing of the measured EC data, quality control and gap filling
Total ecosystem respiration GPP	mg CO <sub>2</sub> -C m <sup>-2</sup> hr <sup>-2</sup> mg CO <sub>2</sub> -C m <sup>-2</sup> hr <sup>-3</sup>	Total Ecosystem Respiration (TER) - calculated from the gapfilled NEE using the method of Lloyd and Taylor (1994) Gross Primary Production - calculated as the difference between NEE and TER