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### *Genotype, development and tissue-derived variation of cell-wall properties in the lignocellulosic energy crop Miscanthus*

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## SUPPLEMENTARY DATA

Table S1. Assignment of relevant FTIR absorption bands characteristic of miscanthus cell wall biomass.

| Band     | Wavenumber (cm <sup>-1</sup> ) | Group           | Assignment  | Reference  |
|----------|--------------------------------|-----------------|---|--|
| <i>a</i> | 1746                           | Polysaccharides | Ester C=O stretching associated with pectin                       | 1745cm <sup>-1</sup> (McCann <i>et al.</i> , 2001; Séné <i>et al.</i> , 1994; Wilson <i>et al.</i> , 2000)   |
| <i>b</i> | 1321                           | Lignin          | Associated with syringyl units                                    | 1320cm <sup>-1</sup> (Gorzsás <i>et al.</i> , 2011; Labbé <i>et al.</i> , 2005)  |
| <i>c</i> | 1234                           | Lignin          | C=O stretching in syringyl ring                                   | 1234cm <sup>-1</sup> (Zhou <i>et al.</i> , 2011)   |
| <i>d</i> | 1159                           | Polysaccharides | C-O-C stretching in cellulose                                     | 1161cm <sup>-1</sup> (Abidi <i>et al.</i> , 2014)<br>1159cm <sup>-1</sup> (Matos <i>et al.</i> , 2013)<br>1157cm <sup>-1</sup> (McCann <i>et al.</i> , 2007)           |
| <i>e</i> | 1105                           | Polysaccharides | Pectic polysaccharides  | 1104cm <sup>-1</sup> (Coimbra <i>et al.</i> , 1999)<br>1100cm <sup>-1</sup> (Kačuráková <i>et al.</i> , 2000)<br>1105cm <sup>-1</sup> (McCann <i>et al.</i> , 2001)    |
| <i>f</i> | 1061                           | Polysaccharides | C-O stretching and O-C-H in-plane bending vibrations in cellulose | 1060cm <sup>-1</sup> (Adapa <i>et al.</i> , 2009; Schulz and Baranska, 2007; Wilson <i>et al.</i> , 2000)  |
| <i>g</i> | 1038                           | Polysaccharides | C-O, C=C and C-C-O vibrational stretching in cellulose            | 1035cm <sup>-1</sup> (Adapa <i>et al.</i> , 2009; Schulz and Baranska, 2007; Wilson <i>et al.</i> , 2000)  |
| <i>h</i> | 1017                           | Polysaccharides | Pectic polysaccharides  | 1014cm <sup>-1</sup> (Coimbra <i>et al.</i> , 1999)<br>1017cm <sup>-1</sup> (Kačuráková <i>et al.</i> , 2000)<br>1018cm <sup>-1</sup> (McCann <i>et al.</i> , 2001)    |
| <i>i</i> | 993                            | Polysaccharides | C-O stretching in cellulose                                       | 993cm <sup>-1</sup> (Gwon <i>et al.</i> , 2010)<br>990cm <sup>-1</sup> (Marry <i>et al.</i> , 2000)<br>993cm <sup>-1</sup> (Oh <i>et al.</i> , 2005)                   |
| <i>j</i> | 951                            | Polysaccharides | Pectic polysaccharides  | 950cm <sup>-1</sup> (Alonso-Simón <i>et al.</i> , 2004)<br>952cm <sup>-1</sup> (Coimbra <i>et al.</i> , 1999)<br>951cm <sup>-1</sup> (Kačuráková <i>et al.</i> , 2000) |

See main text for references.

Fig. S1. Principle component analysis of FTIR spectra of all samples from 25 miscanthus genotypes at Peak Biomass stage. Left panel: plot of principal component one (PC1) and principal component two (PC2) scores for all samples at Peak Biomass. Right panel: corresponding PC1 loading plot. Spectral bands: *a*, 1745 $\text{cm}^{-1}$ ; *c*, 1230 $\text{cm}^{-1}$ ; *g*, 1037  $\text{cm}^{-1}$ ; *j*, 950 $\text{cm}^{-1}$ .

