

John L Gaunt and Johannes Lehmann

Energy balance and emissions associated with biochar sequestration and pyrolysis
bioenergy production

Summary of tables

Data are provided energy inputs (Mj ha⁻¹) associated with bio-energy crop production,
field harvesting operations, transportation and processing.

Table S1. Energy inputs (Mj ha⁻¹) associated with bio-energy crop production

	Switchgrass	Miscanthus	Forage Corn
Crop establishment			
plough	95	95	1909
disc	-	-	1021
power harrow	43	43	-
drill	16	-	325
Camb. Roll	27	27	-
Planter	-	82	-
Seeds	38	-	977
Rhizomes	-	668	-
sub-total	218	915	4232
Inputs			
Nitrogen	2339	2339	5715
Spreader	191	191	191
Spring herbicide	1109	434	633
Sprayer	328	178	187
P ₂ O ₅	107	124	375
Spreader	48	48	0
K ₂ O	162	659	1094
Spreader	48	48	191
sub-total	4331	4021	8386
Total	4549	4935	12618

Table S2. Energy (Mj ha⁻¹) associated with field harvesting operations

	Switchgrass	Miscanthus	Forage Corn	Wheat straw	Corn stover
Harvesting operations					
Mowing	801	758	-	-	-
Self propelled forage harvester	-	-	612	-	612
Baler - energy crop	1056	1316	3449	1338	440
Bale cart - energy crops	663	826	2039	185	702
Stacking bales	764	952	952	502	508
Total	3283	3853	7052	2024	2262

Table S3. Energy requirements for transporting and processing (Mj ha⁻¹)

	Switchgrass	Miscanthus	Forage Corn	Wheat straw	Corn Stover
Loading	764	952	2495	502	508
Transport	1121	1362	1323	625	638
Milling	2275	2764	2686	1268	1294
Total	4160	5078	6504	2395	2440
