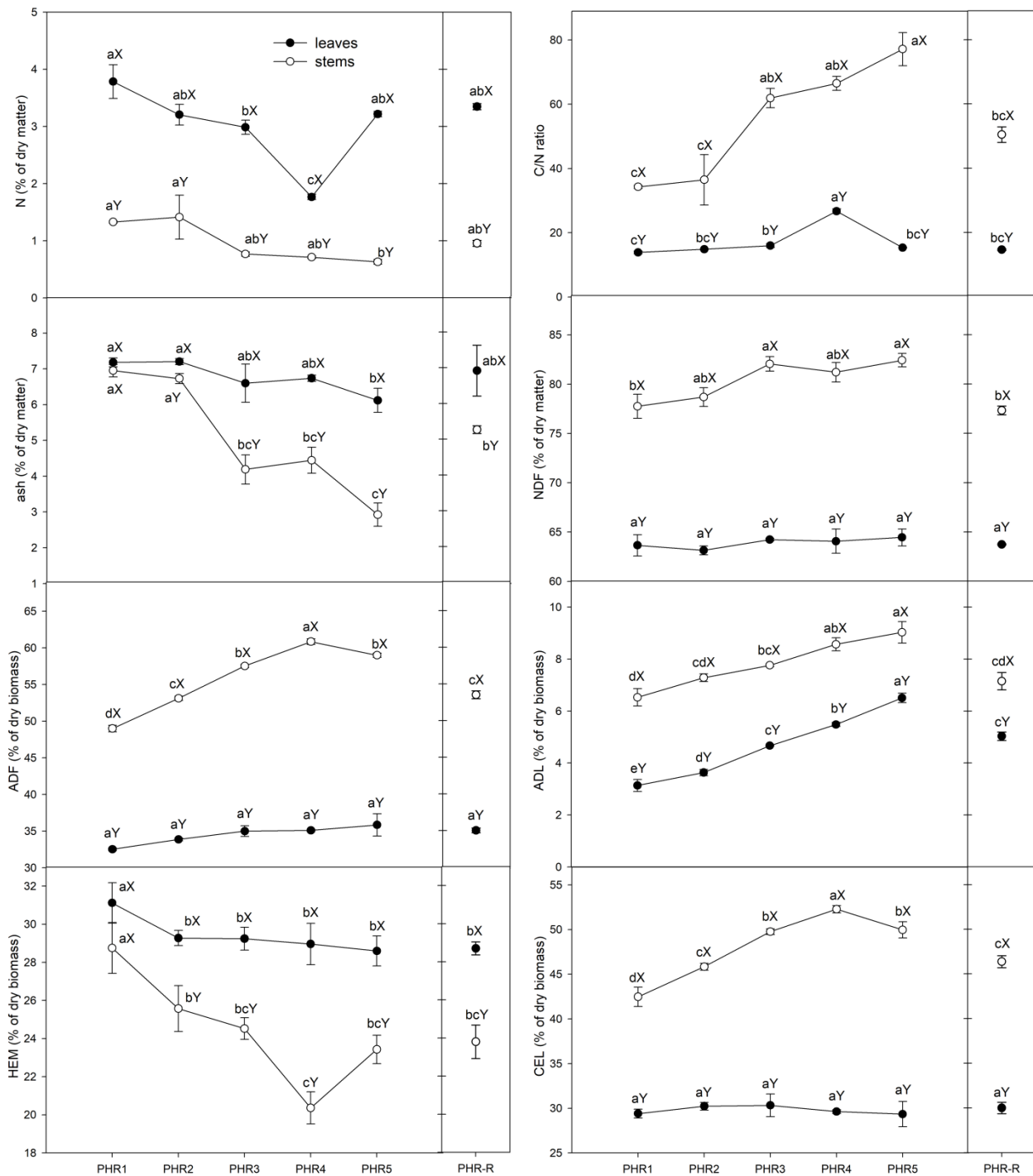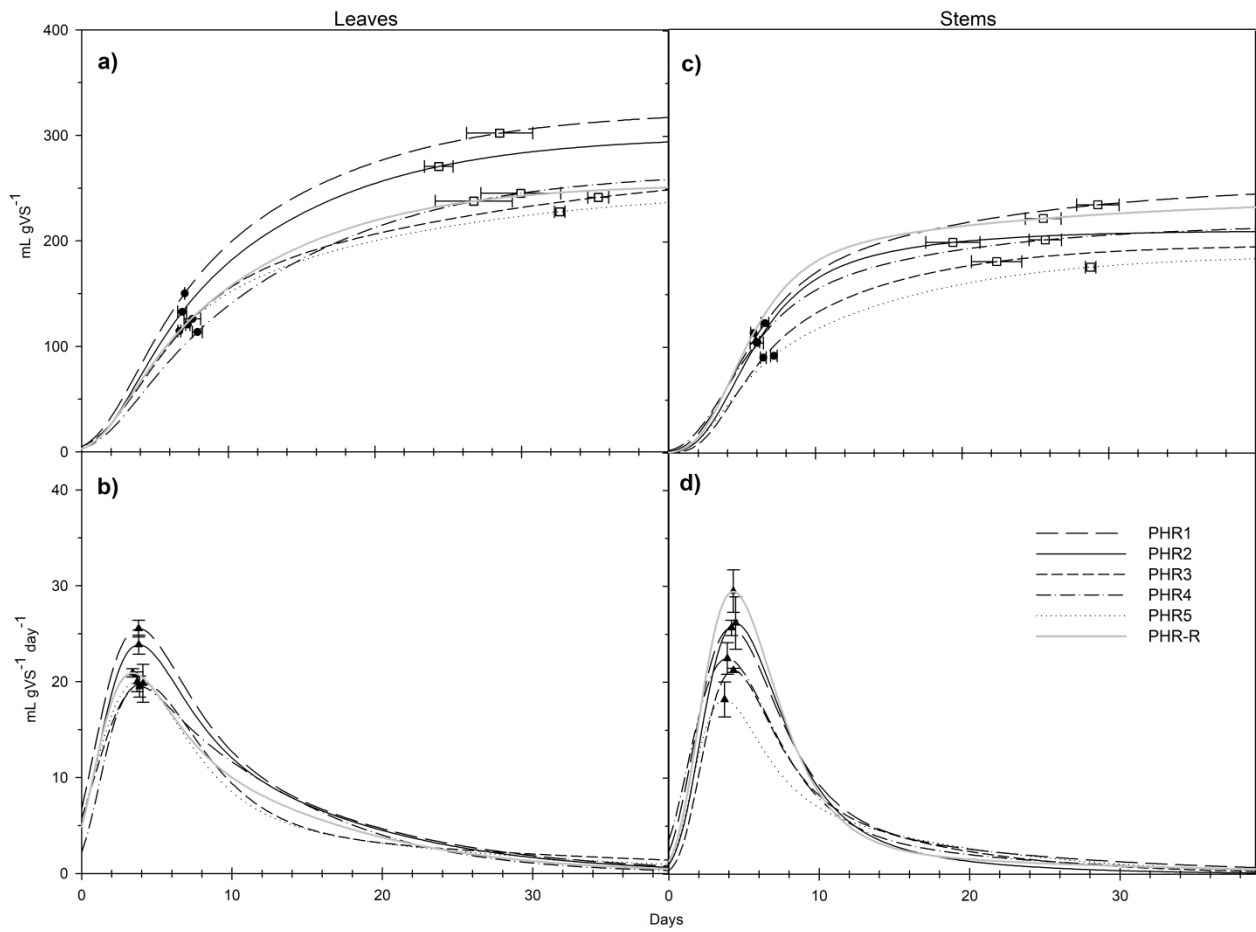**Figure 1.** Dry biomass yields (a) and partitioning (b) of common reed harvested at different times; PHR1–PHR5 refer to first cuts, while PHR-R refer to regrowth from PHR2. For biomass yields, significance level of ANOVA is reported (***, $p < 0.001$); values with the same letter are not significantly different ($p \geq 0.05$). Standard errors are shown as vertical bars.

Figure 2. Seasonal changes in chemical composition of common reed biomass; the vertical line separates second cut (PHR-R) from first cuts (PHR1-5). Upper and lower case letters are for comparison within the same date and the same organ, respectively; values with the same letter are not significantly different (p≥0.05). Standard errors are shown as vertical bars.

Figure 3. Kinetics of fermentation of common reed harvested at different times; PHR1–PHR5 refer to first cuts, while PHR-R refer to regrowth from PHR2. Cumulative methane production of leaves (a) and stems (c), daily methane production rates of leaves (b) and stems (d) estimated as the first derivative of cumulate production curves. T_{50} (●), T_{95} (□), R_{max} (▲) and their standard error bars are also reported.
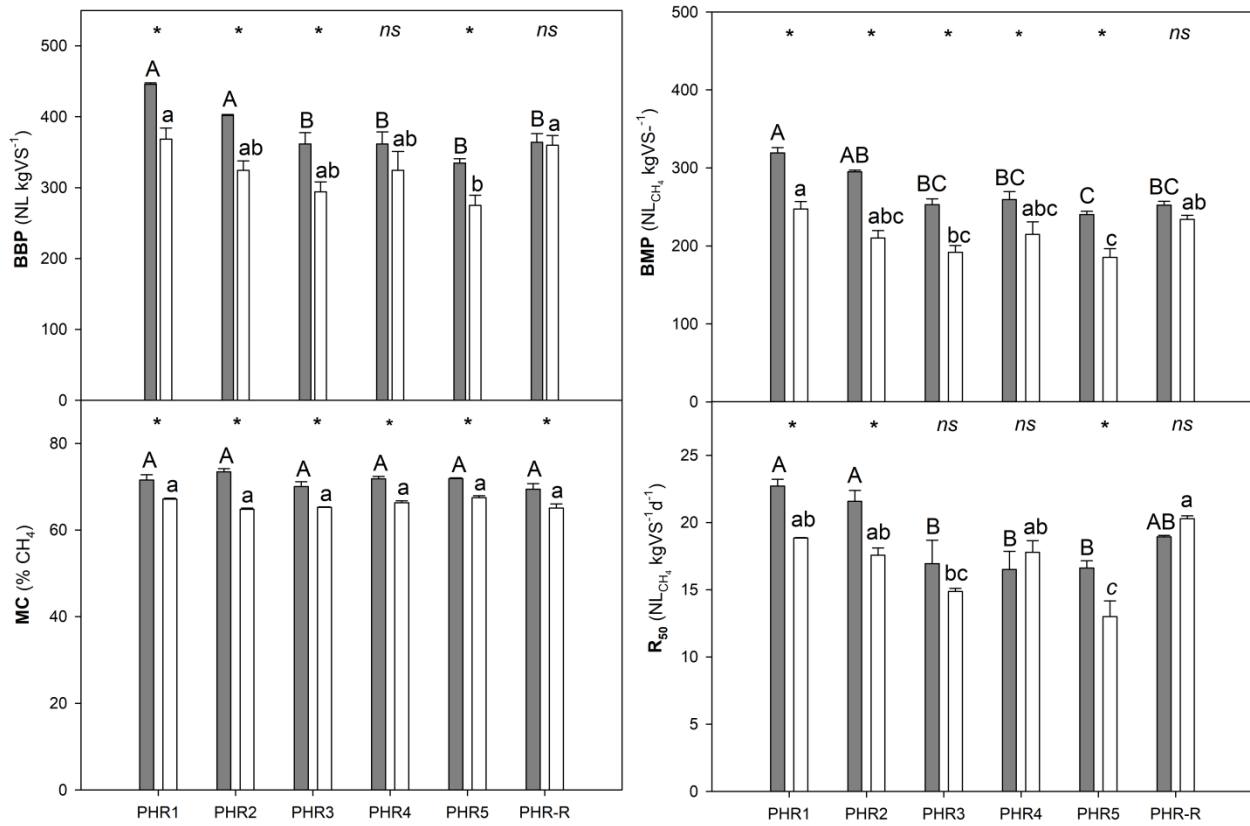
Figure 4. BBP, BMP, average MC, and R50 of the investigated substrates. Upper case letters are for comparisons between leaves (grey bars) harvested at different times, while lower case letters are for comparisons between stems (white bars); values with the same letter are not significantly different. For each harvest time, significance of difference between leaves and stems is indicated by asterisks (p<0.05). Standard errors are shown as vertical bars.

a)

	BBP	BMP	MC	T50	T95	Rmax	R50
BBP	1						
BMP	0,99	1					
MC	0,30	0,46	1				
T50	-0,35	-0,32	0,04	1			
T95	-0,50	-0,54	-0,41	0,65	1		
Rmax	0,89	0,90	0,41	-0,68	-0,73	1	
R50	0,92	0,93	0,35	-0,66	-0,70	0,99	1

b)

	BBP	BMP	MC	T50	T95	Rmax	R50
BBP	1						
BMP	0,99	1					
MC	-0,15	0,00	1				
T50	-0,60	-0,48	0,78	1			
T95	0,15	0,28	0,88	0,54	1		
Rmax	0,88	0,80	-0,56	-0,81	-0,23	1	
R50	0,95	0,91	-0,37	-0,80	0,00	0,94	1

Figure 5 Pearson's r correlation between anaerobic digestion parameters of (a) leaves and (b) stems of common reed. Bold values show significant correlations (p<0.05).

a)

	BBP	BMP	MC	T50	T95	Rmax	R50	N	C/N	NDF	ADF	ADL	EMI	CEL
N	0,48	0,43	-0,10	-0,80	-0,21	0,64	0,65	1						
C/N	-0,31	-0,27	0,12	0,80	0,15	-0,55	-0,54	-0,97	1					
NDF	-0,70	-0,73	-0,42	0,61	0,90	-0,87	-0,84	-0,31	0,28	1				
ADF	-1,00	-0,98	-0,29	0,34	0,47	-0,89	-0,92	-0,49	0,33	0,68	1			
ADL	-0,95	-0,92	-0,20	0,39	0,46	-0,88	-0,90	-0,50	0,41	0,75	0,96	1		
HEM	0,92	0,88	0,16	-0,13	-0,15	0,69	0,75	0,47	0,28	0,36	-0,93	-0,84	1	
CEL	-0,13	-0,17	-0,30	-0,16	0,05	-0,01	-0,05	0,07	-0,27	-0,23	0,12	-0,18	-0,27	1

b)

	BBP	BMP	MC	T50	T95	Rmax	R50	N	C/N	NDF	ADF	ADL	EMI	CEL
N	0,64	0,61	-0,27	-0,34	-0,30	0,64	0,56	1						
C/N	-0,77	-0,73	0,34	0,46	0,27	-0,76	-0,69	-0,97	1					
NDF	-0,92	-0,88	0,30	0,58	0,02	-0,94	-0,89	-0,78	0,85	1				
ADF	-0,74	-0,74	0,09	0,18	-0,05	-0,68	-0,58	-0,87	0,91	0,85	1			
ADL	-0,85	-0,81	0,36	0,51	0,18	-0,83	-0,77	-0,85	0,95	0,87	0,91	1		
HEM	0,43	0,46	0,10	0,19	0,10	0,31	0,20	0,75	-0,75	-0,54	-0,90	-0,73	1	
CEL	-0,69	-0,70	0,06	0,09	-0,10	-0,62	-0,52	-0,85	0,87	0,82	0,99	0,86	-0,92	1

Figure 6 Pearson's r correlation between anaerobic digestion parameters and characteristics of (a) leaves and (b) stems of common reed. Bold values show significant correlations (p<0.05).
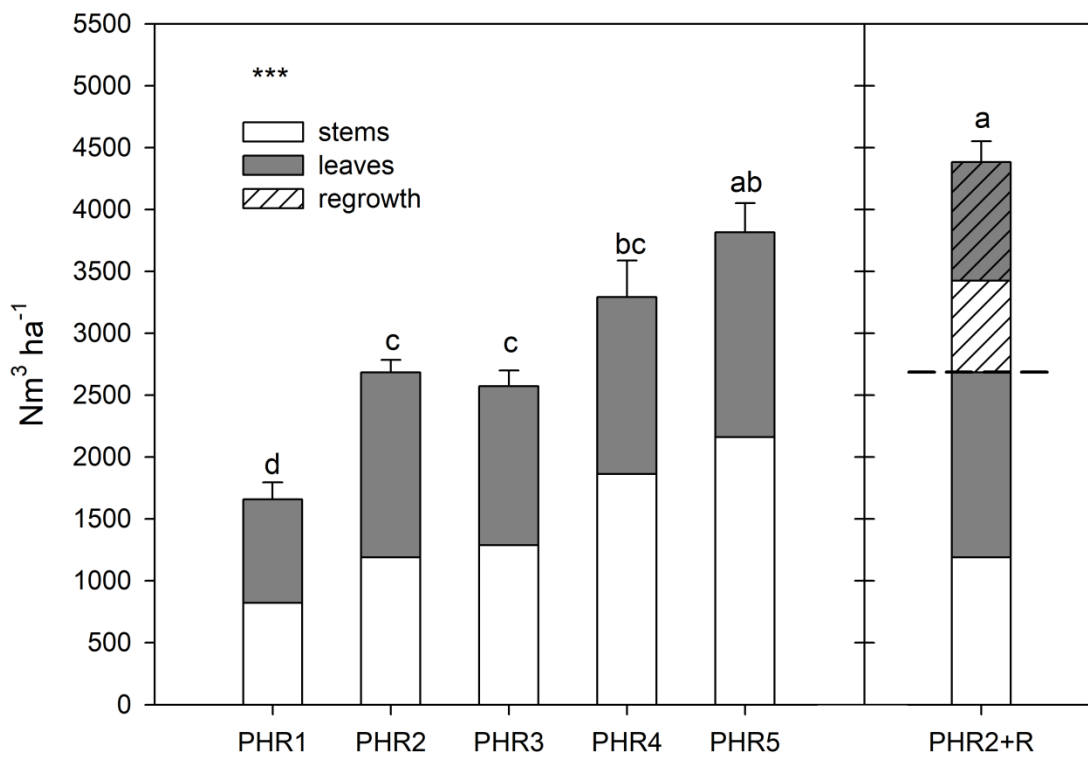
Figure 7 Methane yields per hectare obtained at different harvest times from May to September (PHR1–PHR5) and combining a first harvest in June with a second harvest in September (PHR2+R). Standard errors and significance level of ANOVA are reported (***, $p < 0.001$). Values with the same letter are not significantly different ($p<0.05$).