Supplementary Materials Tables

Table S1. Neutral-detergent fibre content (g/kg DM) in the different fungal treatments after varying storage time (d).

Strain	***Po* PO 93**	***Po* PO 93**	***Po* 411**	***Cs* 347**	***Cs* 347**	***Vv***	**uninoculated**
	drained	remoistened	drained	drained	remoistened	remoistened	remoistened
Trial	1	3	1	1	3	2	2
0 d	845	775	845	845	766	781	787
5 d		791			788		
7 d	850	788	843	863	784	781	
10 d		777			784		
14 d	853	767	829	839	776	769	790
21 d	815		812	812		787	782
28 d	818		802	828		784	785
35 d	818		817	796			
42 d	816		804	788			
mean	826	780	810	821	780	780	786
SEM	5.36	11.5	21.3	5.6	13.7	3.53	6.90

P.o. Pleurotus ostreatus, C.s. Ceriporiopsis subvermispora, V.v. Volvariella volvacea. SEM standard error of the means.

Table S2. Acid-detergent fibre content (g/kg DM) in the different fungal treatments after varying storage time (d).

Strain	***Po* PO 93**	***Po* PO 93**	***Po* 411**	***Cs* 347**	***Cs* 347**	***Vv***	**uninoculated**
	drained	remoistened	drained	drained	remoistened	remoistened	remoistened
Trial	1	3	1	1	3	2	2
0 d	573	469	573	573	460	468	475
5 d		479			495		
7 d	566	499	527	511	490	505	
10 d		490			496		
14 d	539	486	492	516	496	493	554
21 d	497		487	509		500	554
28 d	514		508	514		492	561
35 d	526		489	511			
42 d	489		511	524			
mean	523	485	506	520	487	492	536
SEM	6.38	21.2	23.2	6.70	16.9	14.5	9.47

P.o. Pleurotus ostreatus, *C.s. Ceriporiopsis subvermispora*, *V.v. Volvariella volvacea.* SEM standard error of the means

Table S3. Significance of effects on chemical parameters and microbial counts in drained inoculated straw (Trial 1).

Parameter	**Fungal strain**	**Storage duration**	**Strain*duration**
pH	***	***	***
Ergosterol	***	***	***
Hemicellulose	o	**	***
Cellulose	o	***	**
ADL	*	**	***
NFC	**	***	**
NDFD30	ns	***	*
ELOS	*	**	**
HFT	*	***	***

NSP			
Glucose	ns	***	***
Xylose	ns	ns	ns
Arabinose	ns	***	*
Galactose	***	ns	**
Mannose	***	*	***
Minerals & elements			
Si	***	***	**
K	**	ns	***
Ca	***	***	ns
S	***	*	***
Cl	o	*	***
Mg	**	**	***
P	***	ns	**
Na	*	*	***
Fe	***	**	*
Mn	**	*	*
Zn	**	*	**
Cu	***	*	***
Microbiology			
aerobic mesophilic bacteria	***	***	*
yeasts	*	ns	o
moulds	***	ns	ns
lactic acid bacteria	**	***	***

ADL acid detergent lignin, NFC non-fibre carbohydrates, NSP non-starch polysaccharides. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, o $p < 0.1$, ns not significant.

Table S4. Significance of effects on chemical parameters and microbial counts in remoistened inoculated straw (Trials 2 & 3).

	Fungal strain	**Storage duration**	**Strain*duration**
pH	**	***	ns
Ergosterol	**	***	***
Hemicellulose	ns	**	ns
Cellulose	ns	**	ns
ADL	ns	***	ns
NFC	***	***	*
Minerals & elements			
Si	***	*	ns
K	***	***	*
Ca	***	*	ns
S	***	***	ns
Cl	***	***	**
Mg	o	***	**
P	**	ns	o
Na	***	**	***
Fe	**	ns	**
Mn	***	*	ns
Zn	*	**	**
Cu	*	**	o
Microbiology			
aerobic mesophilic bacteria	ns	***	o
yeasts	ns	ns	ns
moulds	*	***	*

lactic acid bacteria	***	o	ns

ADL acid detergent lignin, NFC non-fibre carbohydrates. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, o $p < 0.1$, ns not significant.

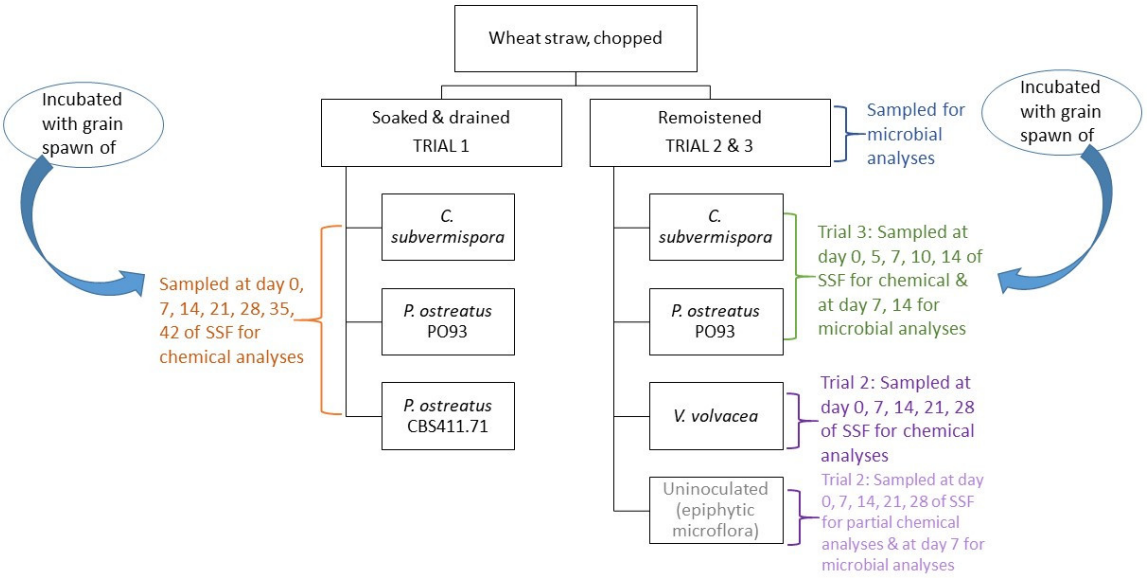

Figure S1. Flowchart of the experiments carried out in the study. SSF Solid-state fermentation.

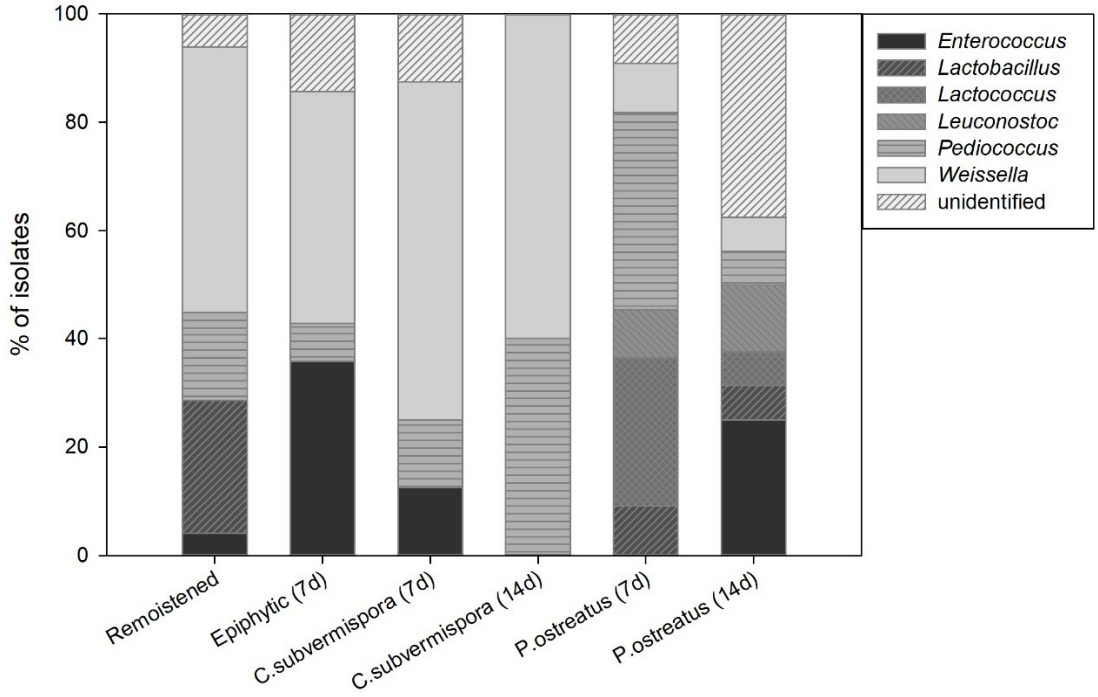

Figure S2. Distribution of LAB genera (in % of isolates) isolated from the remoistened straw inoculated with different fungi after 0, 7 and 14 d of incubation.