

Ensiling characteristics of rice whole stillage inoculated with or without *Amylomyces rouxii* and evaluation of the feeding value for growing Japanese Black steers

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Table S1. Ingredient composition for the control, rice whole stillage (RWS) silage blend (USTMR), and RWS inoculated with *Amylomyces rouxii* silage blend (ASTMR) treatment diets

Control, TMR + timothy hay; USTMR, TMR + blend of 675 g/kg RWS, 200 g/kg wheat straw (WS) and 125 g/kg wheat bran (WB); and ASTMR, TMR + blend of 675 g/kg RWS, 200 g/kg WS, 105 g/kg WB and 20 g/kg *A. rouxii*

Item (% of DM)	Diet		
	Control	USTMR	ASTMR
Timothy hay	16.6	11.7	11.7
US silage	0	14.7	0
AS silage	0	0	14.7
Concentrate (% of concentrate pellet, DM base)	83.4	73.6	73.6
Corn, rolled	65	65	65
Wheat bran	18	18	18
Soybean meal, 48% CP	5	5	5
Lucerne pellets	5	5	5
Defatted rice bran	5	5	5
Calcium carbonate	1.5	1.5	1.5
Feed additives ^A	0.5	0.5	0.5

^AFeed additives: each 1 g contains 1500 IU vitamin A, 150 IU vitamin D3, 2 mg of vitamin E 50%, 300 µg of vitamin B1, 300 µg of vitamin B2, 300 µg of vitamin B6, 300 µg of vitamin K3 50%, 218 µg of manganese oxide, 435 µg of ferrous sulfate, 15.5 µg of copper oxide, 138.5 µg of zinc oxide, 2.2 µg of potassium iodide, 0.9 µg of sodium selenite.

Table S2. Chemical composition of individual components, including rice whole stillage (RWS), wheat straw and wheat bran, used to make the silage blends for each treatment

RWS, rice whole stillage; DM, dry matter; CP, crude protein; ADF, acid detergent fibre; NDF, neutral detergent fibre; EE, ether extract; NFC, non-fibre carbohydrate

Item	Chemical composition (g/kg DM, unless stated otherwise)		
	RWS	Wheat straw	Wheat bran
DM (g/kg)	39.0	878.0	868.0
CP	633.0	42.0	181.0
ADF	388.6	495.0	163.0
NDF	363.0	807.0	537.0
EE	28.9	16.0	49.0
NFC	67.0	79.0	303.0
Ash	82.3	101.0	59.0

Table S3. Chemical composition of individual components of the concentrate, timothy hay, US silage blend and AS silage blend used to make the total mixed rations for each treatment

US, blend of 675 g/kg RWS, 200 g/kg wheat straw (WS) and 125 g/kg wheat bran (WB); and AS, blend of 675 g/kg RWS, 200 g/kg WS, 105 g/kg WB and 20 g/kg *A. rouxii* (on an as-fed basis); CP, crude protein; ADF, acid detergent fibre; NDF, neutral detergent fibre; EE, ether extract; Ca, calcium; P, phosphorus; Mg, magnesium; K, potassium; NEm, net energy for metabolism; NEg, net energy for growth

Items (g/kg DM, unless stated otherwise)	Concentrate	Timothy hay	US	AS
DM g/kg	860.0	847.0	301.0	315.0
CP	148.0	103.5	120.0	80.7
ADF	66.0	345.0	389.0	440.0
NDF	191.0	633.0	690.6	716.0
EE	25.0	33.0	25.7	14.6
Ash	49.0	61.5	85.0	97.7
Ca	9.0	5.1	3.3	3.1
P	5.4	2.9	3.4	3.5
Mg	2.6	1.8	1.8	1.9
K	7.7	17.5	19.9	18.0
NEm, MJ/kg ^A	8.2	5.6	4.1	4.4
NEg, MJ/kg ^A	5.5	3.22	1.8	2.2

^ACalculated using the NRC (2001) computer model.

Table S4. Nutrient composition of control, rice whole stillage (RWS) silage blend (USTMR), and RWS inoculated with *Amylomyces rouxii* silage blend (ASTMR) treatment diets based on analysis of components

DM, dry matter; CP, crude protein; ADF, acid detergent fibre; NDF, neutral detergent fibre; EE, ether extract; Ca, calcium; P, phosphorus; Mg, magnesium; K, potassium; NEm, net energy for metabolism; NEg, net energy for growth; Control, TMR + timothy hay; USTMR, TMR + timothy hay + silage blend of 675 g/kg RWS, 200 g/kg wheat straw (WS) and 125 g/kg wheat bran (WB); and ASTMR, TMR + timothy hay + silage blend of 675 g/kg RWS, 200 g/kg WS, 105 g/kg WB and 20 g/kg *A. rouxii*

Items (g/kg DM, unless stated otherwise)	Treatment diet		
	Control	USTMR	ASTMR
DM g/kg	837.4	776.3	778.3
CP	139.2	140.7	147.6
ADF	121.1	120.0	147.5
NDF	278.3	275.8	319.1
EE	26.5	26.0	29.1
Ash	51.6	52.6	60.5
Ca	16.2	14.0	17.2
P	4.9	4.9	5.3
Mg	2.3	2.4	2.7
K	9.7	9.6	10.6
NEm, MJ/kg ^A	8.1	8.1	9.0
NEg, MJ/kg ^A	5.0	4.9	5.3

^ACalculated using the NRC (2001) computer model.

Table S5. Growth measurements of growing Japanese Black steers fed TMR with timothy hay (control), TMR with rice whole stillage (RWS) silage blend (USTMR), and TMR with RWS inoculated with *Amylomyces rouxii* silage blend (ASTMR) treatment diets

BW, bodyweight; ADG, average daily gain; TADG, total average daily gain; FI, feed intake (as feed base; Control, TMR + timothy hay; USTMR, TMR + timothy hay + silage blend of 675 g/kg RWS, 200 g/kg wheat straw (WS) and 125 g/kg wheat bran (WB); ASTMR, TMR timothy hay + silage blend of 675 g/kg RWS, 200 g/kg WS, 105 g/kg WB and 20 g/kg *A. rouxii*; T, treatment; D, day

Item	D of experiment	Treatment			s.e.m.	P-value	
		Control	USTMR	ASTMR		T	D
No. of steers		6	6	6			
FI (kg/day.head)		6	6.8	6.8			
BW Initial (kg)		170.8	156.0	173.6	12.7	0.55	–
Final ^A (kg)		215.8	195.3	211.4	13.5	0.49	–
ADG ^B (kg/day)	14	1.0	0.8	0.9	0.1	–	0.89
	28	0.9	0.7	1.0	0.1	–	0.13
	43	1.3	1.2	0.9	0.1	–	0.06
TADG ^C		1.1	0.9	0.9	0.1	0.47	–

^AFinal bodyweight was taken at the end of the experimental period, which lasted for 43 days.

^BAnalysed with day as the repeated-measure. No significant effect ($P > 0.05$) for day and treatment.

Determined by calculating the differences between initial and final time points before dividing by the number of days in the study.

^CTADG was taken for 43 D (experimental period).