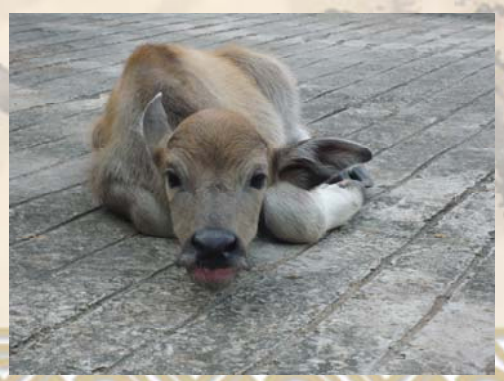
The Development of Finishing Method in Taiwan Buffalo

Hsiao Yun, Kuo

Livestock Research Institute, Council of Agriculture, Taiwan



- Develop the pellet feed of rice by-product
- Determine the effect of different feed intake levels
- Growth performance, carcass characteristics and muscle quality
- Raising cost

- 18 buffaloes were divided into three groups assigned in accordance with the age, sex and weight.
- Each group consisted of 6 buffaloes.
- Group A and B were fed levels with the 1.8% and 2.2% dry mater feed intake level of body weight.
- The grazing treatment regarded as the control group（Group C）.

Item	Rice by product feed	pangolagrass hay
Feed Cost，NT dollars /kg	8.6	4.8
DM，%	90.47	86.51
TE，kcal/kg	4094.50	—
CP，%	13.20	5.92
CF，%	4.96	—
Crude Fiber ，%	22.39	—
ADF，%	17.09	41.79
NDF，%	35.03	75.90
Ca，%	0.78	—
P，%	0.61	—
lysine ，%	0.77	—
Methionine ，%	0.22	—
Total a.a.，%	12.41	—
IVDMD，%	64.16	—

Table 2. The effect of different finishing method in daily gain weight increase for Taiwan buffalos.

Item	Male Buffalo				Female Buffalo			
	G	1.6%	1.8%	2.2%	G	1.4%	1.8%	2.2%
Age, months	16.0	33.2	12.7	21.8	21.7	33.3	15.2	15.3
Weight，kg	184.0	230.6	174.0	200.0	180.0	263.8	181.0	163.0
Finishing period，months	4	4	4	4	4	4	4	4
Daily gain weight，kg	0.34	0.82	0.79	1.02	0.22	0.67	0.78	0.69
Concentration Cost，NT$/kg	—	49.4	50.2	51.0	—	58.9	50.9	75.4

Table 3. The effect of different finishing method in daily gain weight for Taiwan buffalos.

Item	Male Buffalo			Female Buffalo		
	G	1.8%	2.2%	G	1.8%	2.2%
Age, months	16.0	12.7	21.8	21.7	15.2	15.3
Weight，kg	184.0	174.0	200.0	180.0	181.0	163.0
Finishing Weight，kg	241.7	322.0	398.5	217.5	335.0	331.7
Total Gain Weight，kg	57.7	148.0	198.5	37.5	153.7	168.7
Finishing Period，months	8	8	8	8	8	8
Daily Gain Weight， kg	0.26	0.66	0.89	0.17	0.69	0.75
Feed Intake，kg/head	—	1113.9	1468.3	—	1113.9	1468.3
FCR，feed/gain	—	7.53	7.40	—	7.25	8.70
Concentration Cost，NT$/kg	—	64.7	63.6	—	62.3	74.9
Hay Intake，kg/head	—	559.5	528.5	—	559.5	528.5
Hay Cost，NT$/kg	—	19.5	12.8	—	18.8	15.0
Total Cost，NT$/kg	—	84.2	76.4	—	81.1	89.9

Table 4. The effect of different finishing method in carcass trait for Taiwan buffalos.

Item	2.2% Group	1.8% Group	Grazing Group
Body Weight, kg	400.0	367.0	352.0
Carcass Weight, kg	237.3	184.0	161.0
Dressing Percentage,%	59.3	50.1	45.7
Lean meat rate ，%	37.5	33.3	29.0
Back Fat Thickness, cm	0.48	0.40	0.30
Bone,%	36.7	33.5	36.5
Skin,%	24.3	23.8	20.4

Table 5. The effect of different finishing method in longissimus dorsi muscle traits for Taiwan buffalo

Item	thawing lose ，%	Cooking lose ，%	firmness ，kg	toughness ，kg
2.2% Group	4.15[a]	30.80[a]	10.36 [a]	13.42[a]
1.8% Group	4.12[a]	30.55[a]	15.69[b]	17.62[b]
Grazing	7.47[b]	33.28[b]	18.75 [c]	21.53[c]
S.E.	0.68	0.67	1.13	1.15

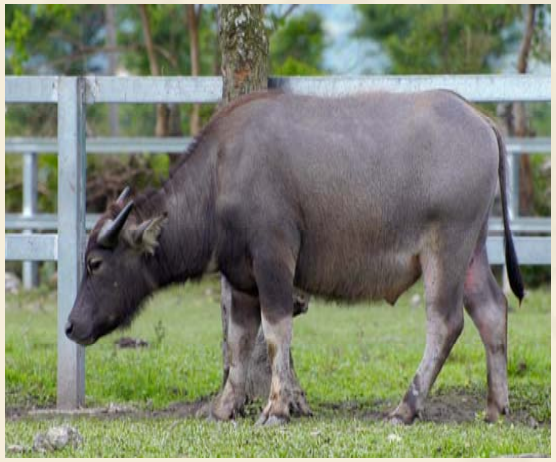
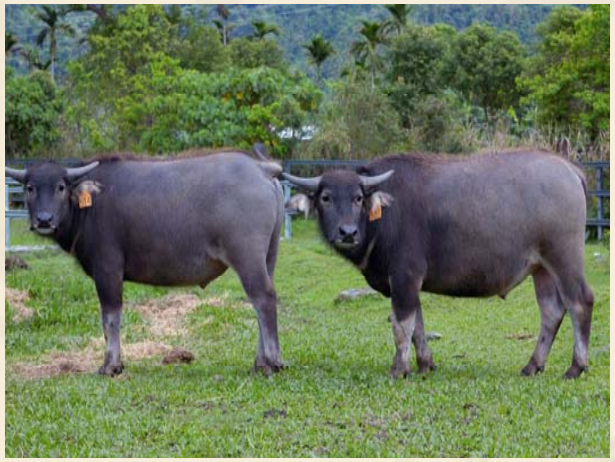
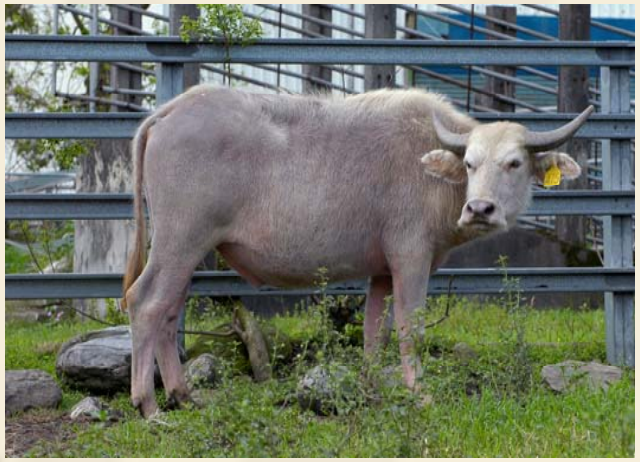
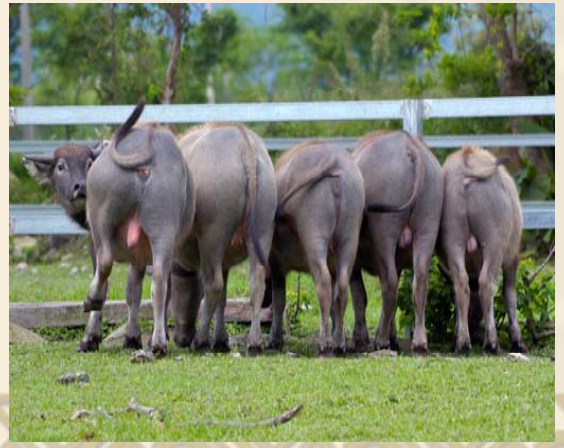
Table 6. The effect of different finishing method in sensory evaluation scores for Taiwan buffalo

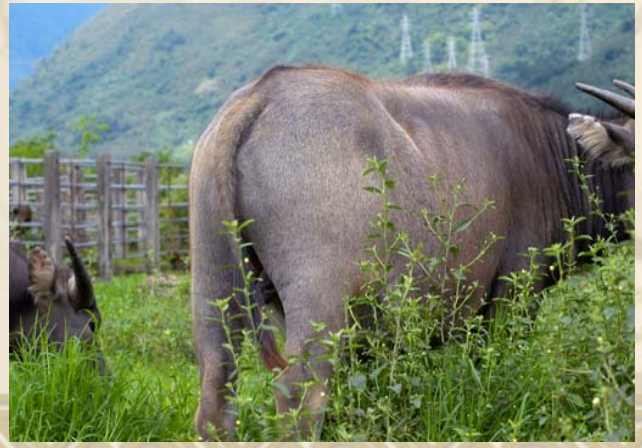
Item	Tenderness	Juicy	Flavor	Overall acceptability
2.2% Group	5.2[a]	4.8 [a]	4.7[a]	5.0[a]
1.8% Group	4.5[b]	4.6[ab]	4.5[ab]	4.4[b]
Grazing Group	3.7[c]	4.1[b]	4.1[b]	3.8[c]
S.E.	0.20	0.19	0.17	0.18

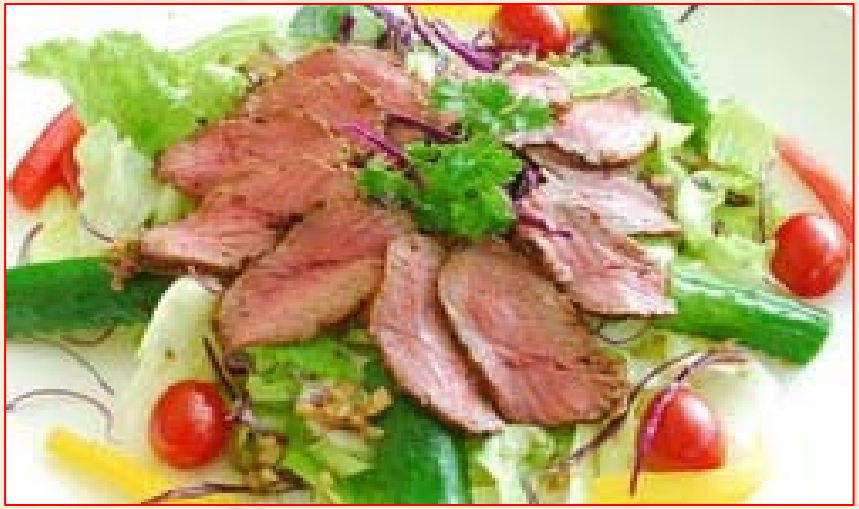
Table 7. The effect of different finishing method in chemical component of longissimus dorsi muscle for Taiwan buffalo

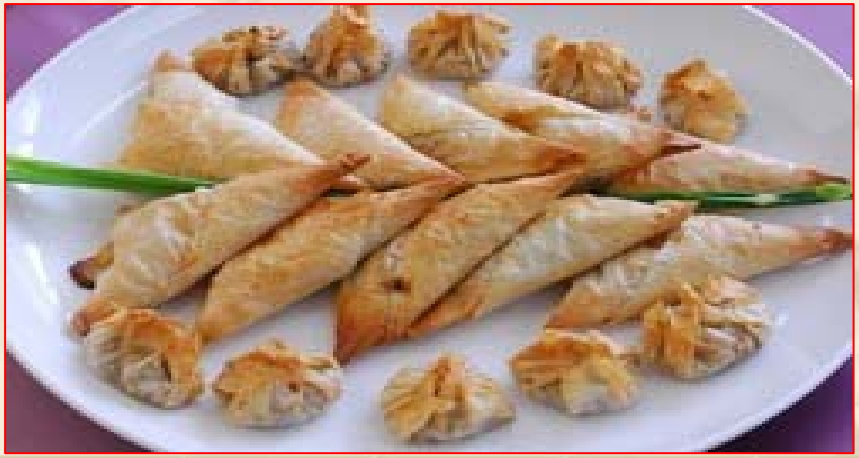
Item	2.2% group	1.8% group	Grazing group	S.E.
Moisture，%	73.24[b]	74.98[a]	74.72[a]	0.269
Protein，%	23.99[a]	23.36[b]	23.47[ab]	0.189
Ash，%	1.02[a]	1.05[a]	0.95[b]	0.018
Energy，kcal/100 g	135.71[b]	146.31[a]	138.28[b]	1.675
Mg ， ppm	257.88[a]	269.98[a]	234.88[b]	5.229
K ， %	0.31[a]	0.30[ab]	0.28[b]	0.008
Total amino acid，%	21.47[ab]	20.87[b]	21.98[a]	0.282
ASP，%	2.03[ab]	1.97[b]	2.09[a]	0.026
GLU，%	3.91[ab]	3.83[b]	4.19[a]	0.068
PRO，%	0.73[a]	0.66[ab]	0.59[b]	0.024
GLY，%	0.98[a]	0.90[ab]	0.89[b]	0.023
ALA，%	1.27[ab]	1.24[b]	1.30[a]	0.016
CYS，%	0.08[a]	0.04[b]	0.03[b]	0.009
MET，%	0.56[b]	0.58[ab]	0.62[a]	0.013
ILE，%	1.00[b]	0.99[b]	1.08[a]	0.021
LEU，%	1.85[ab]	1.81[b]	1.93[a]	0.026
PHE，%	1.04[ab]	1.01[b]	1.06[a]	0.014
LYS，%	2.04[ab]	1.99[b]	2.12[a]	0.029
ARG，%	1.45[ab]	1.41[b]	1.49[a]	0.020

Conclusion







Thanks for listening