

GFP advisers - in-service training

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Update on studies using Mats on Slats

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Winter 2006 & 2007 – Finishing Beef Steers

Animals:

Continental crossbred beef steers

(n = 72 animals per treatment; mean initial live weight = 538 (s.d. 42.2) kg).

Space allowance:

2.73 m²/head – slats, slats covered with mats;
12.00 m²/head - OWP's

Study duration: 146 days

Five treatments:

- 1). **Concrete slats alone**
- 2). **Mat 1 - Durapak**
- 3). **Mat 2 - Easyfix**
- 4). **Mat 3 - Mayo**
- 5). **Out-wintering pads (OWP's)**



Animals had *ad libitum* access to a total mixed ration (TMR) of grass silage and rolled barley on 50:50 dry matter (DM) basis.

Weigh in feed – daily

Feed samples collected for analysis

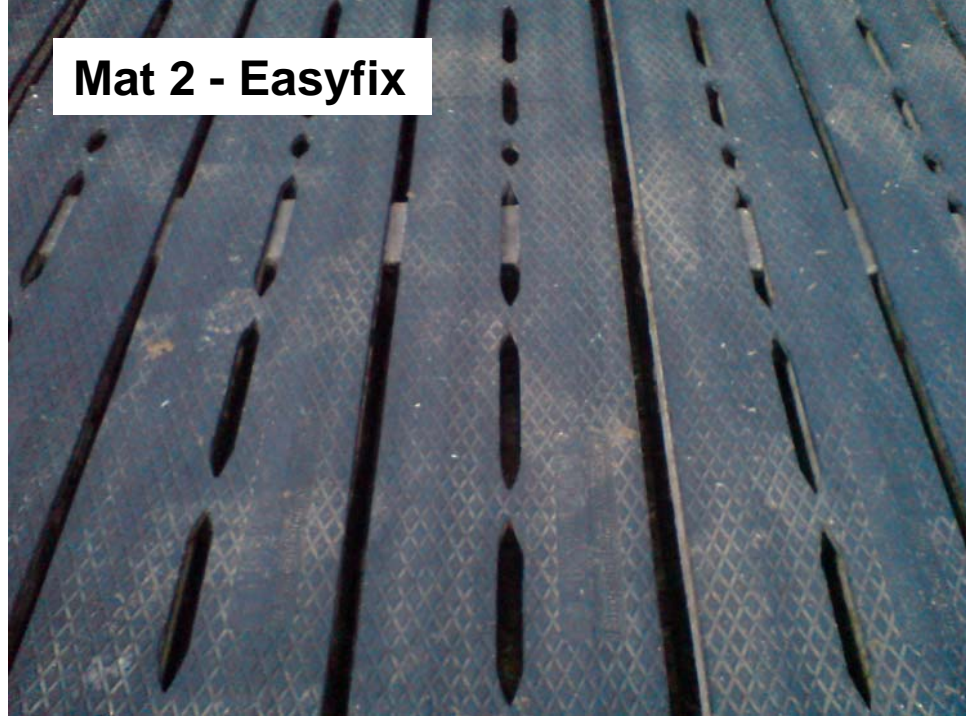
Behaviour – video recordings – every 3 weeks (72 h duration)

Blood samples collected for physiological analysis

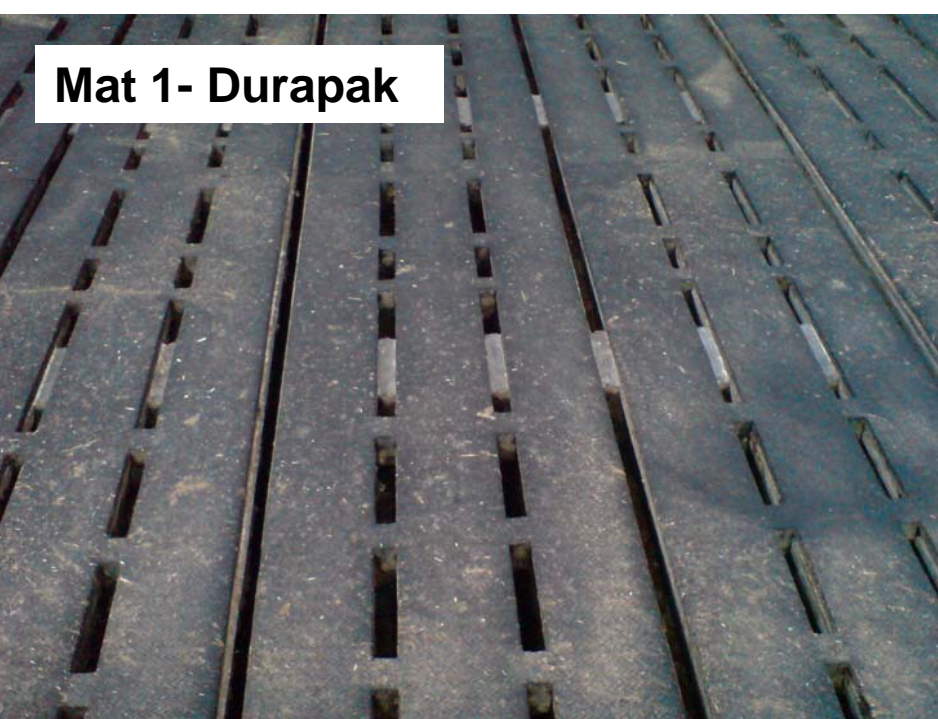
Slats



Mat 2 - Easyfix



Mat 1- Durapak



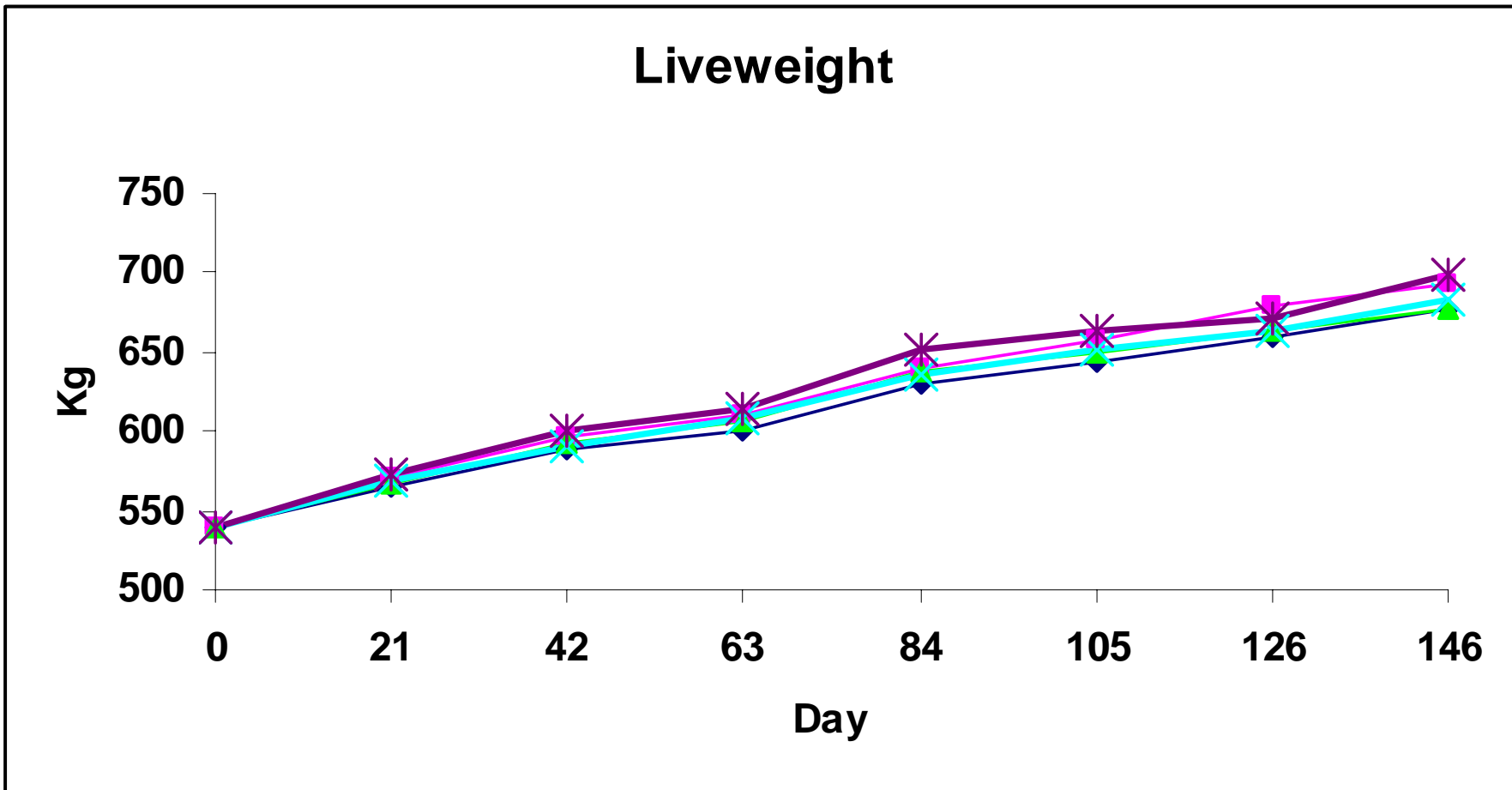
Mat 3 - Mayo



OWP's



	Slats	Mat 1	Mat 2	Mat 3	OWP's	s.e.
LWG (kg)	0.93	1.04	0.92	0.96	1.07	0.03
Slaughter weight (kg)	677	693	676	683	699	5.9



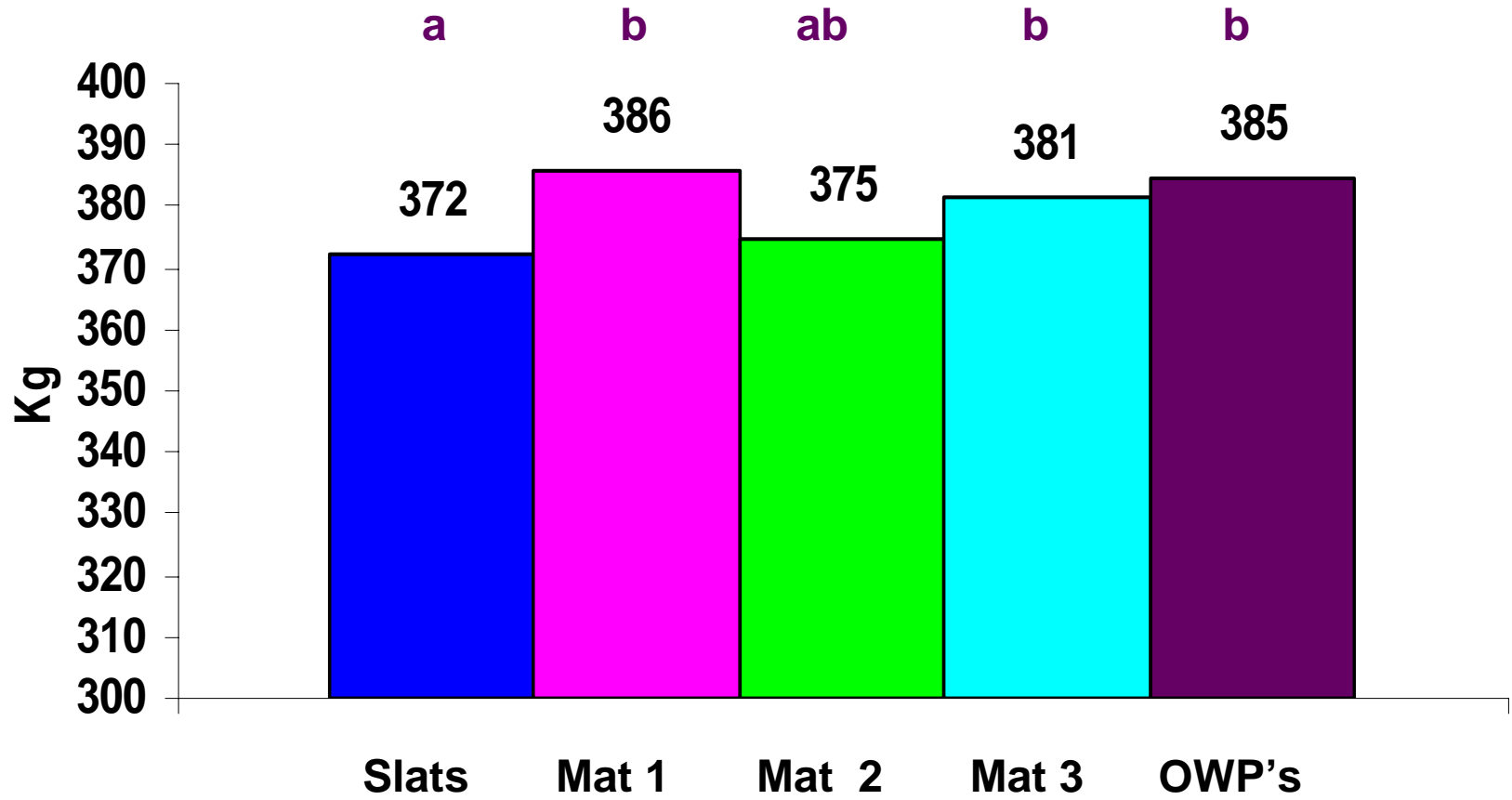
	Slats	Mat 1	Mat 2	Mat 3	OWP's	s.e.
LWG	0.93	1.04	0.92	0.96	1.07	0.03

The live weight gain for animals on **OWP** (1.07 (s.e.) 0.03kg) and **Mat 1** (1.04 (s.e.) 0.03kg) treatments was **greater** ($P < 0.05$) than the **slat** (0.93 (s.e.) 0.03kg) treatment.

Mat 2 (0.92 (s.e.) 0.03kg) treatment had lower LWG ($P < 0.05$) than **Mat 1** and OWP treatments.

Mat 1- Durapak
Mat 2- Easyfix
Mat 3- Mayo

Carcass Weight



Mat 1- Durapak

Mat 2- Easyfix

Mat 3- Mayo

	Slats	Mat 1	Mat 2	Mat 3	OWP's	s.e.
Carcass weight (kg)	372	386	375	381	385	3.1

Carcass weight was greater ($P < 0.05$) for the **OWP** (385 (s.e.) 3.16 kg), **Mat 1** (386 (s.e.) 3.18 kg) and **Mat 3** (381 (s.e.) 3.16kg) treatments than the slats treatment (372 (s.e.) 3.18 kg).

Mat 2 (375 (s.e.) 3.18kg) was lower ($P < 0.05$) than **Mat 1** and **OWP** treatments.

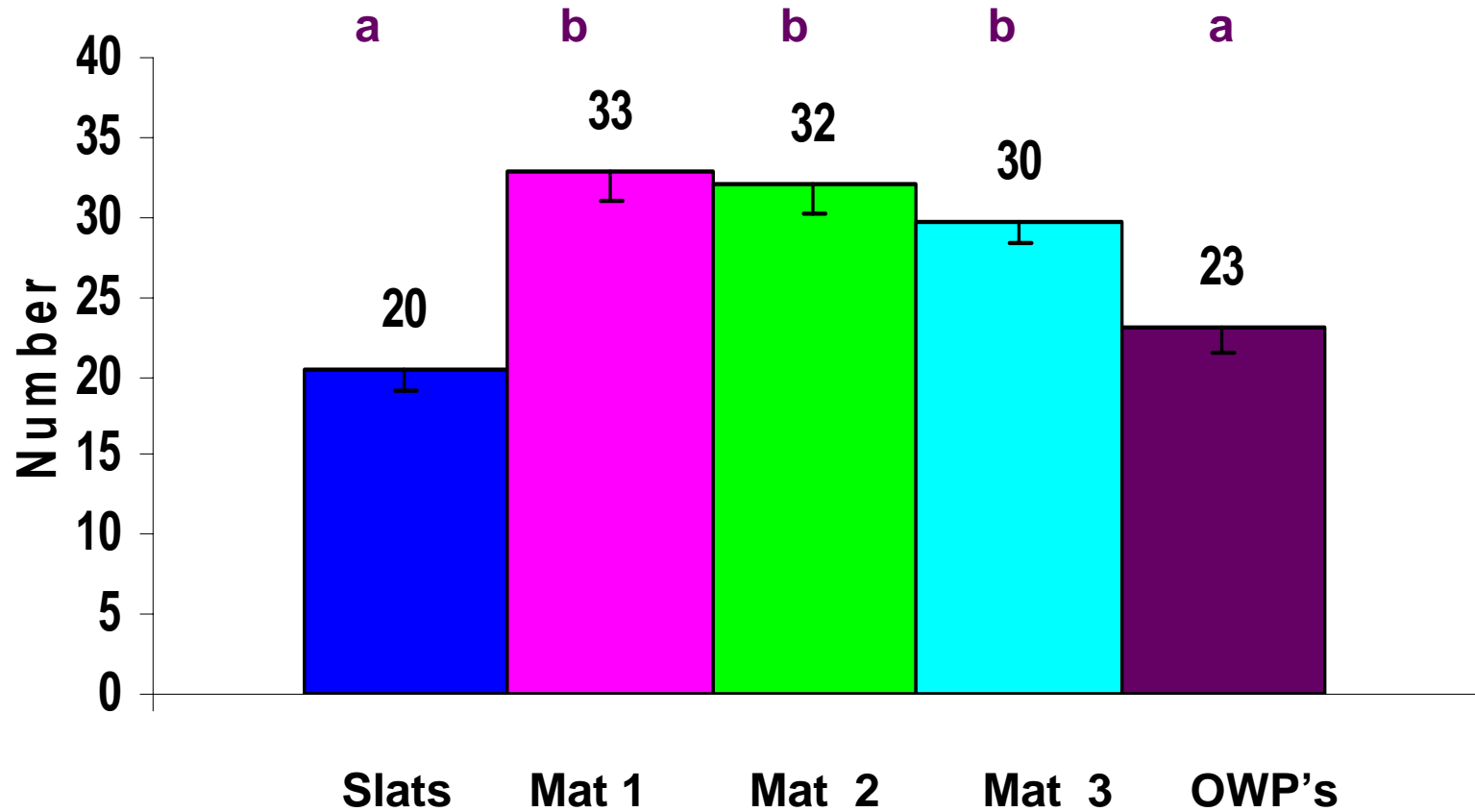
The carcass weights for Mat 2 and Mat 3 treatments were not different.

Mat 1- Durapak

Mat 2- Easyfix

Mat 3- Mayo

Hoof scores (Lesions)



Mat 1- Durapak

Mat 2- Easyfix

Mat 3- Mayo

Conclusion

Carcass weight was **greater** in animals housed on **OWP's, Mat 1 (Durapak)** and **Mat 3 (Mayo)** than those on slats.

The carcass weight of animals housed on **Mat 2 (Easyfix)** treatment was **lower** than **Mat 1 (Durapak)** and **OWP** treatments and was not different from **Mat 3 (Mayo)**.

Mat 1- Durapak

Mat 2- Easyfix

Mat 3- Mayo

Other points

Study 1 and 2 Combined

- **Carcass fatness & KCF** **No difference**
- **Carcass conformation** **OWP and Mat 1 > Slats**
- **Hoof lesions** **Mats > Slats and OWP**
- **Lameness** **None recorded**
- **Weight of Hides** **OWP > Slats and Mats**

Winter 2007 – Finishing Beef Bulls

Animals:

Seventy-two, continental × beef bulls

3 pens/treatment: n = 18 bulls per treatment

Mean initial liveweight: 442 (s.d. 44.4) kg).

Space allowance: 2.98m²/head

Study duration: 150 days

Treatments:	1).	Old slats	
	2).	New slats	
	3).	Old slats	plus Mat 1
	4).	New slats	plus Mat 1

Mat 1 = Durapak

Bulls had *ad libitum* access to a total mixed ration (TMR) of grass silage and rolled barley on 50:50 dry matter (DM) basis.

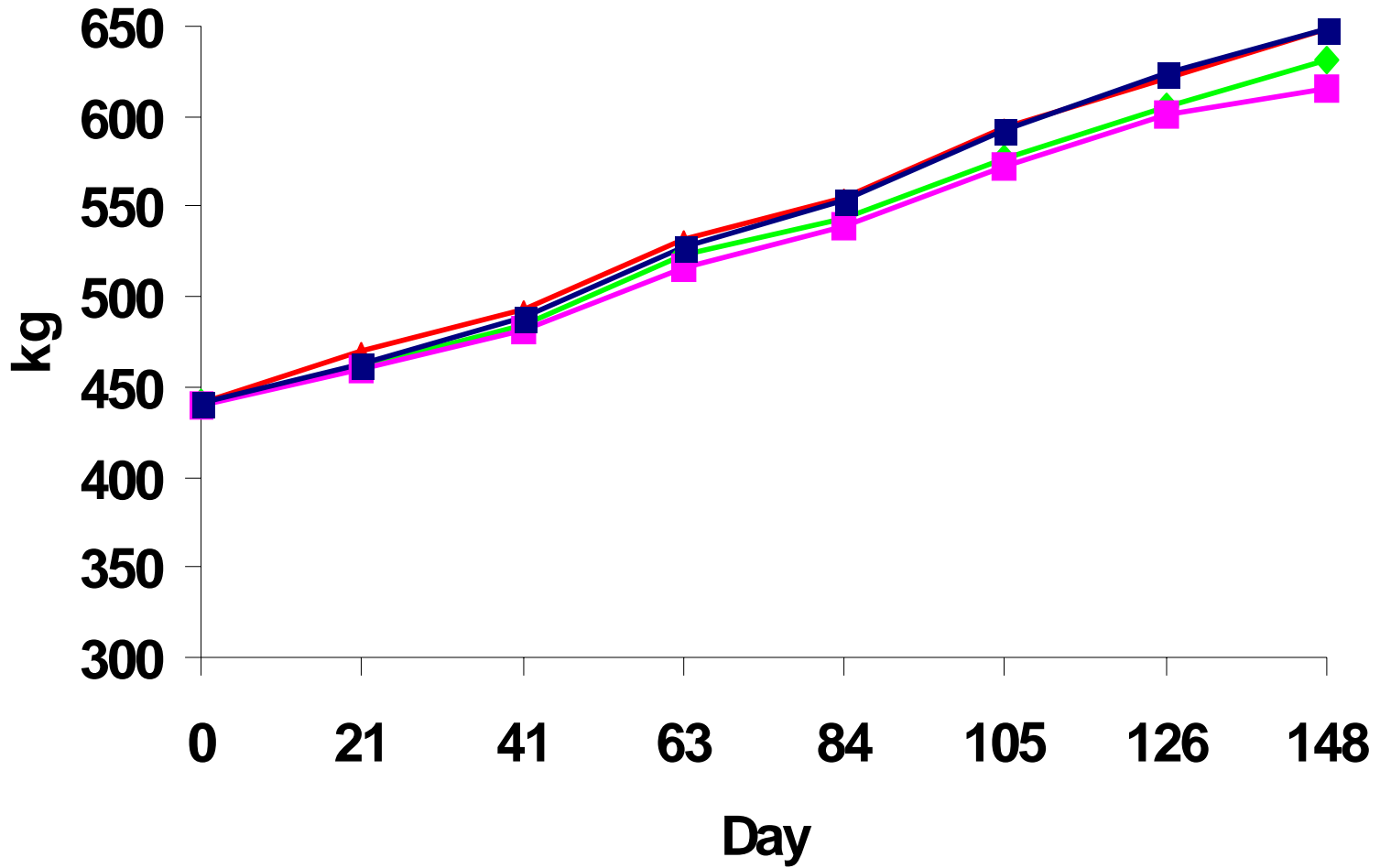
Weigh in feed – daily

Feed samples collected for analysis

Blood samples collected for physiological analysis



Liveweight



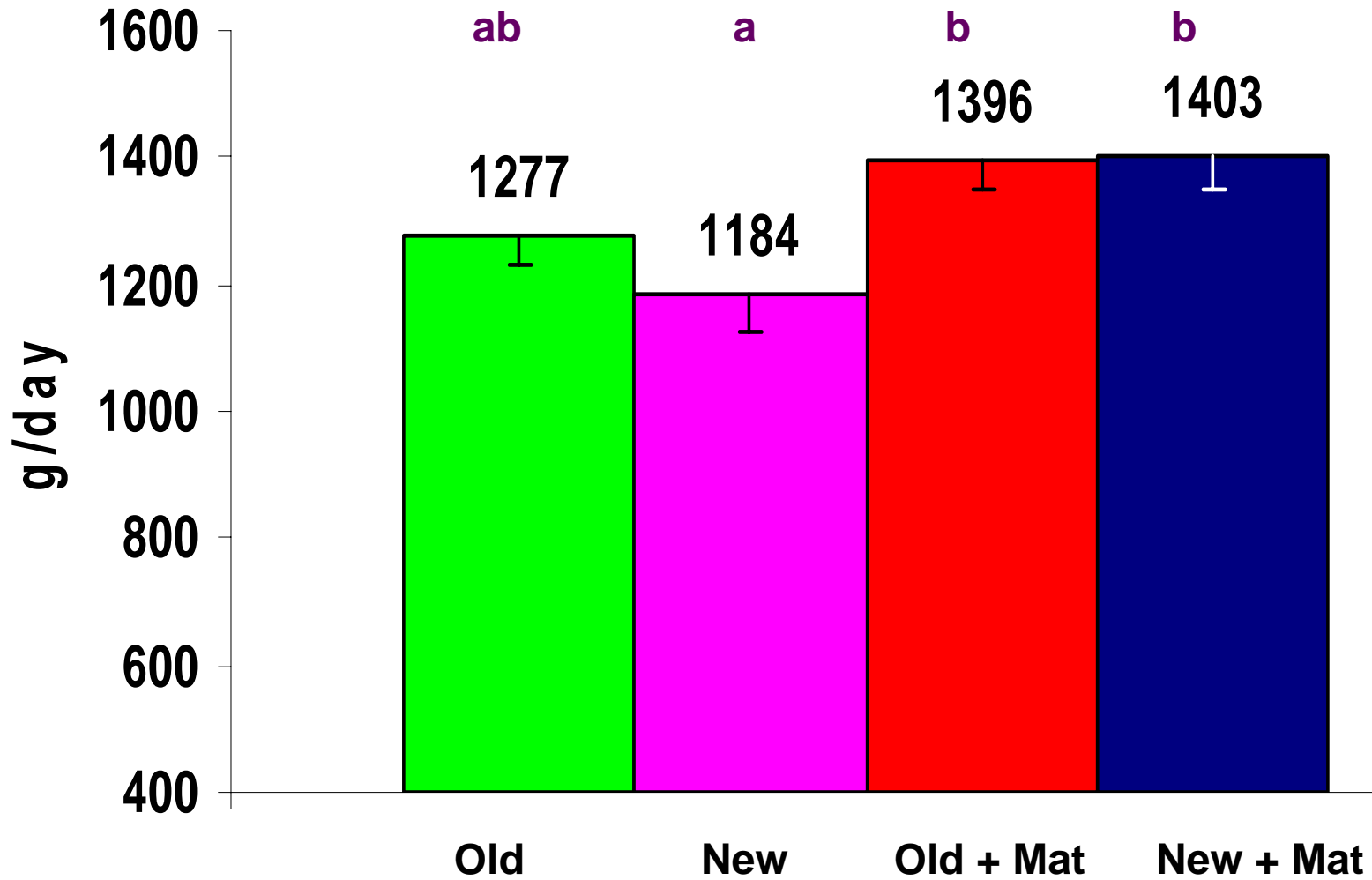
	Old	New	Old + Mat 1	New + Mat 1	s.e.
LWG	1.27	1.19	1.39	1.40	0.05

The live weight gain of bulls on the **New** and **Old slats** was not different ($P>0.05$).

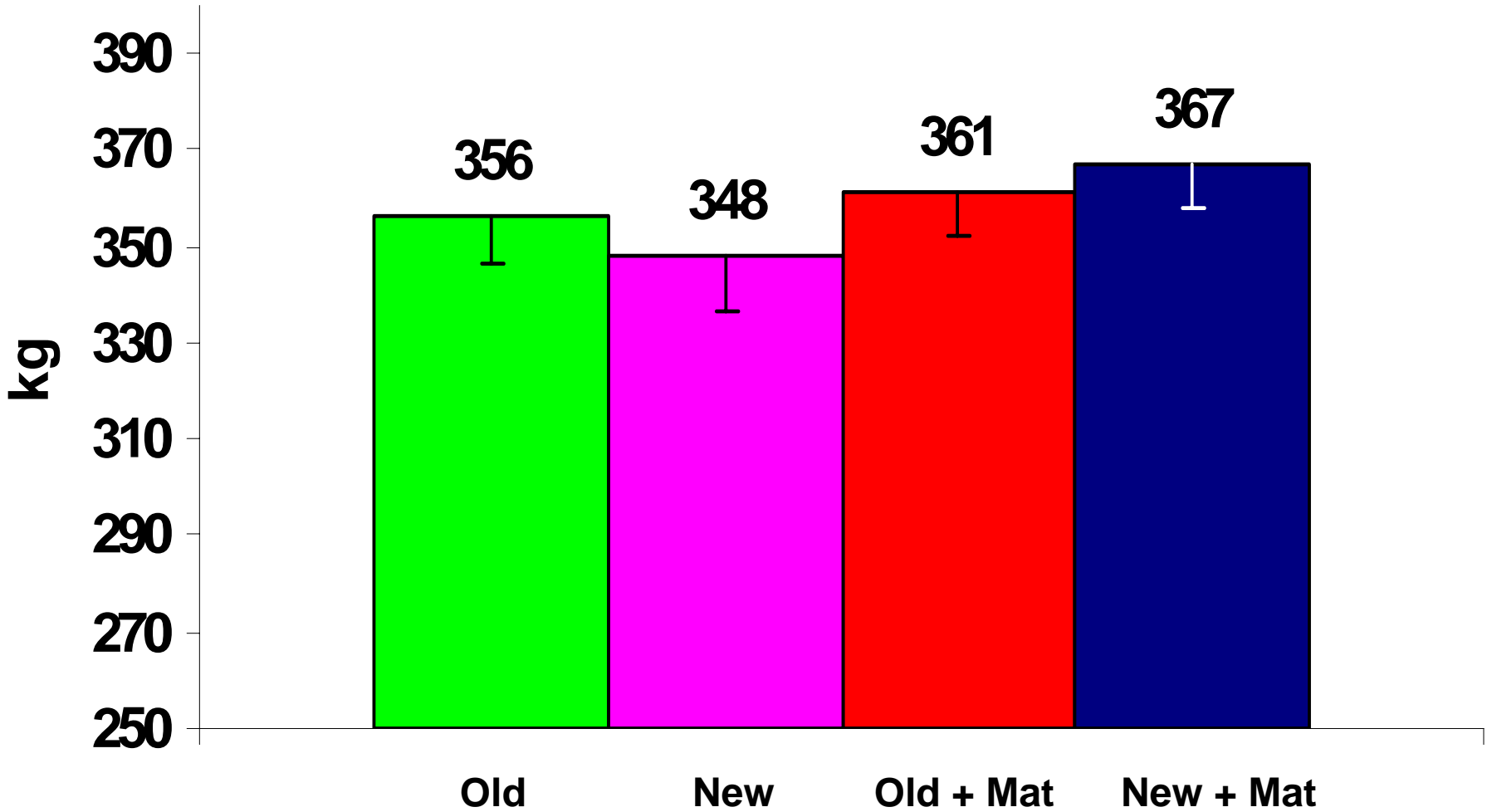
Bulls on the **Old slats + Mat 1** (1.39 (s.e.) 0.05 kg) treatment had slightly greater live weight gain ($P=0.09$) than bulls on Old slats (1.27 (s.e.) 0.05 kg).

The live weight gain of bulls on the **New slat + Mat 1** (1.40 (s.e.) 0.05kg) treatment was greater than the **New slat alone** (1.19 (s.e.) 0.05kg).

Mean LWG (g/day) Day 0 - 148



Carcass weight (kg)

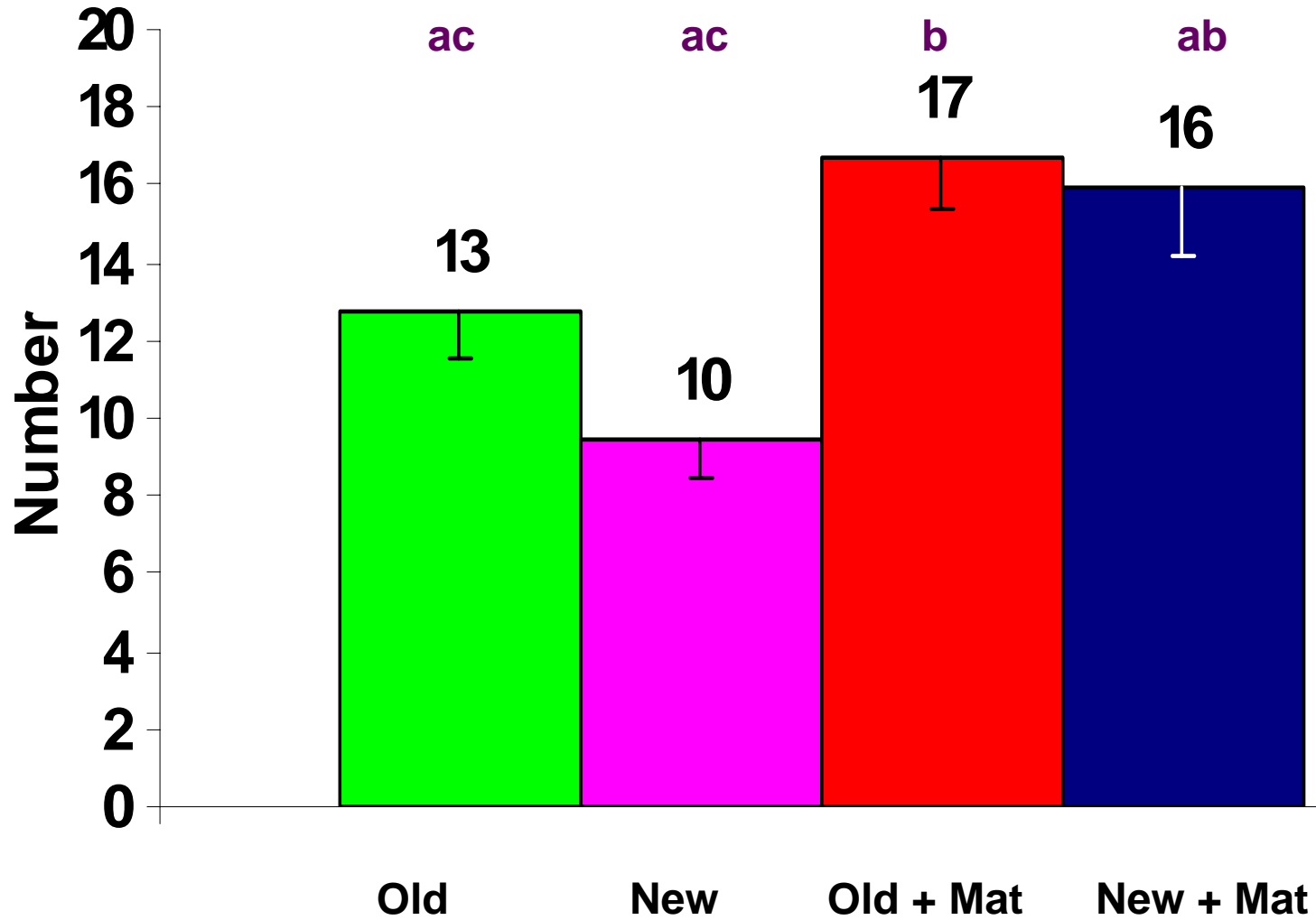


	Old	New	Old + Mat 1	New + Mat 1	s.e.
Slaughter					
Weight (kg)	631	616	648	648	15.6

The **slaughter weight** of the bulls **was not different** among treatments (Old slat, 631 (s.e.) 15.6kg; New slats, 616 (s.e.) 16.1kg; Old Slat + Mat 1, 649 (s.e.) 15.6kg; New Slat + Mat 1, 648 (s.e.) 15.6kg).

There was **no effect of treatment** on carcass weight, carcass conformation, kill out proportion, kidney channel fat and fat scores.

Hoof Score (Lesions)



Other points

- **Carcass weight** **No difference**
- **Carcass fatness** **No difference**
- **Carcass conformation** **No difference**
- **Hoof lesions** **Mats > Slats**
- **Lameness cases** **New Slats (6) Old slats (2)**
- **Weight of Hides** **Old + Mat > Old Slats; New Slats**

