

Effect of Disposition Score on Feedlot Performance, Carcass Traits and Profitability of Beef Calves Fed in the Iowa Tri-County Steer Carcass Futurity

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2010 Midwest ASAS



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Introduction and Background

- Increased temperament score resulted in decreased ADG in steers and heifers (Voisinet et al., 1997)
- Cattle with greater disposition score had decreased initial BW, final BW, ADG, HCW, YG, QG, MS and mortality (Reinhardt et al., 2009)
- Cattle that possess more excitable temperaments have increased treatment costs and lower net profits compared with cattle with calmer temperaments (Vann et al., 2008)



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Introduction and Background

- Cattle with poor temperaments had poorer average daily gains, feed conversion efficiencies, body conditions and dressing percent compared with those with good temperaments (Petherick et al.)



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Materials and Methods

- Data analyzed on 47,410 head of cattle fed in 18 Iowa feedlots over eight years (2002-2009)
- All cattle were fed a common dietary energy level and administered similar health and implant treatments
- All cattle were weighed, sorted, vaccinated, implanted and body conditioned scored within 4 days of arrival
- Disposition score was collected 3 or 4 times (1=docile; 6=very aggressive) at delivery, re-implant, first harvest sort and second sort



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Materials and Methods

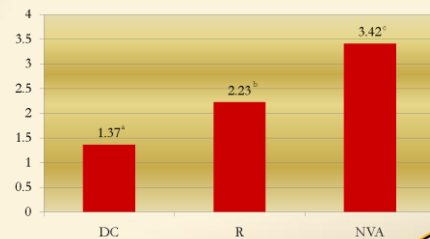
- Calves were divided into three groups based on disposition score: docile (DC), restless (R) and nervous to very aggressive (NVA)
- Calves were harvested when visually determined to have 1 cm of back fat
- Only cattle with full, detailed carcass and performance information were included in the study



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Mean Disposition Score



^{a-c}Means with unlike superscripts differ (P<0.05)

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Effect of Disposition on Feedlot Performance and Profitability

Item	Disposition Score		
	DC	R	NVA
Arrival wt., kg	292.3	291.8	291.9
Delivery age, d	297.1 ^a	295.0 ^b	306.4 ^c
Final adj. wt., kg	537.9 ^a	531.2 ^b	519.9 ^c
ADG, kg/d	1.46 ^a	1.43 ^b	1.37 ^c
Days on Feed	169.4 ^a	168.6 ^b	168.5 ^{ab}
F:G, kg/kg	6.86 ^a	6.84 ^b	6.97 ^c
Cost of Gain, \$/kg	1.33 ^a	1.48 ^b	1.51 ^c
Profit, USD/hd	46.63 ^a	26.16 ^b	7.62 ^c

^{ab}Means within a row with unlike superscripts differ (P<0.05)

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Effect of Disposition on Carcass Traits

Item	Disposition		
	DC	R	NVA
HCW, kg	330.7 ^a	327.6 ^b	322.8 ^c
Dressing percent	61.40 ^a	61.55 ^b	61.76 ^c
REA, sq. cm.	79.8 ^a	79.8 ^a	80.4 ^b
Rib fat, cm	1.14 ^a	1.14 ^a	1.05 ^b
Calculated YG	2.86 ^a	2.84 ^b	2.67 ^c
Marbling score ¹	431.7 ^a	422.1 ^b	401.0 ^c
%CAB ²	20.65	15.21	9.08

^{ab}Means within a row with unlike superscripts differ (P<0.05)

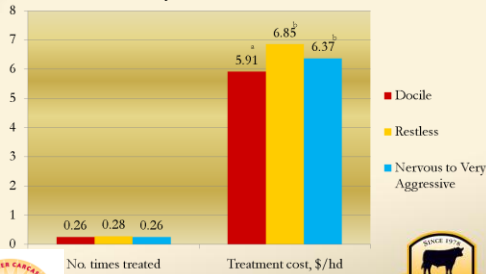
¹Marbling score; 400 = Small

²Disposition score influenced CAB® acceptance rate (P<0.0001)

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Effect of Disposition on Morbidity and Treatment Cost



^{ab}Means with unlike superscripts differ (P<0.05)

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Conclusions

- Docile calves had:
 - Better feedlot performance
 - Improved carcass merit
 - Greater profitability
 - than calves that were more aggressive

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