

# How to Grow a Successful Business

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### THE BUY – SELL MARGIN

#### **Figuring the Buy-Sell Margin**

The buy-sell margin for cattle is defined as: *the per-hundredweight difference between the selling price and the purchase price of cattle*. Three of the most common ways calves are back-grounded are 1) buying spring stockers to feed on pasture and selling in the fall; 2) buying or holding weaned calves in the fall and overwintering or back-grounding them for sale in the spring; and 3) buying or holding weaned calves in the fall and overwintering or back-grounding them and then running them on pasture the next summer for sale in the fall.

The buy – sell margin is calculated subtracting the purchase price from the sale price.

Feeder sale price – stocker purchase price = buy – sell margin

E.g., \$135.26 – \$147.37 = **(\$12.11)**

It is common to place calves on pasture in the spring, put on economic grass gains and sell those calves in the fall. Two things may happen to the market price for those calves. First, prices will tend to be higher in the spring and lower in the fall based on the supply of and demand for calves. Second, as the calves gain weight, they will move from one price category to another. In the spring calves weighing 450 lbs. are purchased and put on pasture for 150 days. If they gain an average of 1.9 lbs. per day, with a three percent shrink they will average 713 lbs. in the fall. This will move them from a higher price category to a lower price category by going from the 400-500 LB. category to the 700-800 LB. category.

In nearly all cases the purchase price per pound or hundredweight is higher than the selling price per pound or hundredweight so the buy-sell margin is usually negative. The negative buy-sell margin means that a cattleman will normally see a loss on the original weight purchased. The extent of this marketing loss is due to the change in weight and corresponding change in the price per pound of the calf at sale time. Therefore, if a profit is to be realized from back-grounding cattle the profits from the pounds gained must offset the loss on the pounds originally bought.

As an example using 2013 prices, 450 lb. steers are purchased for \$147.37/Cwt. on May 1. They should gain 1.9 lbs. per day and are sold at a three percent shrunk weight of 713 lbs. the end of September. The 10 year average buy-sell margin is a negative \$15.06/cwt. The standard deviation<sup>1</sup> or variance is \$5.34. That means that in 7 of 10 years (two-thirds of the time) the margin will be between **(\$9.72)** and **(\$19.44)**. The projected fall 2013 price range was \$128-\$138 for 700-800 lb. calves. Using \$133 as a price point, that implies a difference on the purchase weight of about \$64.67 per head due to the buy-sell margin.

Table 1: Buy – Sell Gross Margin Example

BUY	450 lb.	at \$147.40/cwt.	\$663.17
SELL	450 lb.	at \$133.00/cwt.	\$598.50
	Buy-Sell Gross Margin		<b>-\$64.67</b>

As we discussed above, the profits will have to come from economic gains put on the animals during the pasture season.

### ***The Cost of Gain and Profit Margin***

In the example the calves are expected to gain 263 pounds after accounting for shrink at sale. Dividing the (\$64.67) by 263 gives a marketing loss of (\$0.25) per pound sold. Thus the difference between the cost of gain and the value of the gain will need to be more than \$0.25 to make the situation profitable. When the buy and sell prices are equal (a rare occurrence) the net value of the gain will equal the sale price. The value of gain will also increase when the buy-sell margin narrows or when the sale price of the feeder calf increases.

The example uses the owners irrigated pasture as the feed cost for the stocker budget, with an operating cost for the pasture of \$141.56 per acre or \$71.72 per head and ownership costs of \$54.53 per acre or \$27.63 per head. This puts the stocker budget (Table x), excluding the calf, at operating costs of \$125.73 per head and ownership costs of \$27.63 per head making total costs \$153.36 per head. The calf adds another \$663.17 to this making the total of all costs \$816.52 per head.

For back grounding to be profitable the value of gain must exceed the cost of gain plus any negative buy-sell margin. The value of gain is determined by taking the weight gained (net sale weight minus stocker in-weight) divided into the gross returns. In our example the 263 pounds of gain is divided into \$285.06 (Feeder sales value \$948.22 minus stocker purchase \$663.17) for a value of gain of \$1.08/LB.

The back grounding costs for pasture, labor, miscellaneous expenses and interest total \$153.36 per head or \$0.58 per pound of gain. Adding this to the market loss from the buy-sell of \$0.25 per pound gives the total cost of gain of \$0.73 per pound. Since the gross value of gain at \$1.08 per pound is greater than the \$0.73 per pound cost of gain a net return of \$0.36 per pound or \$67.04 per head is realized.

When total revenue is measured against the full cost – pasture plus the stocker – a net return to resources is \$131.70 per head or \$0.50 per pound of gain.

*Table 2 Summary for Buy-Sell and Cost of Gain*

5 SUMMARY		Per Head	Per Acre	Per lb gain
	Market Loss on Buy-Sell Margin	(\$64.67)	(\$127.63)	(\$0.14)
	Cost of Gain	(\$153.36)	(\$302.68)	(\$0.58)
	Total: COG + Mkt loss	(\$218.02)	(\$430.31)	(\$0.73)
	Value of Gain	\$285.06	\$562.62	\$1.08
	Management Returns VOG - COG <sup>*</sup>	\$67.04	\$132.31	\$0.36
	Total Revenue	\$948.22	\$1,871.49	\$3.61
	Total cost (Pasture + Stocker)	\$816.52	\$1,611.56	\$3.11
	Net Return	\$131.70	\$259.94	\$0.50
	<sup>*</sup> NOTE: If owner labour is not charged this is return to management and labour.			

## APPENDIX – Charts & Tables

Figure 1 4-5 Weight Calves on Summer Pasture for Fall Sale

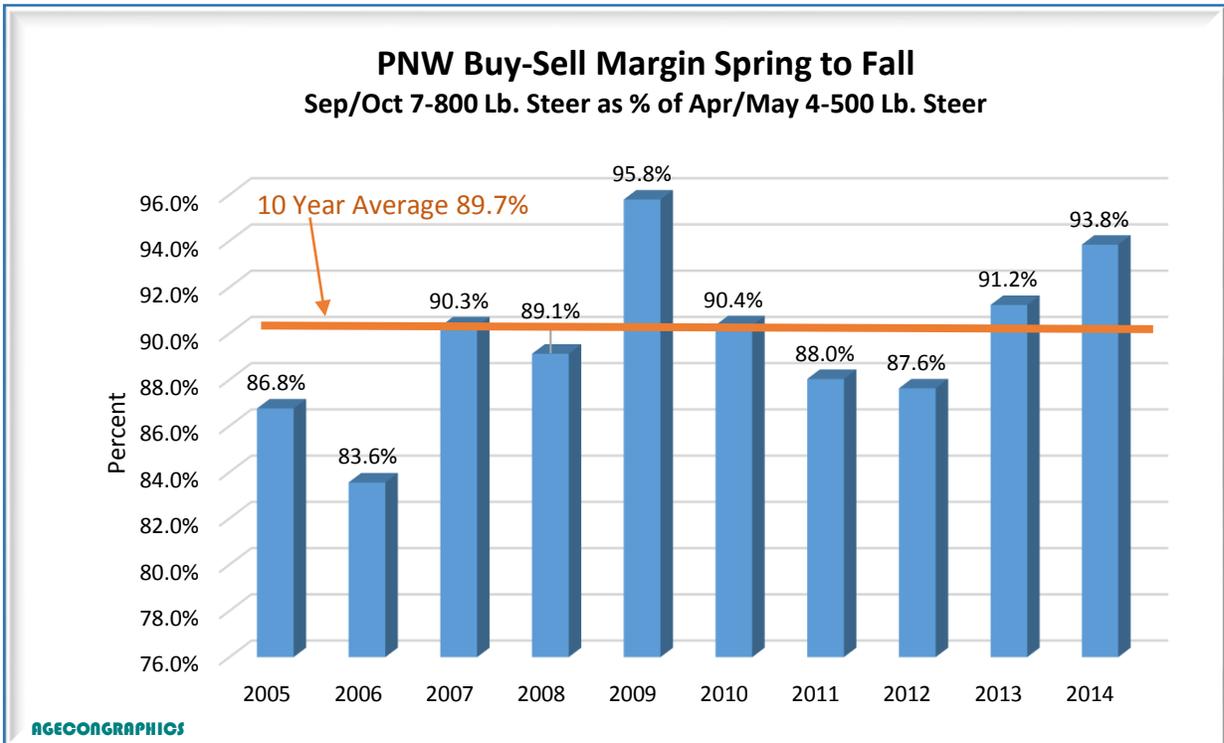


Figure 2 5-6 Weight Calves Back-grounded for Spring Sale

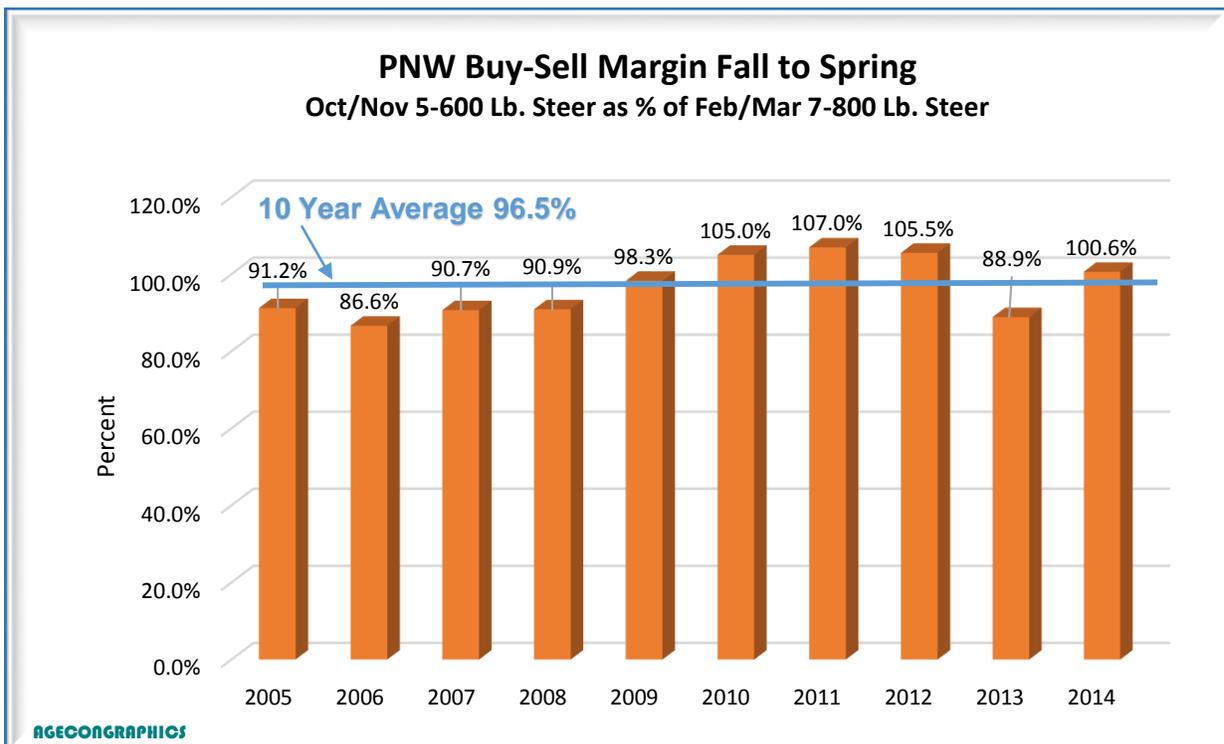


Table 3 Pasture Costs for Operating and Ownership

Operating Costs		\$ labour	Quantity per AC	Cost/Unit	Units	Total per AC
Irrigation					Acre	128.50
Other	Fence Maintenance				Acre	0.19
	Labour - Hired		0.25	11.00	Hr	2.75
	Labour - Owner		0	14.50	Hr	0.00
	Fuel, Lube - Equip.		1	6.00	Acre	6.00
	Misc		1	-	Acre	0.00
Custom work			1	-	Acre	0.00
	Interest on Operating Capital		\$ 137.44	6.00%		4.12
	<b>Operating Cost per Acre</b>					<b>141.56</b>
<b>Ownership Costs</b>						
	Fence & water system		Irrigation System Ownership costs			
	\$1.96	\$17.57				19.53
	Other Improvements					0.00
	Stand Amoritization					12.00
	Real Estate taxes		Ag Value 750	Tax Rate 0.00900		6.75
	Land Charge (Interest)					16.25
	<b>Ownership Costs per Acre</b>					<b>54.53</b>
	<b>Total Costs per Acre</b>					<b>196.09</b>

Table 4 Stocker Budget

1 Income Projection				Per Head	Per Acre	Death Loss @
735	lbs less shrink @		3.0%	Percent pencil shrink		0.5% Percent
Net sale value						
713	lbs	\$ 133.00	per cwt	\$ 948.22	\$ 1,871.49	,
2 Buy- Sell Margin				Per LB/CWT	Per Head	Per Acre
Buy	450 @	\$ 147.37		\$ 663.17	\$ 1,308.88	
Sell	450 @	\$ 133.00		\$ 598.50	\$ 1,181.25	
Buy-Sell Margin				(\$0.14)	(\$64.67)	(\$127.63)
3 Gross Value of Gain				Per Pound	Per Head	Per Acre
ADG	1.9	Total #'s gain		263	518.98	
Sales value of Feeder				\$ 133.00	\$ 948.22	\$ 1,871.49
Purchase value of stocker					\$ 663.17	\$ 1,308.88
Gross Returns					\$ 285.06	\$ 562.62
Value of Gain				\$ 1.08	\$ 285.06	562.62
4 Production Costs per head				Per Head	Per Acre	
Livestock Enter data on budget worksheet tab						
Vet & Medical				1.25	\$ 2.47	
Growth Stimulant				0.00	\$ -	
Salt-Mineral				1.05	\$ 2.07	
Supplemental feed				0.00	\$ -	
Miscellaneous costs				0.00	\$ -	
Fuel, Lube & Repairs				0.00	\$ -	
Hired Labour				2.00	\$ 3.95	
Owner Labor				0.00		
Trucking				4.00	\$ 7.89	
Checkoff/Brand Inspection				0.00	\$ -	
Commission %				2.50%	23.71	\$ 46.79
Death Loss					4.74	\$ 9.36
Operating costs - (Sum of above)					36.75	72.53
Interest on Oper. Cap. 6.00%				\$ 36.75	0.91	\$ 1.79
Interest on Stockers 6.00%				\$ 663.17	16.35	\$ 32.27
Pasture operating cost				\$ 71.72	\$ 141.56	
<b>Operating costs</b>						
Total Operating Cost				\$ 125.73	\$ 248.15	
Oper. Cost per LB. gain				\$ 0.48		
<b>Ownership costs</b>						
Pasture ownership cost				\$ 27.63	\$ 54.53	
Ownership Cost per LB. gain				\$ 0.11		

Stocker Buy-Sell Report (continued)

(continued)	<b>Total Cost</b>	\$ 153.36	\$ 302.68	
	Total Cost/LB. gain	\$ 0.58		
		<b>Per Head</b>	<b>Per Acre</b>	<b>Per lb gain</b>
	Gain	\$153.36	\$302.68	\$0.58
	Calf	\$663.17	\$1,308.88	\$2.52
	Total	\$816.52	\$1,611.56	\$3.11
<b>5</b>	<b>SUMMARY</b>	<b>Per Head</b>	<b>Per Acre</b>	<b>Per lb gain</b>
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	Cost of Gain	(\$153.36)	(\$302.68)	(\$0.58)
	<b>Total: COG + Mkt loss</b>	<b>(\$218.02)</b>	<b>(\$430.31)</b>	<b>(\$0.73)</b>
	Value of Gain	\$285.06	\$562.62	\$1.08
	Management Returns VOG - COG <sup>1</sup> *	\$67.04	\$132.31	\$0.36
	Total Revenue	\$948.22	\$1,871.49	\$3.61
	<b>Total cost (Pasture + Stocker)</b>	<b>\$816.52</b>	<b>\$1,611.56</b>	<b>\$3.11</b>
	Net Return	\$131.70	\$259.94	\$0.50

<sup>1</sup>\* NOTE: If owner labour is not charged this is return to management and labour.

Breakeven Data				
Breakeven Sales Price			\$114.53	Per Cwt.
Breakeven Purchase Price			\$181.45	Per Cwt.
Breakeven Cost of Gain			\$1.084	Per LB.

<sup>1</sup> The Standard Deviation is a measure of how spread out the numbers are from the average.