

THE ECONOMICS OF SHRINKAGE

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35% to 50% (St. Clair, 1976) (Self and Gay, 1972) (W. Gordon Kerl, 1987).

Shrinkage depends on handling methods, weather, time off feed and other factors. General estimates of expected shrinkage expressed as a function of the distance that cattle are shipped are displayed in Figure 1. Gross shrinkage is the total shrinkage and net shrinkage is that part of the shrinkage which cannot easily and quickly be regained by the animals.

Shrinkage is of economic importance to ranchers in two ways. First, as you move and handle your animals in the process of selling them they will lose weight due to the combination of stress and of not having feed and water readily available. Because they will lose this weight before they are weighed at sale time, the gross returns to the rancher will be reduced by the shrinkage if price does not depend upon shrinkage. However, shrinkage does affect price, and further is often an important element in the negotiations of a cattle sale. This linkage of shrinkage into the negotiations is the second way in which shrink becomes economically important.

DESCRIPTION

Shrinkage occurs due to the elimination of digestive track contents and urine, and as a result of dehydration and other loss of tissue. Part of this loss can be rapidly regained by the animals, and thus, has little long run effect upon the animals. However, the loss due to tissue shrinkage is the result of prolonged stress and is difficult to replace. Estimates of the proportion of easily regained loss vary from

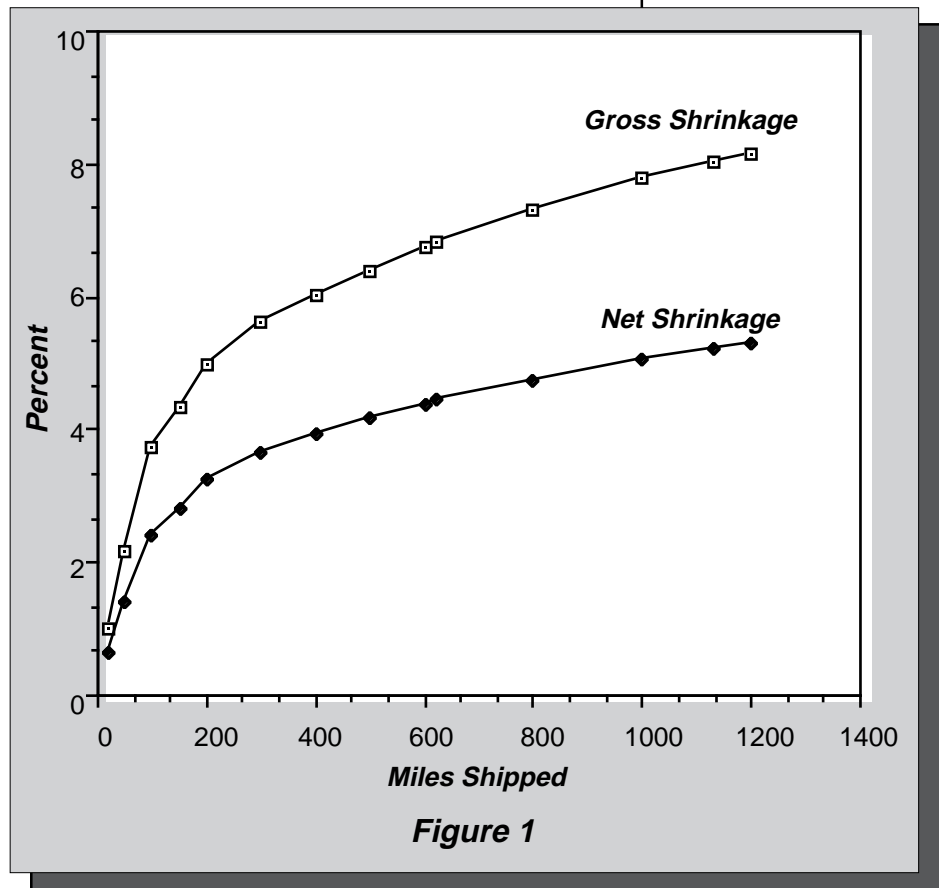


Figure 1

COMPARING OFFERS

Comparing prices with varying allowances for shrink is sometimes necessary to determine the best bid for your cattle. The simplest way to do this is with a calculator. For example if a buyer offers you \$80/cwt for your 500 lb. steers and wants a 4% pencil shrink,

this will result in a price per head of 500 times 96% (100% - 4%) times \$80 (\$384 per head) If another buyer offers you \$79 with a 2% shrink this will result in a price per head of 500 times 98% (100% - 2%) times \$79 (\$387.10 per head). Even though the price is lower the second offer is obviously better as it results in more money per head.

Another way to make the same comparison is to use the **less shrink table**. The first offer was \$80 with 4% shrink, while the second had 2% less shrink and was \$79. From the table an \$80 price is equivalent to a \$78.40 price with 2% less shrink. Since this is less than the \$79 offer it should be rejected.

By use of a calculator or the Less Shrink Table alternative offers for your cattle can easily be compared. If the conditions of handling the cattle differ then considerations of the actual difference in shrinkage as well as any pencil shrink must be made. For example if you have an offer where the cattle will be weighed at the ranch on the day the cattle are gathered and another alternative where the cattle will be weighed after being shipped 100 miles, you will need to estimate the actual difference in shrink to correctly compare these alternatives. From the shrink figure a 100 mile shipment results in approximately a 4% shrinkage. You must consider this shrinkage in comparing the two offers. In fact you

can consider it in exactly the same manner as a pencil shrink. The less shrink table can be used to show that an offer of \$84 at the ranch is equivalent to an offer of \$87.50 with weighing 100 miles away.

CONCLUSIONS

Be sure to consider both actual and pencil shrink when you are considering alternative offers or ways to market your cattle. A sharp pencil or calculator will help you to make the most from your cattle.

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BREAKEVEN PRICES EQUIVALENT PRICE WITH LESS SHRINK

PRICE WITH SHRINK	-1%	-2%	-3%	-4%	-5%	-6%
50	49.50	49.00	48.50	48.00	47.50	47.00
51	50.49	49.98	49.47	48.96	48.45	47.94
52	51.48	50.96	50.44	49.92	49.40	48.88
53	52.47	51.94	51.41	50.88	50.35	49.82
54	53.46	52.92	52.38	51.84	51.30	50.76
55	54.45	53.90	53.35	52.80	52.25	51.70
56	55.44	54.88	54.32	53.76	53.20	52.64
57	56.43	55.86	55.29	54.72	54.15	53.58
58	57.42	56.84	56.26	55.68	55.10	54.52
59	58.41	57.82	57.23	56.64	56.05	55.46
60	59.40	58.80	58.20	57.60	57.00	56.40
61	60.39	59.78	59.17	58.56	57.95	57.34
62	61.38	60.76	60.14	59.52	58.90	58.28
63	62.37	61.74	61.11	60.48	59.85	59.22
64	63.36	62.72	62.08	61.44	60.80	60.16
65	64.35	63.70	63.05	62.40	61.75	61.10
66	65.34	64.68	64.02	63.36	62.70	62.04
67	66.33	65.66	64.99	64.32	63.65	62.98
68	67.32	66.64	65.96	65.28	64.60	63.92
69	68.31	67.62	66.93	66.24	65.55	64.86
70	69.30	68.60	67.90	67.20	66.50	65.80
71	70.29	69.58	68.87	68.16	67.45	66.74
72	71.28	70.56	69.84	69.12	68.40	67.68
73	72.27	71.54	70.81	70.08	69.35	68.62
74	73.26	72.52	71.78	71.04	70.30	69.56
75	74.25	73.50	72.75	72.00	71.25	70.50
76	75.24	74.48	73.72	72.96	72.20	71.44
77	76.23	75.46	74.69	73.92	73.15	72.38
78	77.22	76.44	75.66	74.88	74.10	73.32
79	78.21	77.42	76.63	75.84	75.05	74.26
80	79.20	78.40	77.60	76.80	76.00	75.20
81	80.19	79.38	78.57	77.76	76.95	76.14
82	81.18	80.36	79.54	78.72	77.90	77.08
83	82.17	81.34	80.51	79.68	78.85	78.02
84	83.16	82.32	81.48	80.64	79.80	78.96
85	84.15	83.30	82.45	81.60	80.75	79.90
86	85.14	84.28	83.42	82.56	81.70	80.84
87	86.13	85.26	84.39	83.52	82.65	81.78
88	87.12	86.24	85.36	84.48	83.60	82.72
89	88.11	87.22	86.33	85.44	84.55	83.66
90	89.10	88.20	87.30	86.40	85.50	84.60
91	90.09	89.18	88.27	87.36	86.45	85.54
92	91.08	90.16	89.24	88.32	87.40	86.48
93	92.07	91.14	90.21	89.28	88.35	87.42
94	93.06	92.12	91.18	90.24	89.30	88.36
95	94.05	93.10	92.15	91.20	90.25	89.30
96	95.04	94.08	93.12	92.16	91.20	90.24
97	96.03	95.06	94.09	93.12	92.15	91.18
98	97.02	96.04	95.06	94.08	93.10	92.12
99	98.01	97.02	96.03	95.04	94.05	93.06
100	99.00	98.00	97.00	96.00	95.00	94.00

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