



Direct Fed Microbials for the Millennium and Beyond ...

Effects of Pro-Sacc™ Direct Fed Microbial on Growth of Commercial Pre-Conditioning Yard Cattle

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INTRODUCTION

Field reports by cattlemen feeding Bio-Vet Direct Fed Microbial products; Gener-PYK™, Generator™ and Pro-Sacc™; have been favorable. Pro-Sacc™ Direct Fed Microbial has been specifically formulated to manage the metabolic changes that occur when cattle rations are rapidly altered from a high forage base to a high grain base. This ration change is common for incoming pre-conditioning cattle and many incoming feedlot cattle that have not been pre-conditioned. The objective of this trial was to quantify the effect of Pro-Sacc™ Direct Fed Microbial on weight gain of cattle during the pre-conditioning phase.

MATERIALS and METHODS

Forty-five Angus – Santa Gertrudis / English crossed steer calves at a commercial Texas cow-calf operation that used a 30 day pre-conditioning program prior to selling calves were divided at random into two groups. Twenty-three calves were used for the control group and twenty-two calves were used for the treatment group.

All calves were weighed, vaccinated and de-wormed on day one. Calves were fed in self feeders. Diet for both groups contained a 12% crude protein, locally blended, receiving ration that consisted of cottonseed hulls, milo, cottonseed meal, corn, alfalfa meal, molasses, minerals and vitamins, that was limit fed with ad libitum coastal bermuda grass hay. The treatment group calves received Pro-Sacc™ Direct Fed Microbial

mixed into their receiving ration at the rate of 1/2 ounce per head per day for the first seven days and one pound per 200 head per day for days eight through thirty.

Animals were weighed the morning of day thirty-one to determine ending weight and provide for 30 full days on feed. Cattle were weighed on the ground with no allowance given for shrink for any cattle.

Historical, typical weight gains for pre-conditioning calves at this cattle operation ranged from 1.0 to 1.25 pounds per head per day for steers and 0.75 to 1.0 pounds per head per day for heifers.

The owner of the operation decided to feed Pro-Sacc™ to all fifty-three heifer calves during this pre-conditioning program. A separate group of heifers were fed the same receiving ration and bermuda hay as steers, but with access to grass pasture.

On day eight of the trial, intake of the receiving ration was increased from 14 pounds per head per day to 16 pounds per head per day for all animals to compensate for energy requirements of the animals.

RESULTS and DISCUSSION

Table 1 shows various data for the groups of cattle.

Average body weight for both treatment and control group steers was 661 pounds per head at the start of the trial. Average body weights were 712 pounds and 724 pounds per head for control and treatment group steers, respectively, at the end of the trial. Control group steers gained an average of 51 pounds per head during the

trial. Treatment group steers gained an average of 63 pounds per head during the trial.

Average daily gain (ADG) was 1.7 pounds and 2.1 pounds per head for control and treatment steers, respectively.

ADG of treatment steers was 23.5% higher than control steers.

The commercial receiving ration was limit fed, and both treatment and control group steers consumed an average of 466 pounds per head over the entire trial (Table 2). Feed conversion for the control steers averaged 9.14 pounds of receiving ration per pound of gain. Feed conversion for the treatment steers averaged 7.40 pounds of receiving ration per pound of gain (Table 3).

Feed conversion of receiving ration was improved by 19.0% for treatment steers compared to control steers.

The receiving ration for this trial cost \$8.50 per hundredweight. Cost of 466 pounds of receiving ration consumed was \$39.61 per animal (Table 4). Feed cost for control steers was \$0.777 per pound of gain (\$39.61 / 51 pounds gain). Feed cost for treatment steers was \$0.653 per pound of gain (\$39.61 + \$1.50 for Pro-Sacc™ / 63 pounds gain). Feed cost of gain was improved by 16.0% for treatment steers compared to control steers.

Sale price of the steers in this trial was \$77.00 per hundred weight (cwt). Improved growth of treatment group steers added \$9.24 per head more value versus control group steers at the end of the trial. The cost of the Pro-Sacc™ Direct Fed Microbial was \$1.50 per head for the entire trial period. Steers fed Pro-Sacc™ had a net increase of \$7.74 per head in revenue generated over the 30 day trial (Table 1). Return was \$9.24 for \$1.50 invested, which is a return on investment ratio of 6.16:1.

Income over feed costs for control steers was -\$0.007 per pound of gain (minus \$0.34 per head). Income over feed costs for treatment steers was \$0.117 per pound of gain (plus \$7.40 per head). Income over feed cost improved from a net loss position for control steers to \$7.40 per head profit for Pro-Sacc™ fed steers (Table 4).

Heifers fed Pro-Sacc™ had an ADG of 1.37 pounds per head during the trial (Table 1). Compared to the historical high ADG for heifers of 1.0 pounds per head on this operation, this represents a 37% improvement. Nutritional balance for this pre-conditioning period versus previous periods may have had some effect on the ADG improvement of heifers as well.

CONCLUSIONS

Including Pro-Sacc™ Direct Fed Microbial in the ration improved total weight gain, average daily gain and feed conversion of steers over a 30 day pre-conditioning period. Pro-Sacc™ improved ADG 23.5%, feed conversion 19.0% and feed cost of gain 16.0%. Steers fed Pro-Sacc™ generated \$9.24 per head more revenue and had a net return of \$7.74 per head more than control steers.

Table 1.

	Control Group	Treatment Group	Heifers
Number of head	23	22	53
Beginning weight (average pounds per head)	661	661	635
Ending weight (average pounds per head)	712	724	676
Total weight gain (average pounds per head)	51	63	41
Days on feed	30	30	30
Average Daily Gain (ADG) (pounds / head)	1.70	2.10	1.37
Sale price (\$ / cwt)	\$77.00	\$77.00	\$73.00
Gross price per head	\$548.24	\$557.48	\$493.48
Gross value of gain	\$39.27	\$48.51	
Difference (treatment vs. control)		\$9.24	
Cost of Pro-Sacc™		\$1.50	
Net added revenue / head (treatment vs. control)		\$7.74	

Table 2.

	Receiving Ration Consumption (lbs/head/day)	Number of Days	Total Receiving Ration Consumption (lbs)
Days 1 - 7	14	7	98
Days 8 - 30	16	23	<u>368</u>
Total 30 day Consumption			466

Table 3.

	Control Group	Treatment Group
Feed Conversion (lbs. feed / lb. gain)	9.14	7.40

Table 4.

	Receiving Ration Cost @ \$8.50/cwt	Pro-Sacc™ Cost	Total Purchased Feed Cost	Purchased Feed Cost per Pound of Gain	Income Over Purchased Feed Cost
Control Group (per head)	\$39.61	\$0.00	\$39.61	\$0.777	(\$0.34)
Treatment Group (per head)	\$39.61	\$1.50	\$41.11	\$0.653	\$7.40