

EVALUATION OF OPTiMIN[®] ZMC ON COW/CALF PERFORMANCE AND PASSIVE IMMUNITY

A study was conducted on a large commercial cow herd in South Carolina to evaluate the effectiveness of OPTiMIN[®] ZMC. The objective was to evaluate mineral utilization of beef brood cows and measure passive immunity. Two hundred cows were selected from a commercial herd and separated into two groups. Cows were blocked according to calving records, body condition and parity. Cows were grazed on pasture and rotationally grazed. Each cow in the treatment group received 1 lb. of fortified grain supplement containing 5 grams of OPTiMIN[®] ZMC. The cows in the control group also received 1 lb. of grain supplement containing equivalent levels of Zn, Mn and Cu from sulfate sources. Supplementation was continued for both groups until last calf was bled. Ten cows from each group were randomly selected and liver biopsies taken on day 0 and again at conclusion of study. Calving records were noted for each cow. Each calf was weighed and blood samples taken 24-48 hours post-calving and again at \approx 30 days of age.

KEY POINTS:

OPTiMIN[®] Supplementation results in:

1. Increased copper status in dams
2. Increased calf weight
3. Reduced calf IgG variation
4. Fewer calves with IgG levels of 1000 mg/dl or less
5. Reduced calf mortality
6. 6:1 ROI

Effect of OPTiMIN[®] Supplementation on Liver Mineral Concentrations in Dam:

Table 1. ENDING BIOPSY:*	CONTROL	OPTiMIN [®]	PVALUE
Zinc (mg/kg)	117.64	110.26	.33
Manganese (mg/kg)	9.72	8.14	.41
Copper (mg/kg)	41.86	60.53	.15

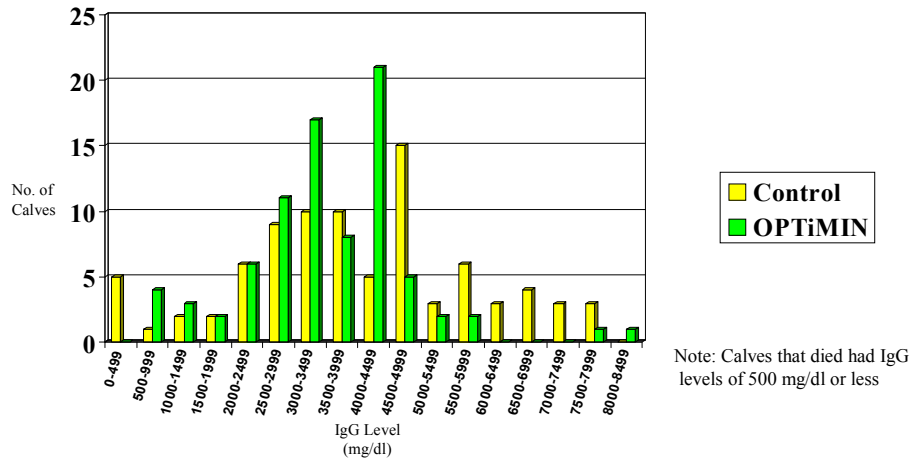
*Average of 10 females

Table 2. EFFECT OF OPTiMIN [®] ON CALF MORTALITY:	CONTROL	OPTiMIN [®]
	3.4%	0.0%

*Significant at $P < .05$

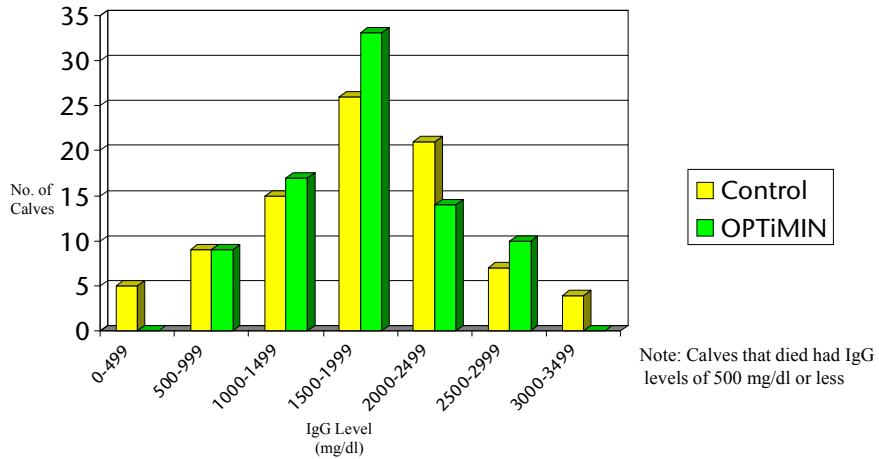
Note: Both groups had unusually high number of twins. Twins data would skew IgG data, thus were withdrawn from data set. No twins from OPTiMIN group died, while 4 more calves died from control group.

Distribution of IgG Levels Day 1 (24-48 Hrs.)



Note: Both groups had unusually high number of twins. Twins data would skew IgG data, thus were withdrawn from data set. No twins from OPTiMIN group died, while 4 more calves died from control group.

Distribution of IgG Levels Day 30



Note: Both groups had unusually high number of twins. Twins data would skew IgG data, thus were withdrawn from data set. No twins from OPTiMIN group died, while 4 more calves died from control group.