Research Brief
Effect of Availa® Plus on Oocyte and Embryo Production In Lactating Beef Cows

Results
• Cows fed Availa-Plus produced more total oocytes, culturable oocytes, transferable embryos, and freezable embryos
• Feeding Availa-Plus improved oocyte to embryo efficiency as evidenced by the smaller oocyte to embryo ratio for cows fed Availa-Plus

Study Duration
97 days

Animals
Thirty-eight Angus cow-calf pairs

Treatment
Availa-Plus: Zn, Cu, Mn from amino acid complexes, Co glucoheptonate and potassium iodide
Control: Zn, Cu, Mn, Co and I from inorganic sources fed at iso-levels to Availa-Plus

Experimental Procedures
• Cows maintained on fescue and clover mix pastures
• Treatment supplements fed free-choice, in weekly allotments, with a target intake of 4 oz supplement per cow per day
• Supplements formulated to provide 60 ppm Zn, 20 ppm Mn, 10 ppm Cu, 1 ppm Co and 1.3 ppm I on a total dietary basis, based on estimated forage intake
• Follicle stimulating hormone was not administered to cows
• Day 0: Cows stratified by body weight, BCS, days post-partum and age and assigned to Availa-Plus or Control treatments
• Day 30: Following a 7 d CO-Synch+CIDR protocol cows inseminated via fixed time AI to a single sire in order to maintain a normal breeding season
• Day 58: Cows diagnosed pregnant (n = 38) via ultrasound remained on their respective mineral supplementation treatments; non-pregnant cows removed from experiment
• Day 82 and 97: Cows subjected to oocyte pickup. All follicles greater than 5 mm were aspirated to recover cumulus-oocyte complexes (COC). After washing, COC’s evaluated and graded (A to D). Within pen, COC’s graded A through C were pooled and fertilized for in vitro embryo production. Eight days after fertilization, the embryos progressing to blastocyst stage were assessed and graded (1 to 4) prior to freezing
• Day 97: Backfat measurements and liver biopsy samples collected from each cow

Conclusions
• Feeding Availa-Plus resulted in a greater quantity of high quality, transferable embryos
• Results agree with previous research showing beneficial impacts of Zinpro Performance Minerals on bovine reproduction