**Introduction**

- Transfer of IgG from sow to piglet is essential for good health and growth of piglets.
- Trace mineral amino acid complexes have:
  - Enhanced immune response and improved growth in beef cattle and poultry.
  - Increased Ig in colostrum of dairy cows.
- No data in swine.

**Statistics**

- GLM procedure of SAS - Sow reproduction, litter growth
- PROC MIXED of SAS - Repeated measures - Milk, colostrum, immunoglobulins
- Chi-square - Mortality

- Experimental unit = sow/litter
- LS means presented

**Objectives**

Evaluate whether feeding trace mineral amino acid complexes to the sow enhances immunity and increases growth of suckling pigs.

**Materials & Methods**

- 40 multiparous crossbred sows
- Sows allocated to 1 of 2 treatments at weaning based on parity number, backfat thickness, and BW.

**Treatments**

- **ITM:** 110 ppm Zn from ZnO
  - 40 ppm Mn from MnO
  - 15 ppm Cu from CuSO4

- **CTM:** 60 ppm Zn from ZnO
  - 50 ppm Mn from Availa™Zn
  - 20 ppm Mn from MnO
  - 20 ppm Mn from Availa™Mn
  - 5 ppm Cu from CuSO4
  - 10 ppm Cu from Availa™Cu

- Sows maintained on their respective treatments over one gestation and lactation period.
- Piglets were:
  - Cross-fostered at 2 d of age.
  - Weaned at 28 d of age.
  - Not provided creep feed.

**Results**

No differences between ITM and CTM:

- Lactation feed intake, backfat thickness, sow body weight, and numbers of total pigs born, pigs born alive, and pigs weaned, \( P > 0.44 \)
- Concentration of protein, fat, and lactose in colostrum and milk, \( P > 0.25 \)

Sows supplemented with CTM had:

- Decreased number of mummified fetuses, \( P = 0.04 \)
- Tended to have fewer stillborns, \( P = 0.10 \)
- Increased litter weaning weight, \( P = 0.05 \)
- Tended to have greater homogeneity of piglet weaning weights, \( P = 0.11 \)
- Decreased somatic cell counts in colostrum and milk, \( P > 0.05 \)
- Numerically greater IgG in colostrum (\( P = 0.35 \) and piglet serum (\( P = 0.22 \))

**Conclusions**

- Sows supplemented with trace mineral amino acid complexes had decreased somatic cell counts and increased litter weaning weights.
- Reproductive response to trace mineral amino acid complexes should be interpreted with caution due to low numbers of sows in the study.