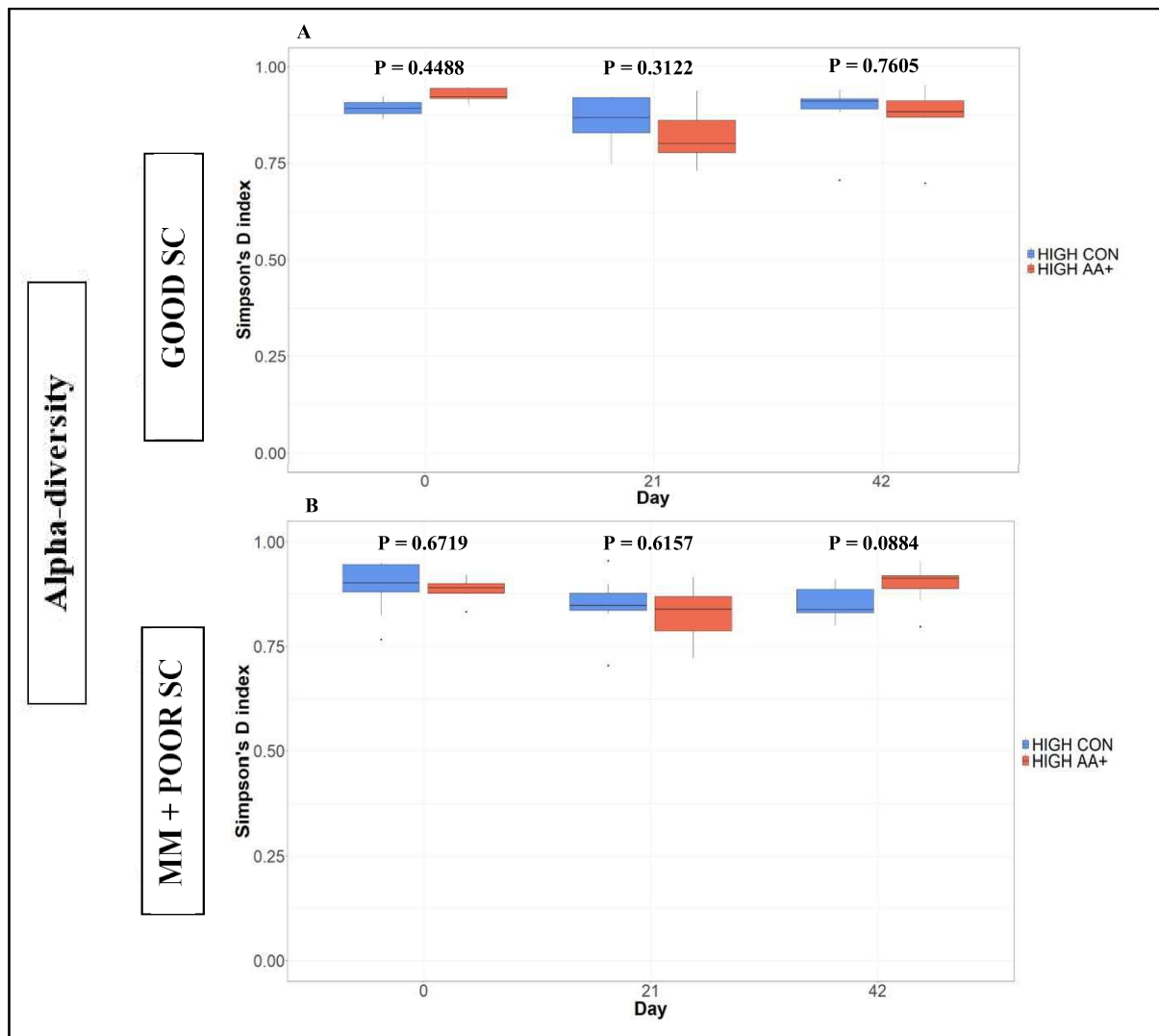# Supplementary Material



**Figure S1.** Alpha-diversity (Simpson's D index) analysis of fecal microbiome samples across piglets with High Sanitary Status (HSS), housed in a good or poor sanitary condition (SC), and feeding a control (CON) or surplus supplemented diet with amino acids (AA+). Figure S1A shows no significant difference in alpha-diversity (Simpson's D Index) between diets (CON vs. AA+) across HSS piglets under GOOD SC over time. Figure S1B shows no significant difference in alpha-diversity (Simpson's D Index) between diets (CON vs. AA+) across HSS piglets under mixed management and poor sanitary condition (MM+POOR SC) over time. Alpha-diversity comparison between diet groups was done using a Welch two sample T-test (P < 0.05). The sample size for the fecal samples was: **GOOD SC** (Figures S1A) on day 0, CON (n=2) and AA+ (n=5); on day 21, CON (n=7) and AA+ (n=7); and on day 42, CON (n=8) and  AA+ (n=8); and **MM + POOR SC** (Figures S1B) on day 0, HSS CON (n=10), HSS AA+ (n=7); on day 21, HSS CON (n=7), HSS AA+ (n=7); and on day 42, HSS CON (n=7), HSS AA+ (n=8). Each piglet was considered SC an experimental unit throughout the analysis.

**Table S2 -** Serological results of the health monitoring program of the high and low sanitary status farms.

| Characteristics | High Sanitary Status | Low Sanitary Status |
|---|---|---|
| Seronegative to antibodies against: | *Mycoplasma hyopneumoniae*, *Actinobacillus pleuropneumoniae* (APP), Swine InfluenzaH1N1 | |
| Seropositive to antibodies against: | Porcine circovirus type 2, *Glaesserella parasuis*, *Pasteurella multocida*, *Lawsoniaintracellularis* | *M. hyopneumoniae, Actinobacillus pleuropneumoniae* (APP), Swine Influenza H1N1, Porcine circovirus type 2, *Glaesserella parasuis, Pasteurella multocida, Lawsonia intracellularis* |