This study evaluated storing 3 commercial phytases for 90 d in an environmental chamber set at 29.4°C and 75% humidity on phytase stability and nursery pig growth performance and bone mineralization. The phytases [HiPhos GT (20,000 FYT/g, DSM Nutritional Products, Parsippany, NJ); Axtra Phy TPT (20,000 FTU/g, Dupont, Wilmington, DE), and Quantum Blue G (40,000 FTU/g, AB Vista, Plantation, FL)] were kept as pure forms or blended in a vitamin-trace mineral (VTM) premix and sampled on d 0, 30, 60, and 90 of storage. Regardless of source and form, analyzed phytase activity decreased (linear, \( P < 0.001 \)) as storage increased. Afterwards, 300 nursery pigs (11.7 kg BW) were assigned to 1 of 8 treatments in a RCBD with 4-5 pigs/pen and 8 pens/treatment. Treatments included a negative (NC, 0.12% aP) and positive control (PC, 0.27% aP) without phytase; or NC with added phytase to provide 0.15% aP (1,000, 651 and 500 FTU/kg for HiPhos, Axtra Phy, and Quantum Blue, respectively). Negative control with added phytase treatments were manufactured with each phytase source previously stored in pure form or VTM premix for 90d. Pigs fed PC had greater (\( P < 0.001 \)) ADG compared to pigs fed NC. Bone mineralization was greater (\( P < 0.001 \)) for pigs fed PC compared to NC, phytases stored in VTM, and Axtra Phy and Quantum Blue stored in pure form. Regardless of source and form, phytase activity decreased as storage increased.

In this study, bone ash was reduced when phytases were stored for 90d in a VTM compared to the PC.

**Key words:** enzyme, nursery pigs, phytase efficacy