Our objective was to determine the effects of feeding different analyzed calcium to phosphorus (Ca:P) ratios on performance of growing-finishing pigs from 26 to 127-kg. A total of 1,134 barrows and gilts (PIC 359×Camborough, initial BW 26.3 ± 0.71 kg) were used in a 110-d growth trial with 27 pigs per pen and 7 pens per treatment in a randomized complete block design. The 6 dietary treatments were formulated to contain 0.75:1, 1.00:1, 1.25:1, 1.50:1, 1.75:1, and 2.00:1 analyzed Ca:P ratio. All diets were corn-soybean meal-based and were formulated to contain adequate standardized total tract digestible P (approximately 122% of NRC 2012 estimates) for the weight range across analyzed Ca:P ratios of 0.75:1 to 1.75:1 but worsened (quadratic, P < 0.05) at the highest ratio of 2.00:1. Hot carcass weight (HCW) and carcass ADG increased (quadratic, P < 0.05) while carcass yield decreased (quadratic, P < 0.05) with increasing analyzed Ca:P ratio. Bone mineralization increased (quadratic, P < 0.05) with increasing analyzed Ca:P ratio. For ADG, ADFI, G:F, and bone ash, the quadratic polynomial model demonstrated the best fit. The maximum responses in ADG, ADFI, G:F, HCW, and bone ash were estimated at 1.38:1, 1.49:1, 1.29:1, 1.25:1, and 1.93:1 analyzed Ca:P ratio, respectively. In conclusion, for growing-finishing pigs from 26 to 127-kg fed diets adequate in STTD P, the analyzed Ca:P ratio to maximize growth performance and HCW criteria ranged from 1.25:1 to 1.49:1. A higher analyzed Ca:P ratio, estimated at 1.93:1, was required to maximize bone mineralization.