INSIGHTS - A LOOK INSIDE PEER-REVIEW

Reduced Level of Zinpro Performance Minerals® Maintains Or Improves Production Parameters in White Shrimp, *Litopenaeus vannamei*

ZINPRO PERFORMANCE MINERALS®

Study Objective

Evaluate supplemental Zn, Mn, Cu, Fe, and Se, from Zinpro Performance Minerals®, on growth performance, immune status, and meat quality of white shrimp, *Litopenaeus vannamei*

Animals

1080 Juvenile white shrimp, *Litopenaeus vannamei*;
4.43 g initial weight

Treatments

Inorganic

120 ppm Zn as $ZnSO_4$ + 60 ppm Mn as $MnSO_4$ + 32 ppm Cu as $CuSO_4$ + 100 ppm Fe as $FeSO_4$ + 0.3 ppm Se as Na_2SeO_3

Inorganic/ZPM

Iso total mineral levels, with substitute of 50, 20, 10, 50, and 0.3 ppm from ZPM Zn, Mn, Cu, Fe, and Se, respectively

ZPM

50% inclusion rate of minerals from Inorganic treatment, using ZPM

Study Duration

Shrimp received experimental diets for 8 weeks; 90 total shrimp underwent immune challenge with decreased water temperature and *Vibrio harveyi* injection

Location

Kasetsart University,
Bangkok, Thailand

IS-A-002
Z ACr - 91

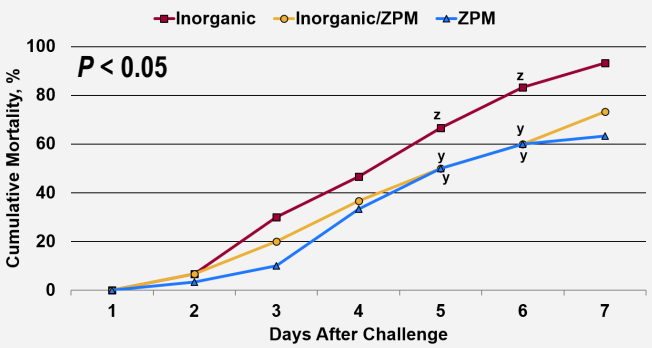
Results Summary

ZPM fed in combination with inorganic minerals, or alone:

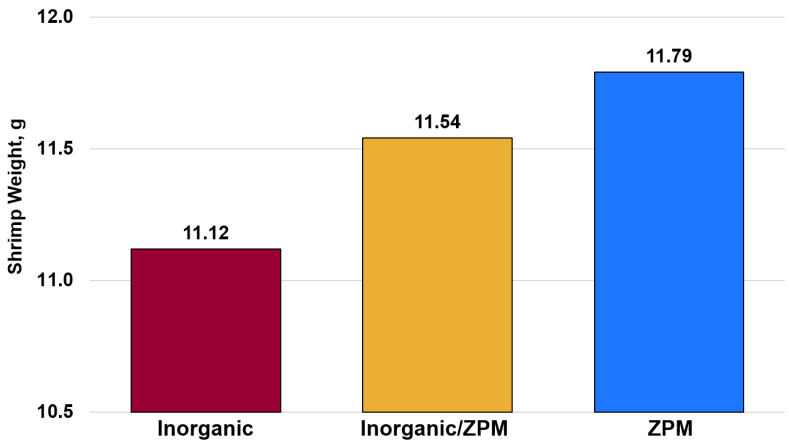
- Decreased cumulative mortality of shrimp challenged with *Vibrio harveyi*
- Numerically increased growth, with the highest value observed for shrimp consuming 50% supplemental mineral levels from ZPM

ROI was 16% greater for shrimp fed less total mineral from ZPM and 11% greater for shrimp consuming a combination of ZPM and inorganic mineral.

Cumulative Mortality of Challenged Shrimp



8-week Shrimp Weight



DOWNLOAD ABSTRACT/FULL PAPER

Jintasataporn, O., T. Ward, S. Chumkam, and O. Jintasataporn. 2015. The efficacy of mineral-amino acid complex (Zn, Mn, Cu, Fe, and Se) in diets to growth performance, immune status and meat quality of white shrimp, *Litopenaeus vannamei*. Aquac. Indones. 16(1):33-37.