

## ZINPRO® Reduces Zinc Requirement of Channel Catfish, *Ictalurus punctatus*



### Study Objective

Determine dietary zinc requirement of channel catfish using both zinc sulfate and ZINPRO® zinc methionine, while comparing bioavailability of both mineral sources, using either a purified or practical diet.



### Animals

2700 newly-hatched channel catfish, *Ictalurus punctatus*, sourced from a single egg mass; Fed five weeks prior to start of study

### Treatments

#### Purified Diet

(10 treatments; egg-white-based)

- Supplemented with 0, 5, 10, 15, or 30 ppm zinc from zinc sulfate ( $ZnSO_4$ ) or ZINPRO

#### Practical Diet

(8 treatments; soybean-meal-based)

- Supplemented with 0, 5, 10, 20, or 80 ppm  $ZnSO_4$  or ZINPRO



### Study Duration

Fish were fed purified diet for two weeks prior to start of study and experimental diets for 10 weeks



### Location

Auburn University, Auburn, AL

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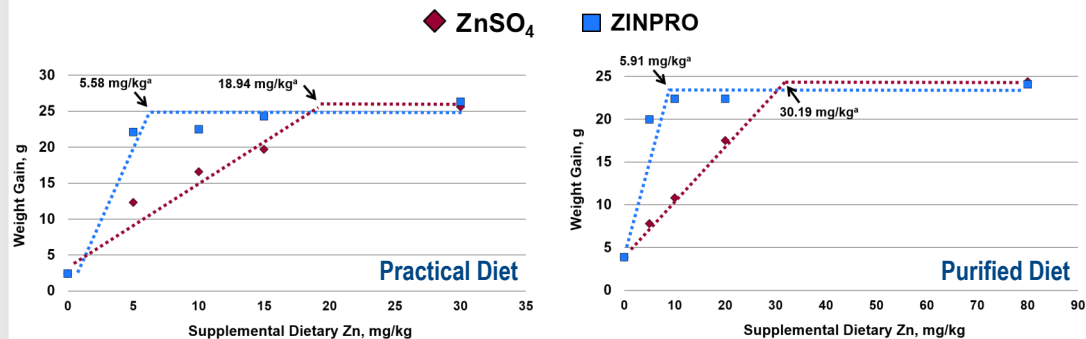
## Results Summary

Feeding supplementary zinc to channel catfish showed:

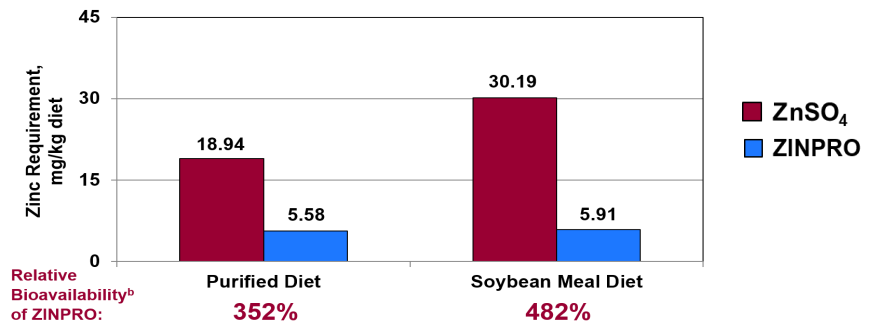
- Dietary Zn requirement varied with Zn source
- ZINPRO was approximately 3x more bioavailable than  $ZnSO_4$  when a purified diet was fed
- Zn bioavailability was 4 to 5x higher for ZINPRO when a practical diet (soybean-meal-based) was fed

Feeding ZINPRO® in an aqua diet provides a highly bioavailable mineral, at a lower requirement level, allowing for improved weight gain.

## Weight Gain Response



## Dietary Zinc Requirement for Weight Gain and Relative Bioavailability



<sup>a</sup> Breakpoint in regression line (quadratic response  $P < 0.01$ ) considered to be the minimum dietary concentration for optimum response

<sup>b</sup> Relative bioavailability calculation: Ratio of the slope of zinc methionine regression line to the slope of zinc sulfate regression line  $\times 100$

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Paripatananont, T., and R. T. Lovell. 1994. Chelated zinc reduces the dietary zinc requirement of channel catfish, *Ictalurus punctatus*. *Aquaculture* 133:73.