Enhanced Growth Effects by Inclusion of Pond Floc to Shrimp Diets

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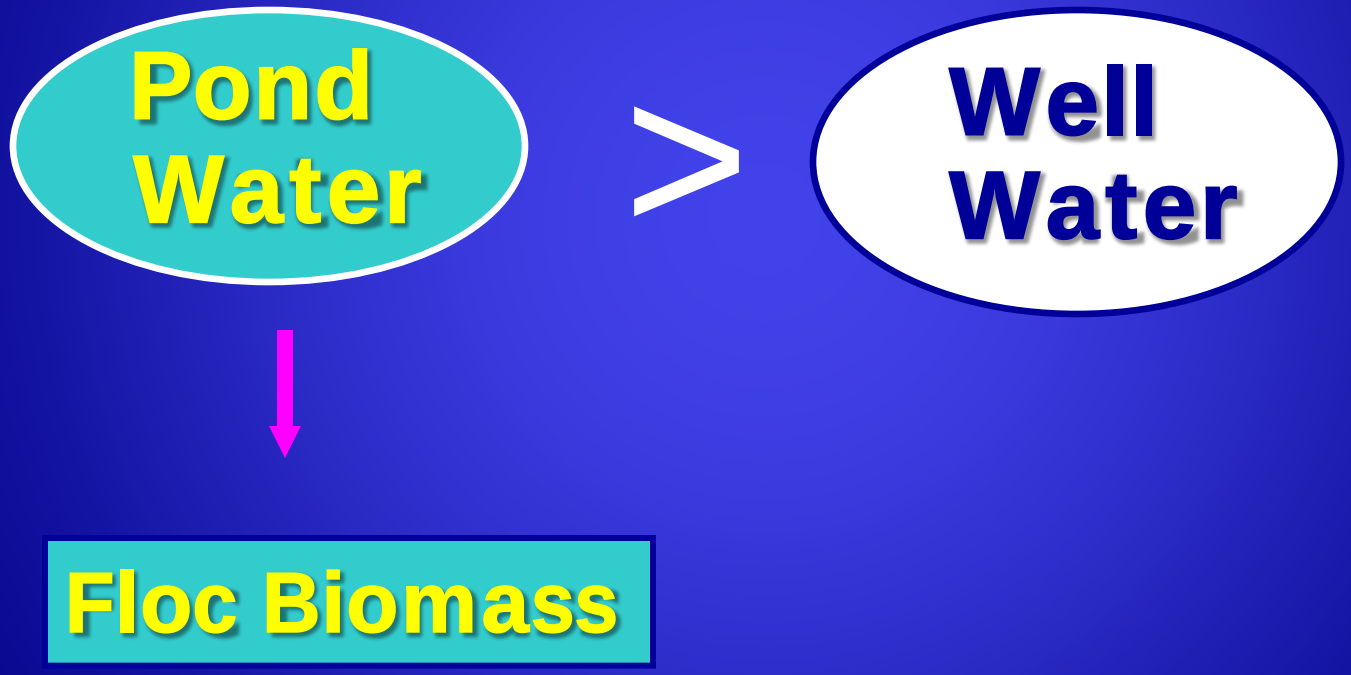
Shrimp grow better in pond water than well water



What is floc?

Floc is naturally suspended particles in shrimp or fish culture water.

Floc Composition

Microorganisms (46%) + **Detritus (54%)**

Algae
Bacteria
Fungi
Ciliates
Amoebae
Rotifers Worms
Flagellates
Protozoans
Metazoans
Nematodes
Gastrotrichs

Feed pieces
Feces
Dead microorganisms
Shrimp shell

Trial Objective

To determine the effects of adding floc to a control diet on growth and survival of shrimp.

Materials and Methods

Floc sample

Collected from 27 outdoor tanks cultured with shrimp

Materials and Methods

Diet preparation:

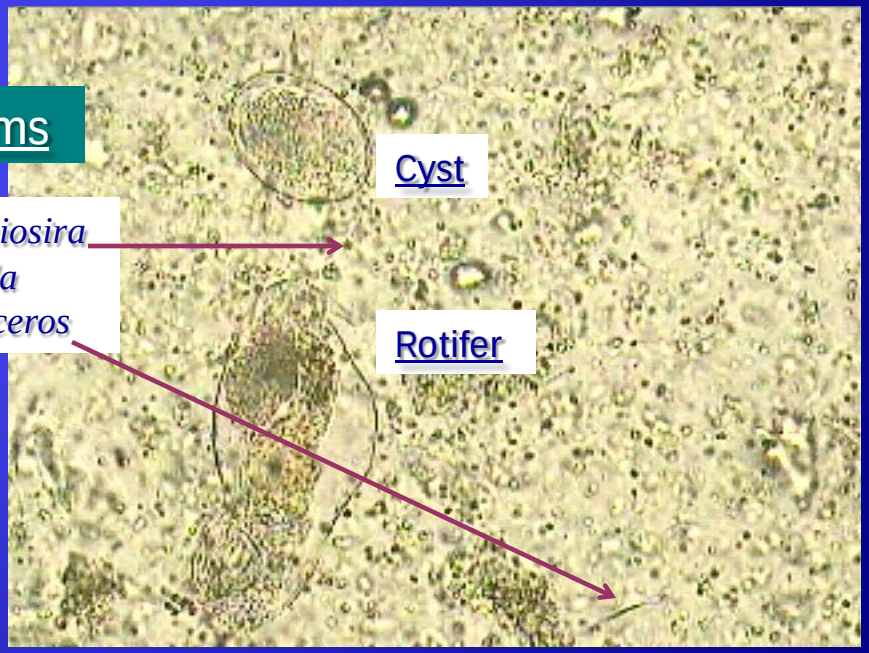
Adding 20% intact floc or ground floc biomass to control diet (40% crude protein, 9% crude lipid)

Shrimp feeding trial:

Indoor lab with flow-through well water using glass aquaria (52-L; 76 cm × 31 cm × 31 cm), and each aquarium was stocked with 12 shrimp (1.00 ± 0.02 g).

Research Results

Fig. 1: Microscopic appearance of brown and green floc samples



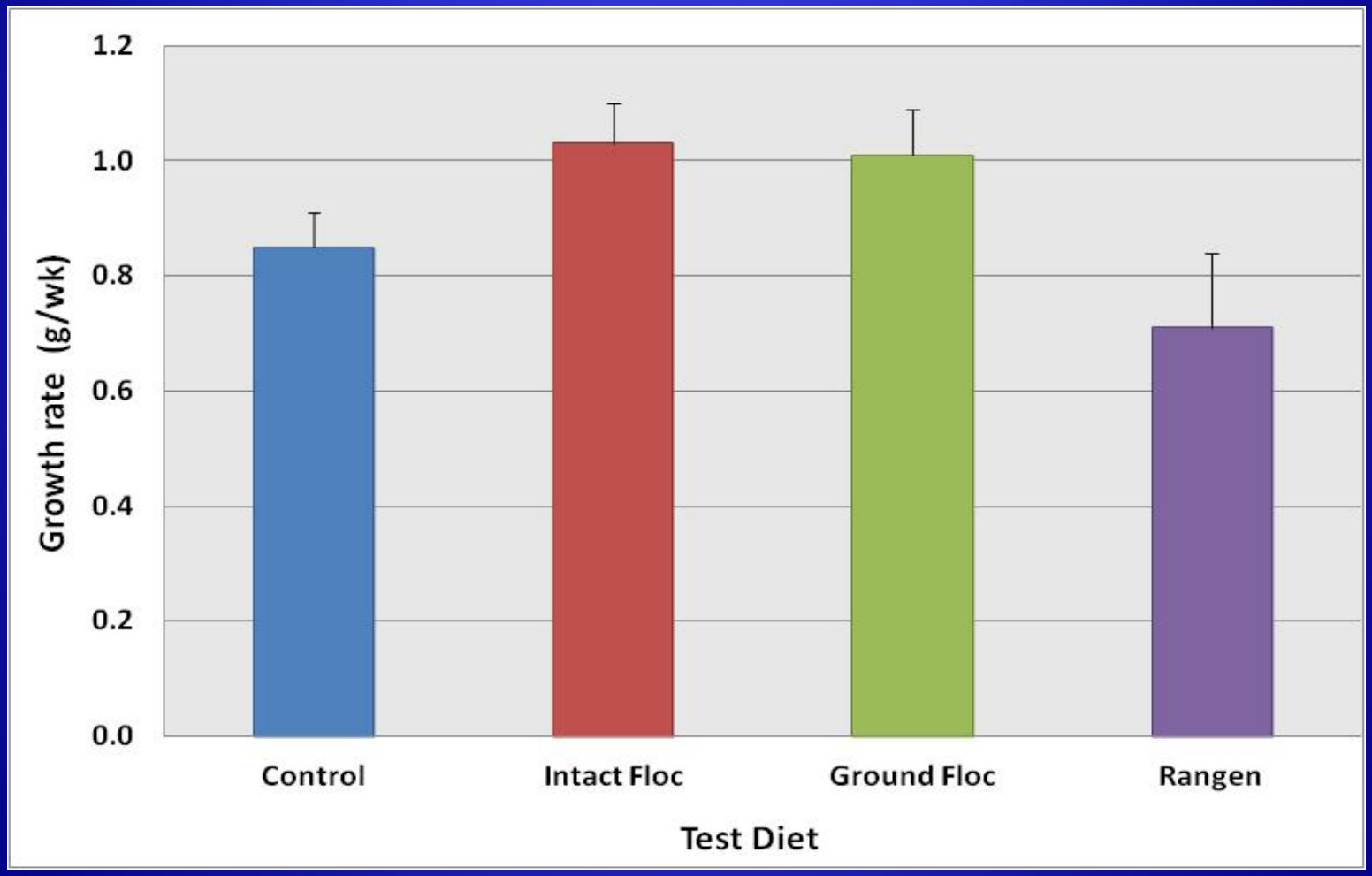
Brown Floc – (400X)

Raceway No-1

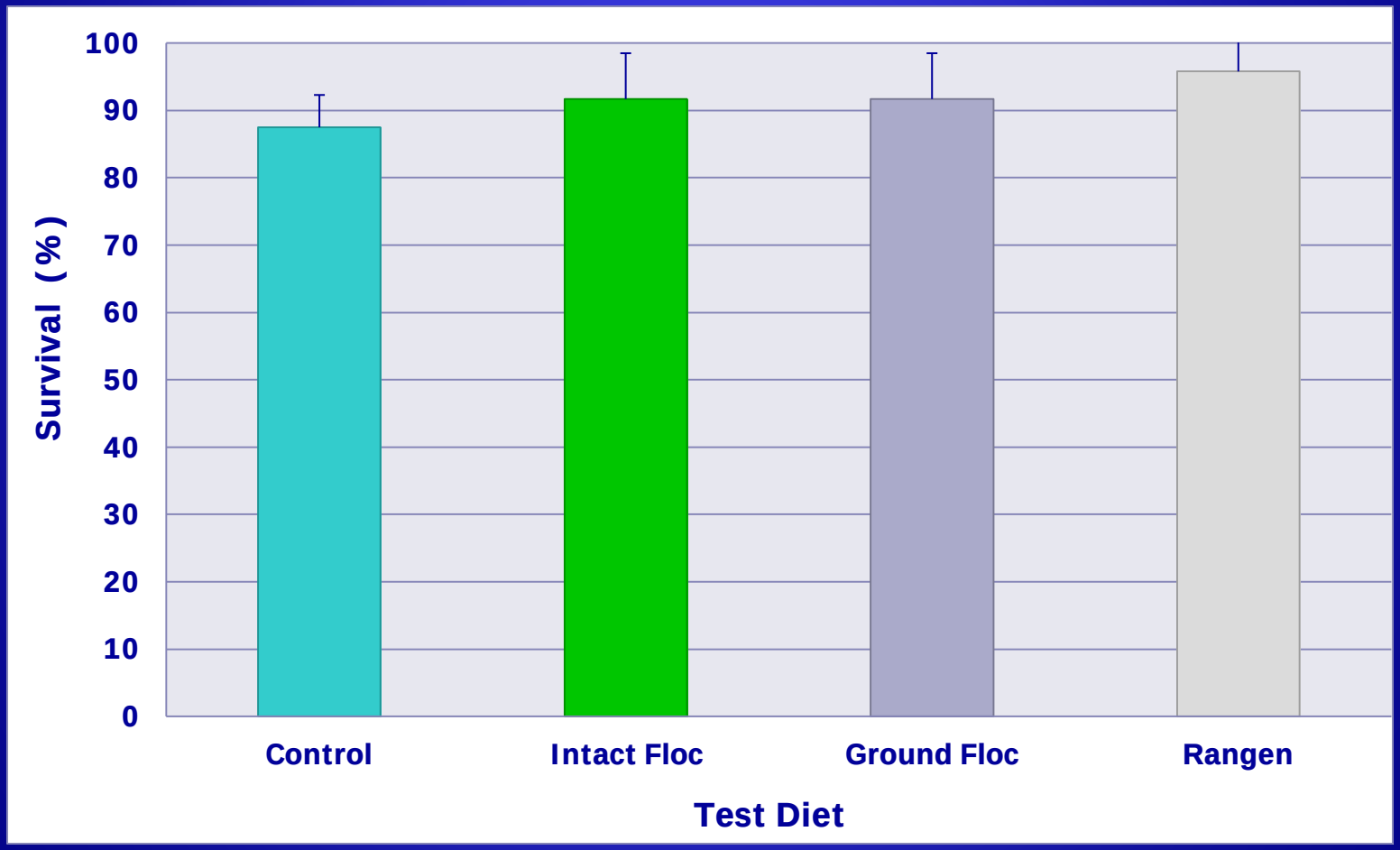
Green floc – (400X) Nannochloropsis

Raceway No-2

Floc on Growth Rate



Floc on Shrimp Survival



Conclusion

Inclusion of whole floc in shrimp diets significantly improved shrimp growth rate and did not affect shrimp survival.