

# **WHAT I'VE LEARNED ABOUT YELLOW PERCH**

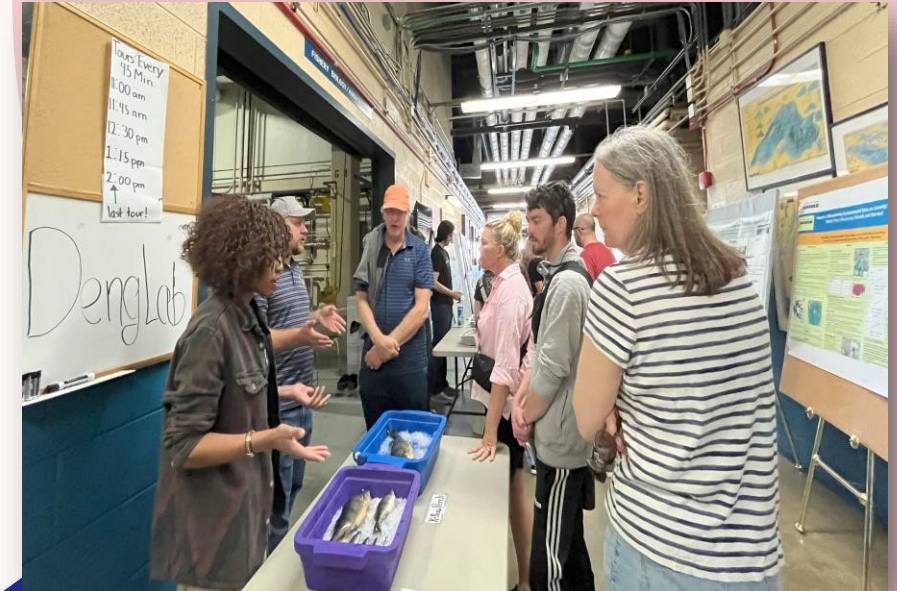
**WISCONSIN AQUACULTURE ASSOCIATION 2025**

**Willow Williams**

**School of Freshwater Science, University of Wisconsin-  
Milwaukee**

# PERSONAL BACKGROUND

- Bachelor's in Biological Sciences with an emphasis on Conservation and Environmental Science
- Interests in animal behavior and veterinary medicine led to exploring SURF
- Joined Aquaculture research lab at UWM Freshwater Sciences February of 2024



# MY EXPERIENCE WORKING IN AQUACULTURE

- Water quality and filtration management
- Feed processing and nutritional requirements
- Fish welfare and husbandry practices

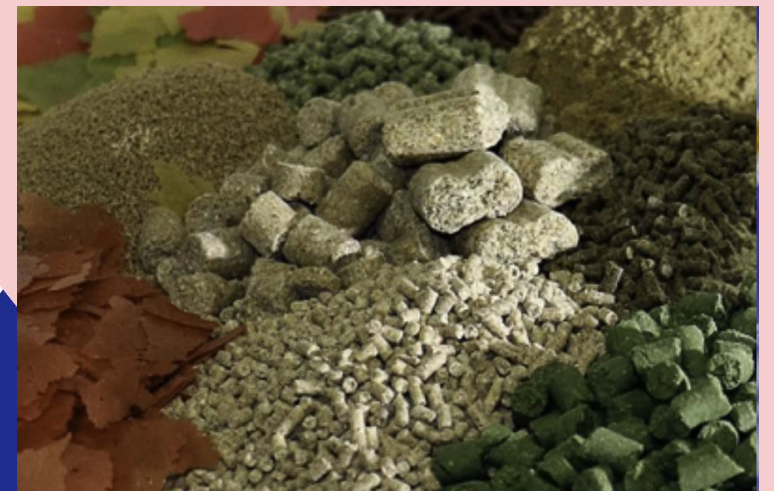




# MY EXPERIENCE WORKING IN AQUACULTURE

While aquaculture boosts global protein availability, it faces sustainability challenges:

- Heavy reliance on wild-caught fish and crop-based feeds
- Feed expenses represent 40-60% of total fish farming operational costs



# RESEARCH QUESTION: DO YELLOW PERCH LIKE SOY OR ALFALFA MORE?

Our research addresses two critical aspects of aquaculture's role in food security:

- Improving production efficiency through better understanding of species and gender-specific needs
- Reducing dependence on crop-based feeds (soybeans) by exploring alternative protein sources (alfalfa)



# RESEARCH METHOD

## Test Diets

- Soy protein concentrate-based diet (SBC)
- Alfalfa protein based-diet (ANC) replaces 50% soy protein concentrate
- Commercial feed

## Fish culture

- 9-week feeding trial
- 36 total fish
- 12 fish per diet type
- 6 males, 6 females per tank

## Measurements

- Growth performance
- Nutrition quality of end-product
- Acute heat shock tolerance



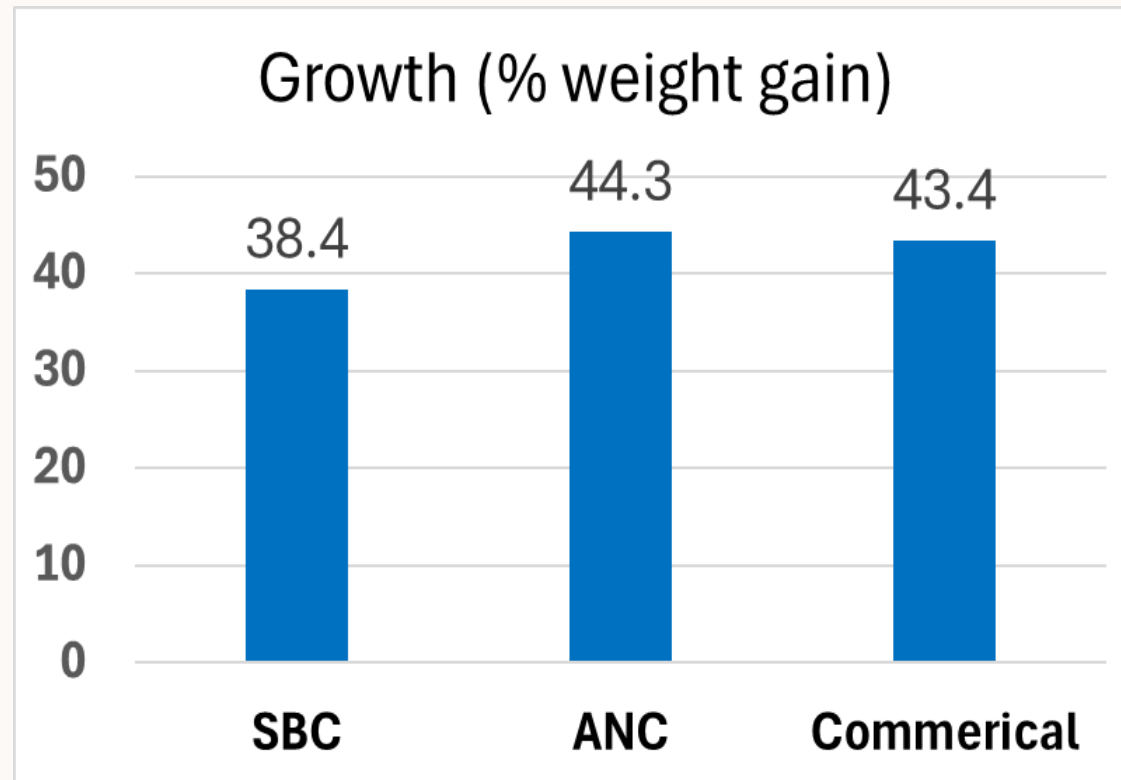
# DIETARY RESULTS

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- The growth rate was similar between ANC and commercial diet feed
- The fish fed SBC-based diet had the lowest growth.

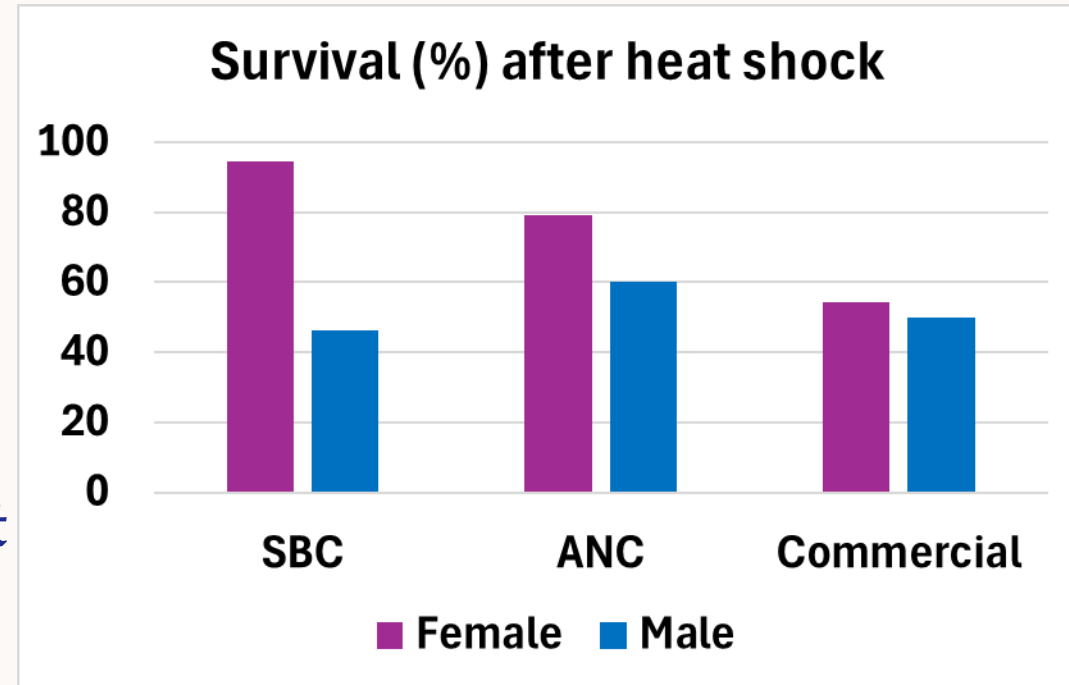
Female > Male

ANC & Commercial > SBC



# ACUTE HEAT SHOCK RESULTS

- Female has higher survival than male across all diet treatments
- The SBC (soy-based) diet shows the greatest disparity between male and female survival rates
- The ANC diet group shows the highest survival rates for male fish
- The Commercial diet led to the lowest survival in both male and female fish.



8° C increase over 4 hour



# FINAL TAKEAWAYS/QUESTIONS

- ANC can partially replace soy protein concentrate in feed for yellow perch without negative impact on the growth and heat shock tolerance of yellow perch.
- Female perch are more tolerant to heat stress than male perch and grow faster.
- More studies are needed to test its application in feed for other species of fish long term studies

# ACKNOWLEDGEMENTS

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