Color Preferences of Zebrafish: Can they affect mating behavior and reproductive performance?

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Breeding over Marbles
Experimental Design

- Used young adult AB fish all from one large group mating and raised under identical conditions
- Subdivided these into small groups of 3 female and 2 male fish for study purposes
- Used marbles of 6 different colors:
  - Clear, black, red, green, blue, and yellow
- Set up all possible combinations of two colors:
  - 15 sets of different pairs of colors
- Exposed fish to each color combination
Sample Color Preference Tank
Did fish breed better over a particular color?

- Set up group breedings of 5 fish per tank (3 females, 2 males)
- Tanks held either clear, red, or blue marbles
- Collected and counted eggs produced
- Cultured eggs and counted hatched fry
Overall Results

- Average eggs produced per group (3 females, 2 males):
  - RED: 388
  - CLEAR: 338
  - BLUE: 331

- Percentage of eggs that hatched per group:
  - RED: 70% (271 fry)
  - CLEAR: 77% (260 fry)
  - BLUE: 60% (198 fry)