

**Carefully read the description of the experiment below. Be prepared to answer the questions that follow the design description as a class quiz.**

A fisheries researcher is investigating alternative strategies for raising the mussel (*Villosa iris*). Aquaculture of this species typically employs 5 mm of sediment in the culture containers. The researcher wants to compare the established 5 mm standard with a deeper level of sediment (15 mm).

Two-day old juveniles were randomly assigned to containers (150 per container) with one of the two sediment depths (6 containers for each sediment depth, 12 containers in all). The mean survival for juvenile mussels after 40 days was 50.1% (SD±9.0) with 5 mm of sediment and was 40.8% (SD±11.3) for the 15 mm sediment containers.

How would the investigator determine if the two treatments have a statistically significant difference with respect to the survival of mussels between the two sediment depths?

