Species Diversification and Competitiveness

Purpose:

To conduct research into optimizing existing protocols and developing novel culture technology for finfish and shellfish species.

Current research projects:

1. Reproduction, Breeding & Genetics
    - 1.1 Assessment of the reproduction cycle and spawning activity of wild populations of scallops (*Pecten sulcicostatus*) in its natural environment.
    - 1.2 Assessment of the effects of algal concentration on gonad maturation in scallops (*Pecten sulcicostatus*).
    - 1.3 Design and evaluation of photo-thermal induced marine finfish brood stock conditioning programs within a compressed breeding cycle.
    - 1.4 Spawning induction and 6-week hatchery/nursery program of selected finfish.
    - 1.5 Improved settlement and post-settlement survival of sea urchins (*Tripneustes gratilla*) larvae.
    - 1.6 Development of efficient broodstock conditioning, spawning and hatchery manipulation methods for 15 selected ornamental catfish (*Clarias* sp.) with significant trade value.
    - 1.7 Development of molecular genetic markers for detection of fine-scale patterns of genetic variation in *Argyrosomus* populations and the identification of populations/stocks of *Argyrosomus* species along the southern African coast.

2. Nutrition & Feed
    - 2.1 Assessment of the effects of algal concentration on larval development in the scallop (*Pecten sulcicostatus*).
    - 2.2 Finfish grow-out trials using different production densities and food types.

3. Production Systems & Technology Transfer
    - 3.1 Grow-out studies of scallops (*Pecten sulcicostatus*) in relation to selected environmental factors (e.g. temperature, algae concentration).
    - 3.2 Design, construction and implementation of an IMTA (Integrated multitrophic aquaculture system).
    - 3.3 Integrated aquaculture and new seaweed species.

Contact person

Dr. Chris Fouche: ChrisF@daff.gov.za