Sustainable Food Production

Flinders Research Centre for Climate Adaptation and Animal Behaviour

Problem: Food availability locally, nationally and globally will be affected by climate change due to the effects of drought, heat stress, and salinity.

Opportunity: Develop high quality foods suited for particular climatic conditions to reduce environmental stress as well as human and animal suffering.

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Research Ideas:
- Measure fish health in relation to diet, with implications for aquaculture
- Measure relationship between CO2 and micronutrient content of seeds, and interaction effects with temperature and salinity.
- Measure climate variables and crop yield for key crops across large geographic areas
  - Current projects include climate effects for wheat crops in India, cabbage crops in Korea
- Effects of climate variables on the soil microbial community
  - Effects of the natural vegetation for the animals relying on the vegetation as a source of food and nutrition.
- Measure changes in the vegetation composition and nutritional content of vegetation over long periods of time (paleontological, historical, contemporary)
  - Test the idea that native plants are more tolerant of the more extreme heat and drought.

Benefits:
- The outcomes will sustain human populations, inform world famine mitigation, and inform conservation of animals reliant on native vegetation for nutrition
- Opportunity for State funding of Honours, PhD, and Postdoc positions