The long-term research goal of the Subtropical Agricultural Research Station located in Brooksville, FL, was to integrate the environment, plant, and animal genetic resources into a sustainable beef cattle agro-ecosystem for the subtropical United States. For the last eight years, this research project was focused on developing and evaluating environmentally sustainable forage and nutrient management systems that protect and enhance water and soil resources in forage-based beef cattle agro-ecosystems of the subtropics.

What Problem Does It Address?
(1) Forage-based cow-calf operations have been suggested as one of the major non-point pollution sources, especially P contributing to the degradation of water quality in lakes, reservoirs, rivers, and groundwater aquifers in south Florida. Consequently, the interaction of pasture management and hydrology that may affect nutrient dynamics and water quality is an important issue to environmentalists, ranchers, and public officials. (2) Forage-beef cattle research programs must adopt an integrated approach that will lead to the development of appropriate sustainable pasture technologies that optimize beef cattle ranching profitability. (3) Another equally important issue concerns the balance of fertility management for forage-livestock agro-ecosystem that may result in increased nutrient use efficiency and, therefore, less likelihood of nutrient loss to the environment due to leaching and/or runoff.

What is This Research Project?
The NSF-funded Subtropical Agricultural Research Station (STARS), Brooksville, FL, These subtropical United States. For the last eight years, this research project was focused on developing and evaluating environmentally sustainable forage and nutrient management systems that protect and enhance water and soil resources in forage-based beef cattle agro-ecosystems of the subtropics.