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Objective: Identify alternative biofuel feedstock crop for Hawaii and the tropics

Description

1. Identify feedstock crops that produce more biomass than sugarcane with the same or less inputs, and wide environmental range of adaptation.
2. Three species (sugarcane, energycane, napier hybrid) were tested across irrigation and elevation regimes

Key Accomplishments & Findings

1. **Energycane performs well at deficit irrigation levels and elevations from 30 to 100 m.**
2. Energycane produced greater biomass than sugarcane and napier hybrid at deficit irrigation levels.
3. Energycane and sugarcane produced greater biomass than napier hybrid at low elevation
4. Energycane and napier hybrid produced more biomass than sugarcane at high elevation

Tools & Methods

1. Dry biomass yield of the 3 species was measured under 3 irrigation regimes (farmer practice, 75%, and 50%), and 3 elevations (30, 300 , and 100 m) from 2011 to 2015 on the island of Maui, Hawaii.
2. Yield data were collected at intervals 6 months for napier hybrid, 12 months for energycane, and 24 months for sugarcane.
3. Harvest samples up to 1.5 tons were cut and weighed, and moisture content determined.

Project Management Information

1. FY2015 Funding: $80,000
2. Other funding: USDA
3. Collaborators: HC&S, USDA-ARS, UH
4. Interdependent project: “Conversion of high-yield tropical biomass into sustainable biofuels”, BRDI, USDA

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