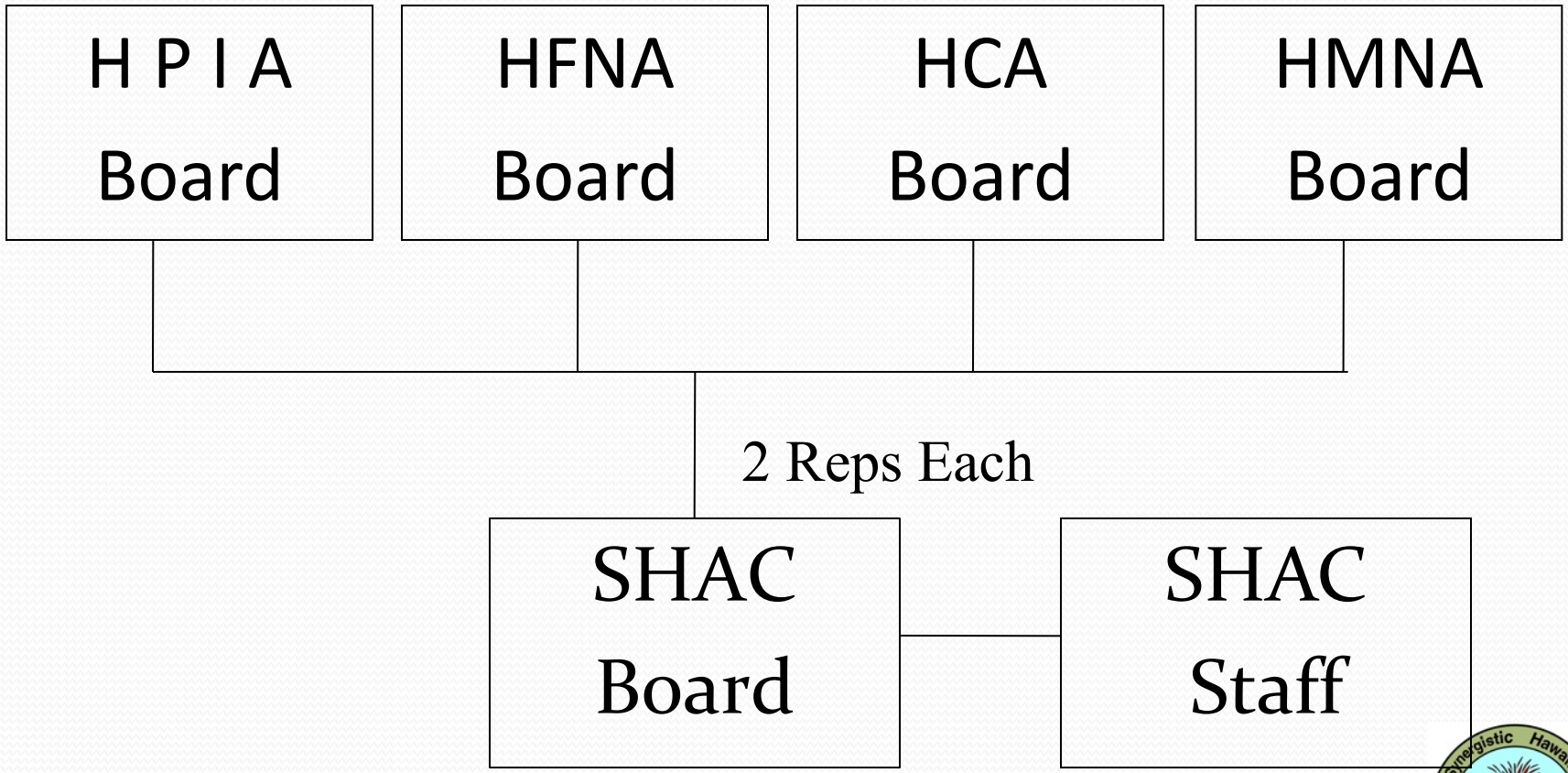
Synergistic Hawaii Ag Council

A consortium of
Hawaii Coffee Association
Hawaii Macadamia Nut Association
Hawaii Floriculture & Nursery Association
Hawaii Papaya Industry Association

VISION

Our mission is to unite our members' resources and support the growth of Hawaii agriculture. We also seek to remove economic barriers, expand markets and promote trade for our producers

Membership Structure
501(c)6



Hawaii Coffee

- **$150 million in roasted valuation**
  - 1,470 Growers across 5 islands
  - Specialty Market
  - Kona is key brand:
    - SHAC goal raise profile of all regions to match

NIFA SCRI
Coordinated Approach to CLR

- "Multi-State": Hawaii and Puerto Rico
- Nine consortium members between ARS, UH, UPR, Purdue, MSU and SHAC
- $6.07 Million in total
- Four years: January 2022 through December 2025
- Goals are both immediate and long-term
- $550,000 Extension funding integrated

Objective 1: Varieties

- **Field Trials of Resistant Varieties**
  - PBARC, TARS, and UPR Mayaguez
  - Documentation of management practices versus phenology (bean size, yield, etc)
  - Cupping trials
- **Clonal Propagation of Varieties**
  - Where do we stage young plants?
- **Root-knot Nematode resistance testing**

Objective 2: Survey and Environmental Monitoring

- **Incidence and Severity Monitoring in non-resistant farms**
  - 15+ locations in both HI and also PR
  - Documentation of management practices: fertilizers, fungicides, pruning, soil health, etc.
  - Weather Stations and spore samplers for predictive modeling
  - Development of IPM from data

Objective 3: Field Management

- **Optimizing Field Health in Non-Resistant trees**
  - Ties in with Objective 2 Field Surveying
  - Applied research on soil health and nutritional data
  - Trials of 3 pruning and suckering methods
  - Extension and outreach with results

Objective 3: Field Management

- **Fungicides: Systemic, Contact, and Biocontrols**
  - Lab and Greenhouse trials in years 1-2, field trials in years 3-4
  - Pursuit of Special Local Needs permits
- **Biological Control Surveys and Evaluations**
  - Field and lab tests on local *Lecanicillium*-type fungi.
  - Effective at controlling CLR? What mix and conditions favor the infection.

Objective 4: Pathogen and Host Characterization

- **Genome Assembly at Aime Lab, Purdue**
  - Development of markers with increased sensitivity resolved to the chromosome level
  - Ability to trace movement of individual genotype
  - How often has CLR been introduced, and do sexual reproduction and recombination occur?
  - Far-reaching implications for cultivar breeding

Objective 4: Pathogen and Host Characterization

- **Understanding resistance to CLR**
  - Understanding what makes certain cultivars resistant will provide important tools to decide what cultivars to plant and provide markers for selection and breeding efforts.
  - RNAseq will be used to seek for proteins and genes that are differentially expressed between susceptible vs. resistant plants during infection.

Objective 5: Economics

- **Cost Benefit Analyses done by Michigan State**
  - Potential economic losses
  - Control Strategies
    - Resistant versus non-resistant varieties
  - Grower and Market-side analyses
- **Meet the Economists this weekend!**
  - Mywish Maredia and David Ortega

Mahalo

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