

Aquaculture of Tilapia in Hawaii

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Part of the outcomes for the Aquaculture of Tilapia in Hawaii was to obtain stakeholder input regarding how to increase and diversify Hawaii's tilapia industry. The "snow card" technique was used to solicit input from the workshop participants. The snow card technique¹ is a means by which brainstormed ideas are filed into clusters of similarity. Those clusters are then identified as categories which are sorted in some meaningful manner. In doing so, the diverse ideas of a group of contributors can be aligned in ways that represent the overall group notions and agreements for particular issues.

The workshop participants were provided two questions for which they were allowed to place one answer only. The two questions were:

- Question 1: Identify an existing paradigm that most limits expansion of the tilapia industry in Hawaii.
- Question 2: What is impossible to do in with Hawaii's Tilapia Industry today, but if it could be done would fundamentally change it for the better?

Kathleen McGovern-Hopkins and RuthEllen Klinger-Bowen then clustered the snowcards and created clusters from which additional input as well as an indication which categories were



¹ http://consensus.fsu.edu/ResourceCtr/practitioner_helps/techs.html#snow

thought to be priorities could be obtained. The latter estimate was obtained by a show of hands.

RESULTS: Snow Card Clusters for Question #1 with clusters (bullets) from Question #2. Values in parenthesis indicate by show of hands which items should be priorities to focus on.

1) **Perception:**

- marketing strategy 20%
- prize product (ex. Kona coffee) 1%
- truth in labeling (local) 3%
- Ala Wai, junk/trash fish 30%
- fear of eating Fno + fish 1%

2) **Economics:**

- Reduce production costs (water, available loan/capital/loan, land, feed) 80%
- Local feed source 10%
- More use of vegetable matter 10%
- Affordable alternative energy

3) **Regulation:**

- Allowing niloticus imports
- Regulation (laws regarding imports/transportation, DOA/IACUC, water sources available, concern for escapement of invasive species)

4) **Disease:**

- Control of Fno (importance of making Fno-free hatcheries) 100%

5) **Cooperation/collaboration**

- Need more dialogue/positive exchange between long-time growers and new ones, Insular thinking a problem 90%
- Expand industry from just commercial to backyard (similar to excluding small fishermen from fishing industry) 10%

Brainstorming list of how to bring about change for the better:

- CTAHR sample all farms on regular basis, need relational database, access for students/farmers, for monitoring
- Erase stigma of tilapia in HI

- Local feed sources
- Need processing facility for raw fish
- Lower energy costs (any means)
- Need cooperative to pull suppliers together
- Commercial kitchen for value-added
- Stop importing tilapia
- Public education for backyard producers
- Aquaponics on every campus (school)
- Provide better tax incentives for production
- Get equipment for imaging gonads on fry
- CC campus (maybe WCC) use aquaponics to feed facility
- Aquaponics in prison system
- Define Fno, identify hatcheries that can supply stock
- Ecotourism, collaborate with HTA
- Incorporate more value-added fish products into retailers/restaurants
- Renewable energy specialist
- Development of first tilapia burger
- Blue tilapia good choice for backyard/school systems due to low incidence of Fno
- Collaborate with CC cooking programs
- Write a good song
- Business plan template to acquire micro-loans
- Ag land database (maps)
- More public access for aquaponic startups
- Develop Fno-free process
- Autonomous sensors for aquaponic water quality
- More taste tests
- Tilapia festival (WCC??) invite chefs
- Tilapia committee within HAAA?
- Brackish water tilapia aquaponics
- Tilapia cooking course
- Quality control: grower purging, processing
- Online fish market based out of HAAA website: sales
- Government cookoff: Governor/Mayor
- More recipes
- Access to affordable land
- HAAA cookbook (tilapia or other aquaculture products)
- Recipes for making backyard fish feed

- Farmer's market for fish
- Branding local fish (tilapia), more Hawaii-sounding
- "Kanaka tilapia"
- It might be good to have a "noteworthy spokesperson" who can help bring the cause into the consciousness of the general population. Sort of like how it was great having Jerry Santos singing his Board of Water Supply commercial "E Malama ika Wai".
(<http://www.youtube.com/watch?v=BrGMrzCykVo>) Who knows, maybe Jerry might even be willing to become a part of your aquaponics movement. He is all about preserving the Life of this Aina. Aquaponics seems to be a natural next step after conserving the water.