USDA ARS Aquaculture Farm Visits – Hybrid Striped Bass
March 7-10, 2018
Notes

ARS Scientists from USDA-ARS Harry K. Dupree Stuttgart National Aquaculture Research Center visited aquaculture farms across North Carolina and visited with farm owners at the 2018 Aquaculture America meeting.

4 Aquaculture Farms visited and 3 meetings with farmers at Aquaculture America – see list

Genetics, Breeding and Broodstock:

- Like to have faster growing hybrid striped triploid bass (HSTB) and ones that could tolerate higher stocking densities in tanks to increase production output.
- HSTB that could tolerate higher water temperatures in the summer and/or can grow (at least a little) during colder winter temperatures.
- Would like sterile HSTB to eliminate roe development in fish.
- Biggest issue is gonadal development in the hybrids.
- Interested in further development of the domestic White Bass broodstock.
- Genetic improvements of HSTP and Striped Bass.
- Develop protocols for triploid animals – early fecundity of hybrid striped bass and resulting egg production and loss results in high FCRs (feed conversion ratios) in larger animals and yield loss to processors at certain times of the year.
- Concerned about high rate of fingerlings with deformed spines – is this nutrient or genetically based?

Fish Health:

- Concerned with fingerling fish dying from fungus after transport to farm facility and during acclimation period.
- Concerned with very low pond fry survival in nursery ponds.
- Occasional issue with Ich in brood stock when cultivating them for spawning.
- Issue with bloat in broodstock and loss of entire pond – how to prevent.
- Vaccine development.
- Disease identification.
- Need more information on getting the VFDs (veterinary feed directives) that are needed to medicate sick fish.
- New therapeutics with facilitated approval process.
- *Edwardsiella tarda* vaccine is needed.
- Develop an effective, cheap tranquilizer.

Nutrition:

- Interested in nutrition research to formulate best diets for use in recirculating system: High protein versus low protein; high energy compared to lower energy diets.
- Would like less expensive diets to feed fish for commercial production.
- Research to evaluate other feedstuff ingredients that can be sustainable replacements to provide the nutrient requirements of the aquaculture industry moving forward.

Production Systems:

- Concerned with control of blue-green algae; need research that characterizes and supports a claim of no impact by our discharges so that we can pursue less stringent regulation, or we need a demonstration project to determine the best methodology and cost for filtering algae from discharge water and then coupling that system with a bioreactor to produce useable energy or products.
- Research on ammonia to clearly define lethal limits under varying water quality parameters.
- Research on the use of biofloc systems in existing large pond production. Interested in new technologies that can be applied to existing facilities.

Additional Priorities:

- Research to combat off flavors.
- A study to determine shelf life and meat quality profiles for HSB fed different levels of protein/fat and different sources of fat would be helpful.

LIST OF FARM OWNERS

Name	Name of Farm
Keith Hairr, Owner; Fish manager: Kathy Raynor	Oak Grove Farm of Duplin, Inc
Ted Davis, Owner	White Rock Hybrid Striped Bass Farm
Lee Brothers, Owner	Carolina Fisheries
Gary Sawyer, Owner	Artesian Aquafarms
North Carolina State University	Pamlico Aquaculture Field Laboratory
Tyler Faucette, Owner	Colorado Catch
Jim Ekstrom, Owner	Ekstrom LLC