Culture of Red Drum in different biomass integrated to tilapia and shrimp in BFT system

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Introduction

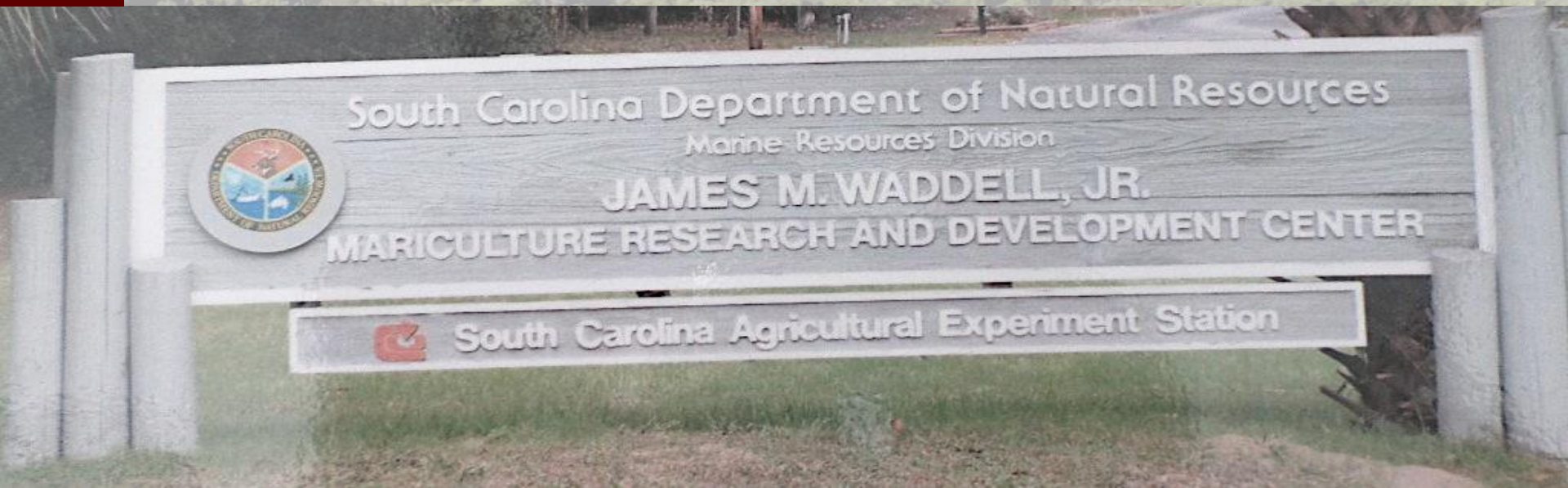
Aquaculture America 2014 - Seatlle

Advantages

- Produce Shrimp + Fish in the same system
- Water quality / treatment
- Inland areas
- Reduce costs
- Economic viability X Increase biomass????

Objectives

- Produce Shrimp + Tilapia + Red Drum
- Increase biomass of organisms



Material & Methods

Production system

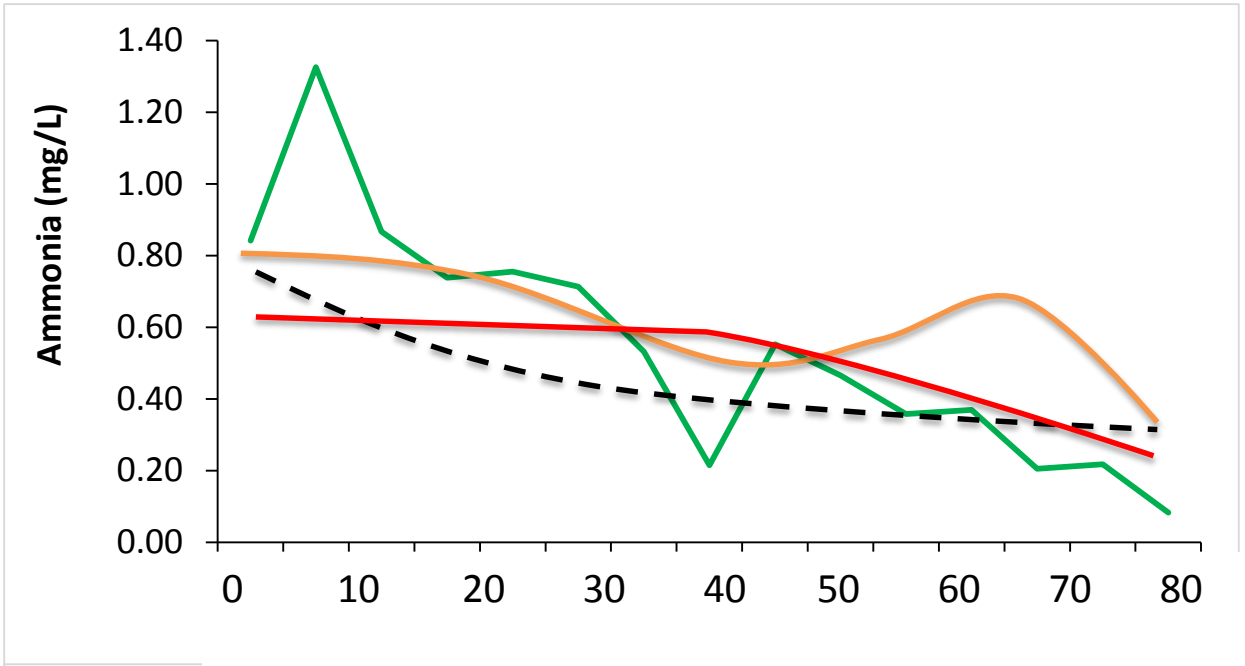

System	Shrimp biomass (kg/tank)	Tilapia biomass (kg/tank)	Red Drum biomass (kg/tank)
A	5,7	5,4	28
B	5,7	5,4	55
C	5,7	5,4	46
D	5,7	5,4	37
Biomass Increase (2014)	20%	20%	0 – 100%

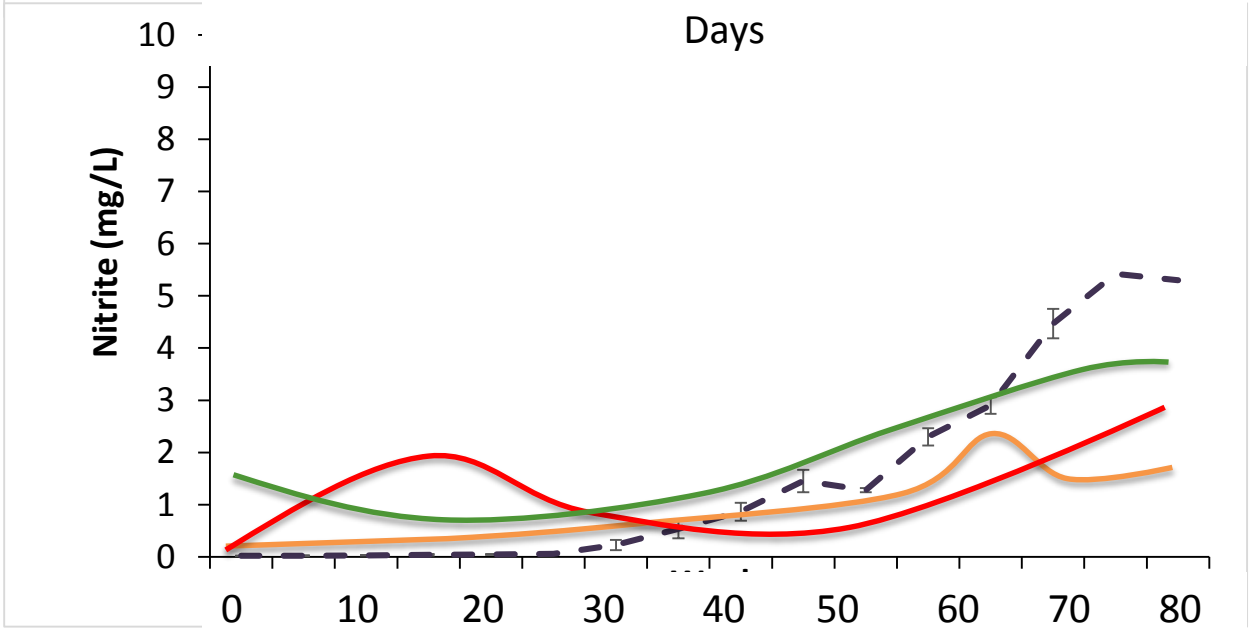
Material & Methods

Management

- ❑ NO water change (dextrose)
- ❑ Salinity
- ❑ Water quality
- ❑ Settling tanks
- ❑ Biometry
- ❑ Feed 3 x day
  - Shrimp - Hi 35
  - Fish – marine fish (silver)

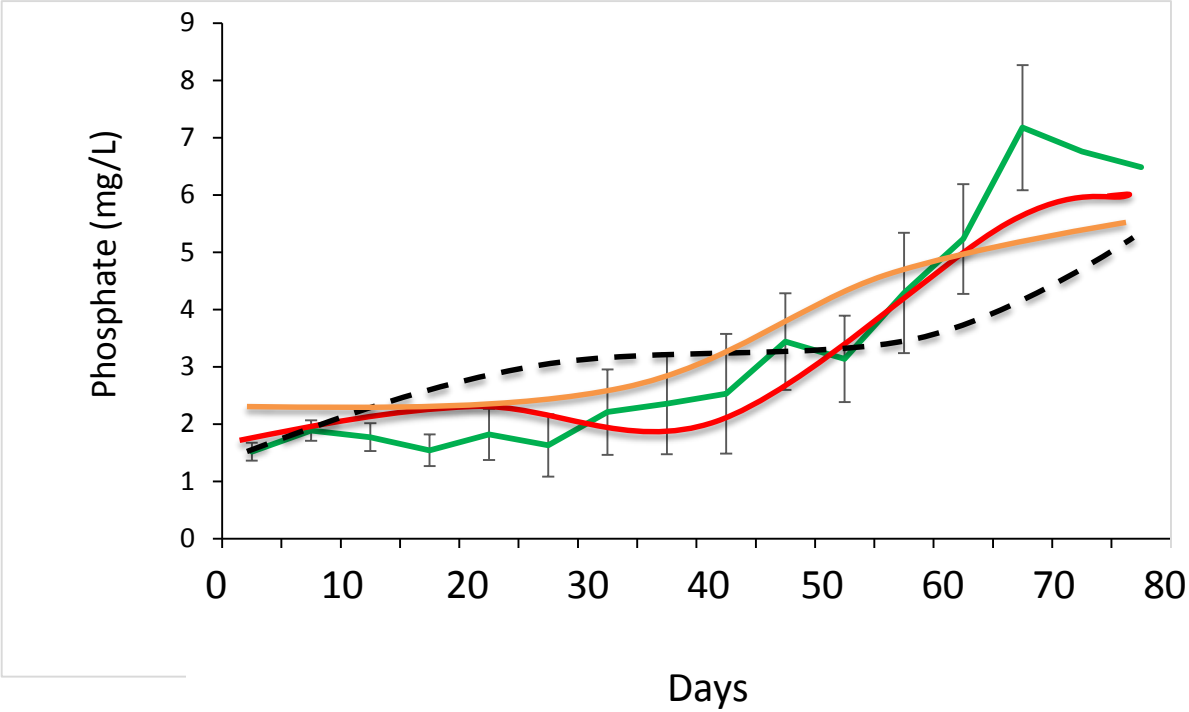
Results


Ammonia (mg/L)
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0
10
20
30
40
50
60
70
80
Days


Nitrite (mg/L)
10
9
8
7
6
5
4
3
2
1
0
0
10
20
30
40
50
60
70
80
Days

Results

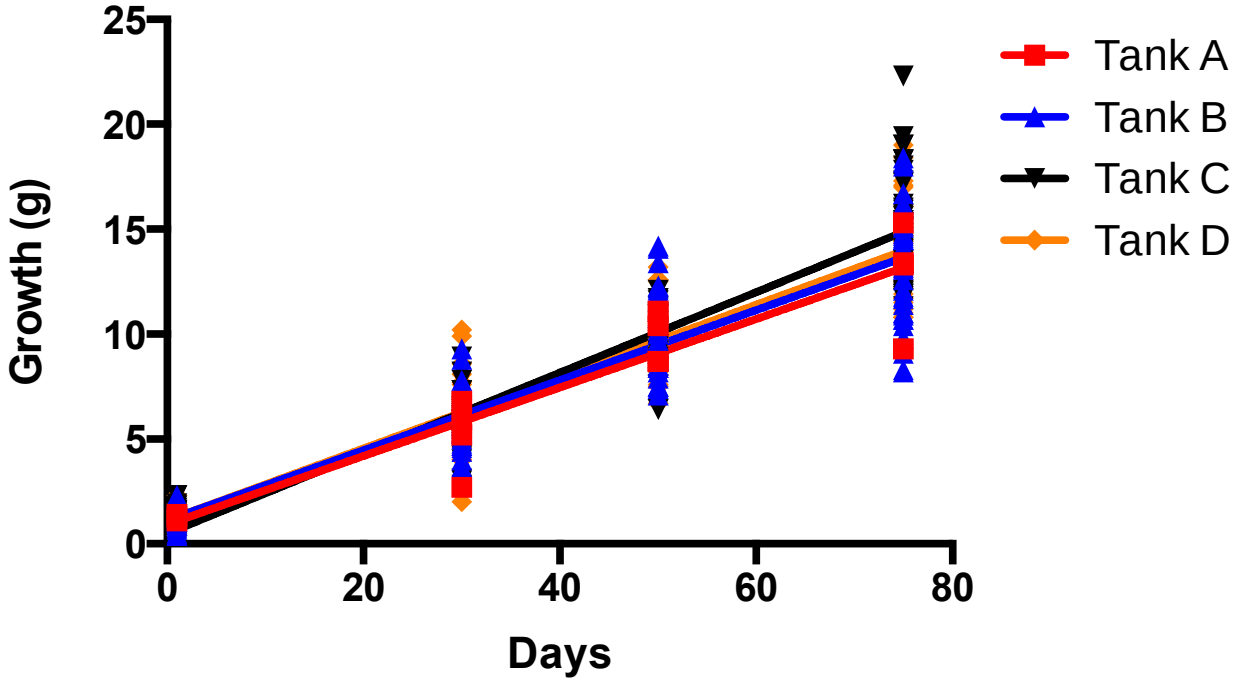
- Water quality



Oxygen	4.8 – 5.9
pH	7.0 – 8.1
Salinity	13.8 – 16.6
Alkalinity	86 - 102

Results

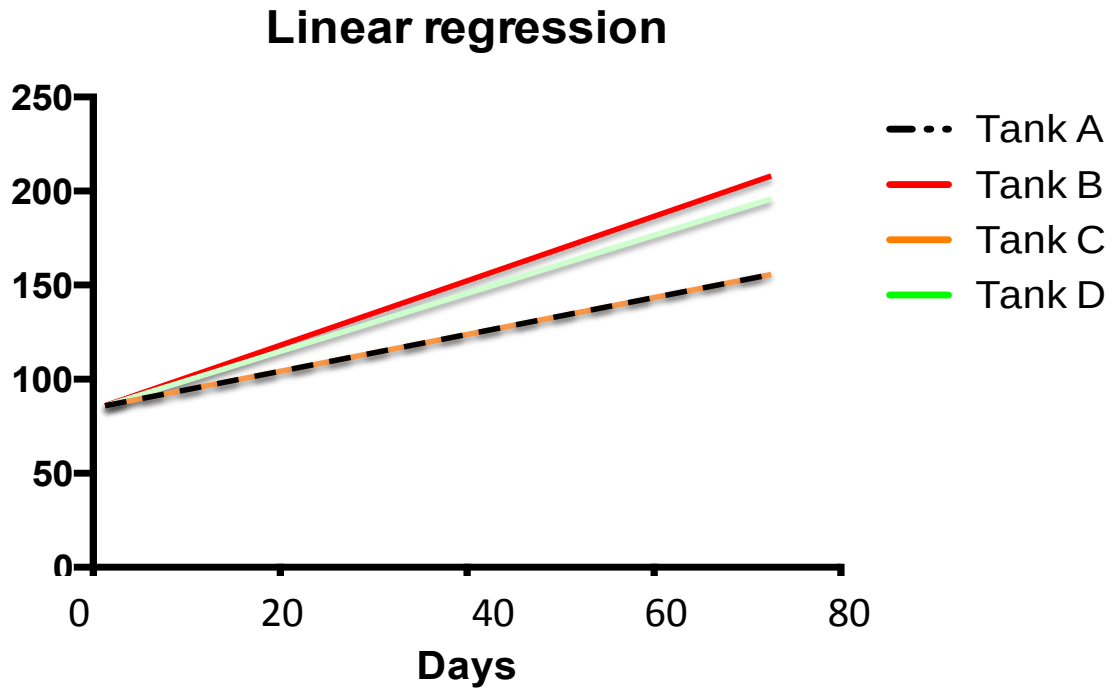
- Shrimp growth



Tank	Initial weight (g)	Final weight (g)	Survival (%)	Growth/week	FCR	Biomass (kg)
A	1.2	13.8	84	1.29	1.20	80.20
B	1.3	13.4	85	1.27	1.18	82.02
C	1.2	14.6	80	1.34	1.25	77.45
D	1.2	14.3	99	1.33	1.13	96.90

Results

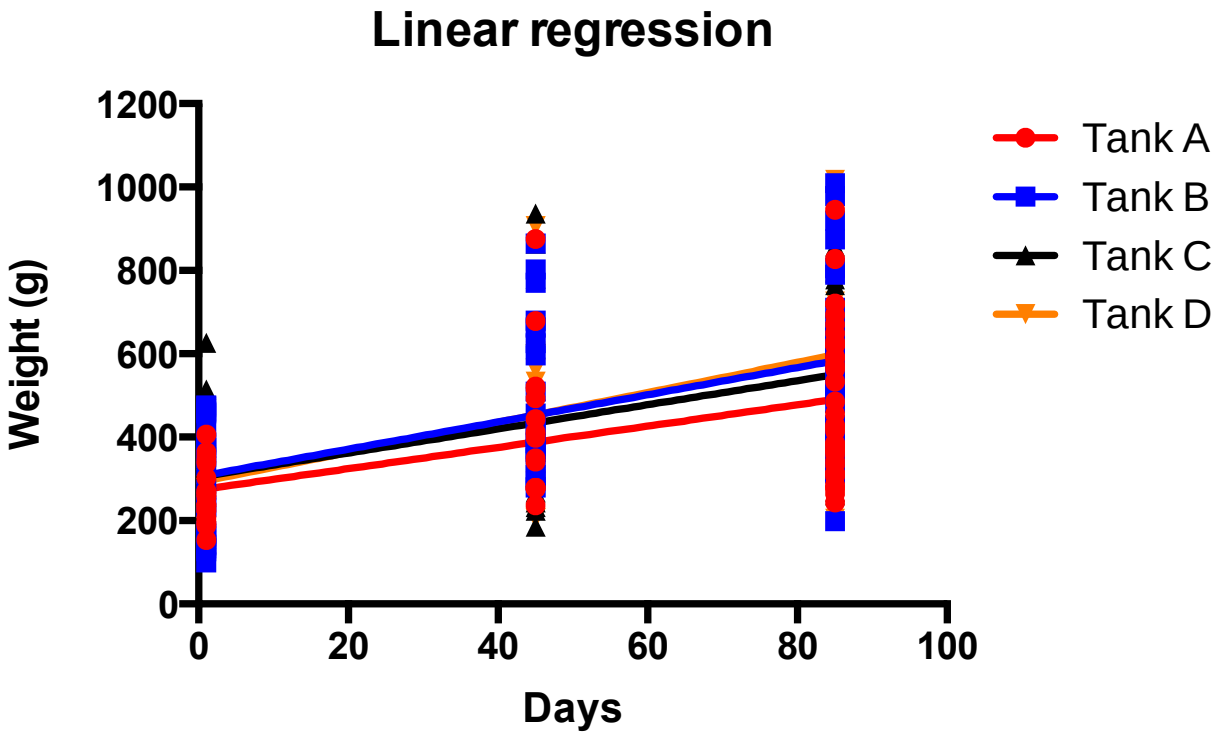
- Tilapia growth



Tank	Initial weight (g)	Final weight (g)	Survival (%)	Growth/week (g)	FCR	Biomass (Kg)
A	90.4	248.9	99	15.8	1.02	11.85
B	89.0	264.0	97	17.5	1.13	13.12
C	87.4	265.4	95	17.7	1.15	13.27
D	86.9	232.8	99	14.6	0.97	10.95

Results

- Red Drum growth



Tank	Initial weight (g)	Final weight (g)	Survival (%)	Growth/week (g)	FCR	Biomass (g)
A	262.88	482.23	99	21.93	0.90	65.10
B	286.16	569.60	97	28.30	1.23	86.25
C	303.47	547.41	95	24.40	1.11	68.80
D	287.70	591.28	99	30.35	0,92	72.25

Conclusions

- Results confirm the possibility to integrate shrimp, tilapia and red drum in BFT system;
- Is possible increase the biomass in all system;
- The low FCR and good Red Drum growth suggest the biofloc influence.

Acknowledgment