

Big Island Abalone: yesterday, today and tomorrow

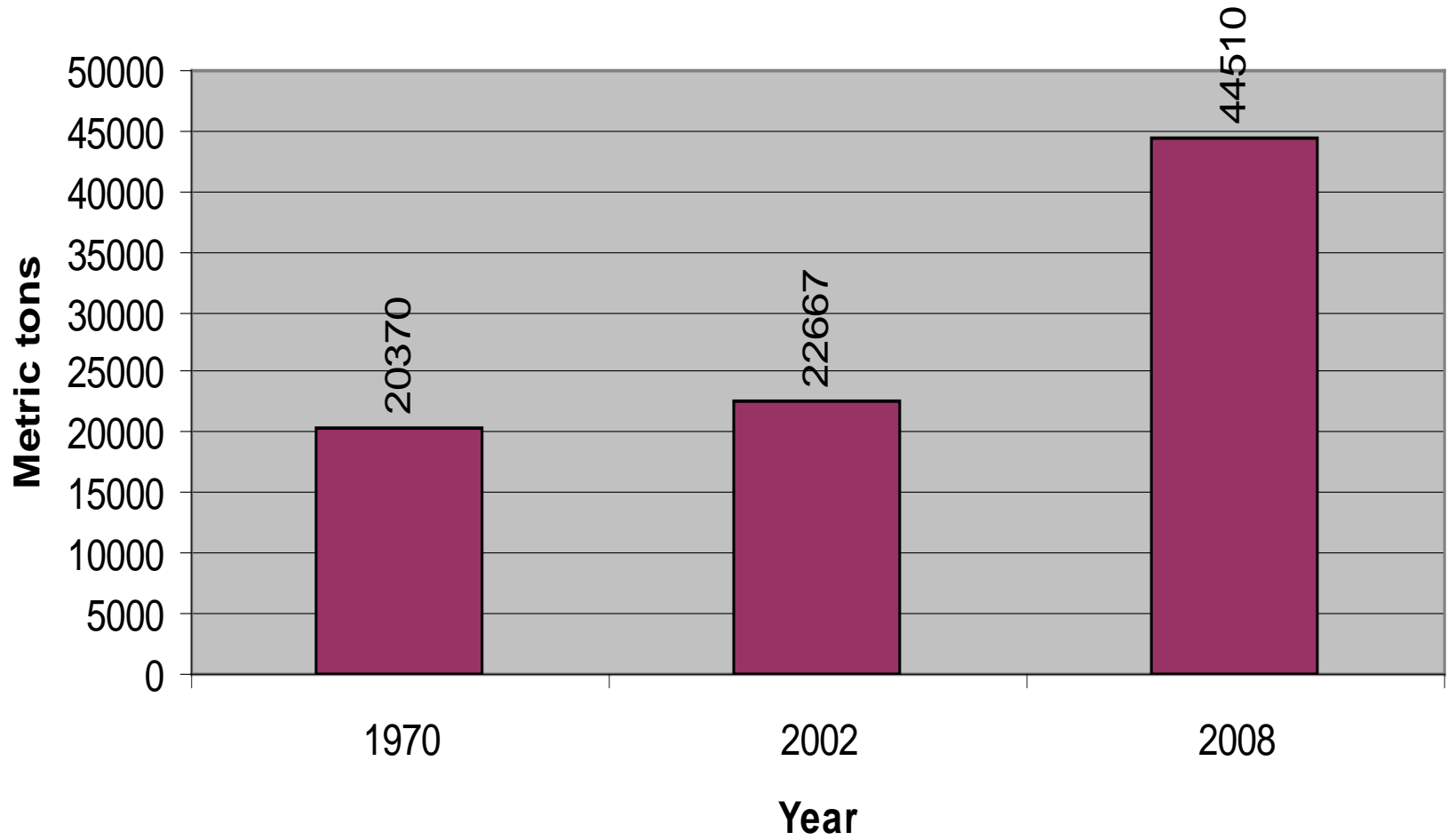


by
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Big Island Abalone Corporation

Abalone around the World

- Farmed in: China, Korea, South Africa, Chile, Australia, Taiwan, U.S.A., Japan (spat), Thailand, New Zealand
- Initially harvested Algae from the wild
- Now increased use of farmed seaweed and pelleted feeds: sustainability becoming essential
- Pelleted feed formulas have improved tremendously

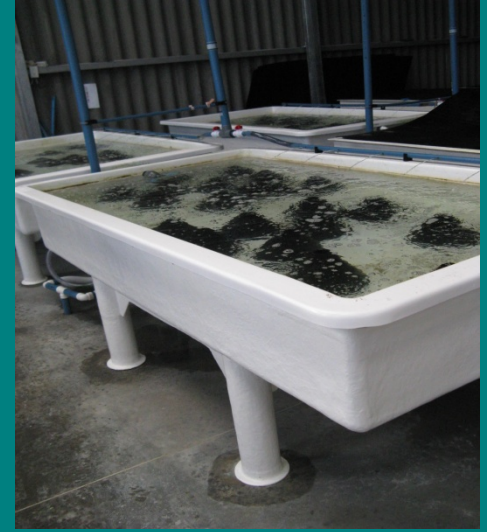
Global supply of abalone from all sources



Feeds: China

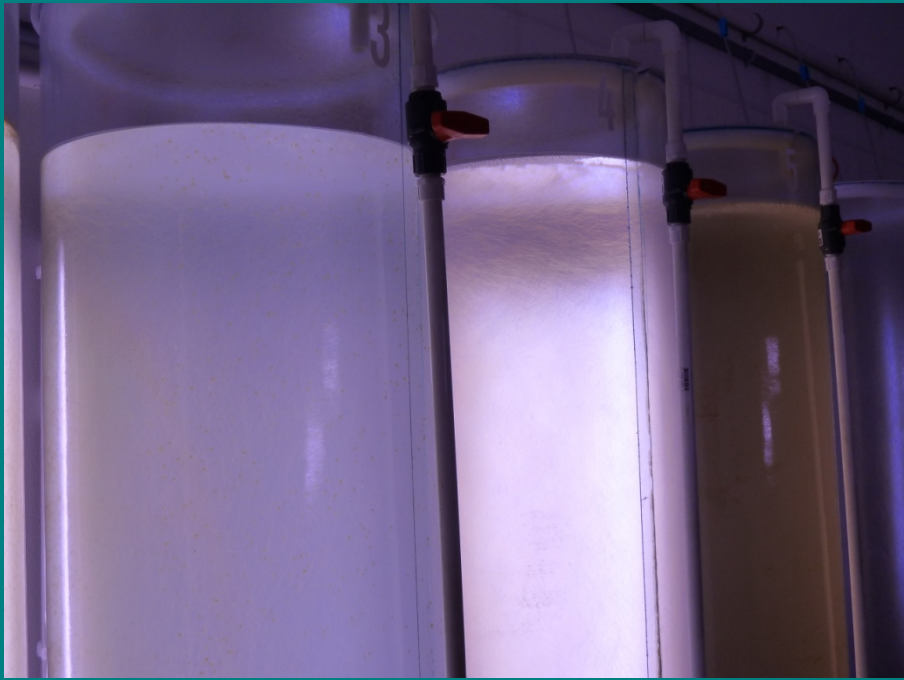


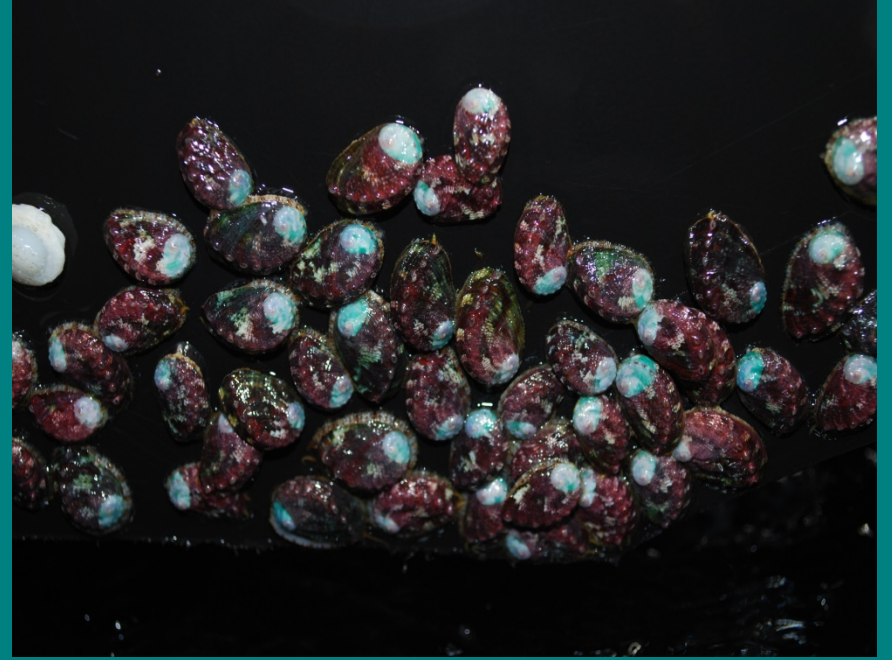
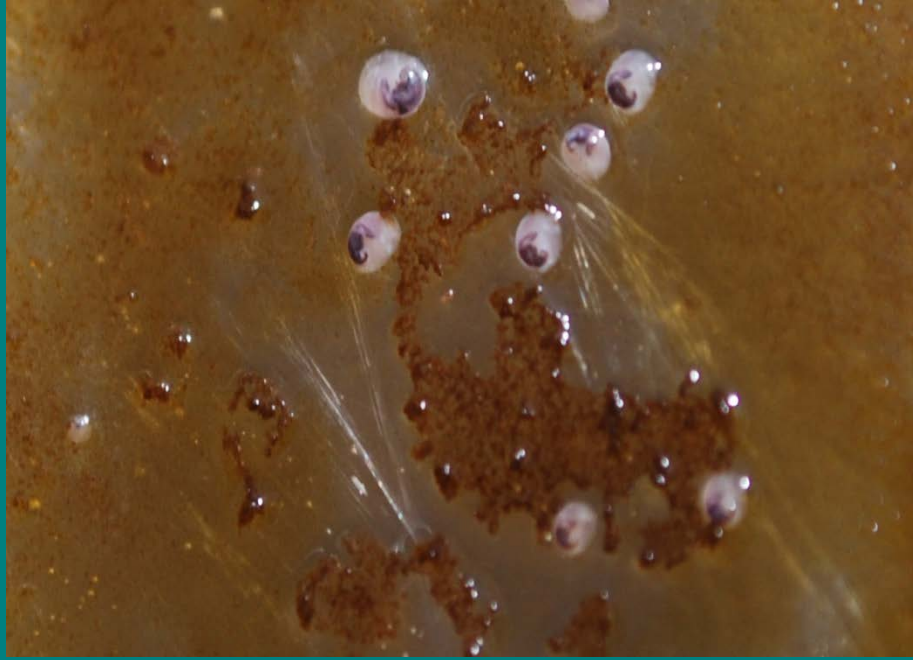
Feeds: South Africa



Big Island Abalone

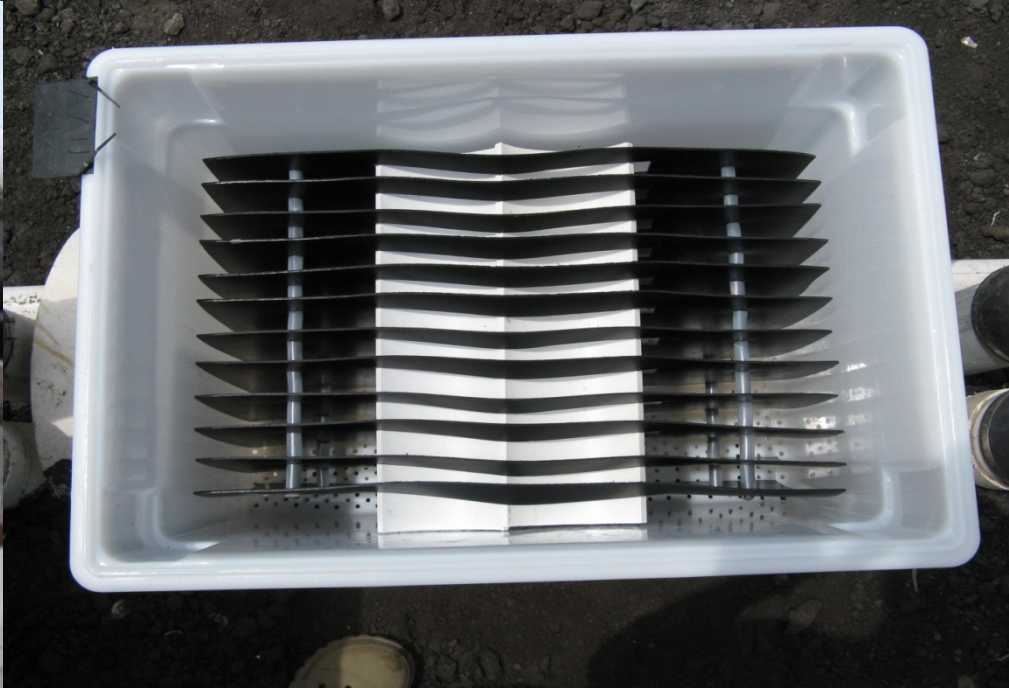
- NELHA, Kailua-Kona, Big Island
- Started research 1997, sales in 2001
- *Haliotis discus hannai* (Ezo)
- 2003 Exporter of the year award
- 2011 Finalist Hawaii Business Innovation Showcase for APEC
- Last 2.5 years over doubled production: standing stock from 40T to over 100T (5.5 million abalone)
- Critical to secure good feed!



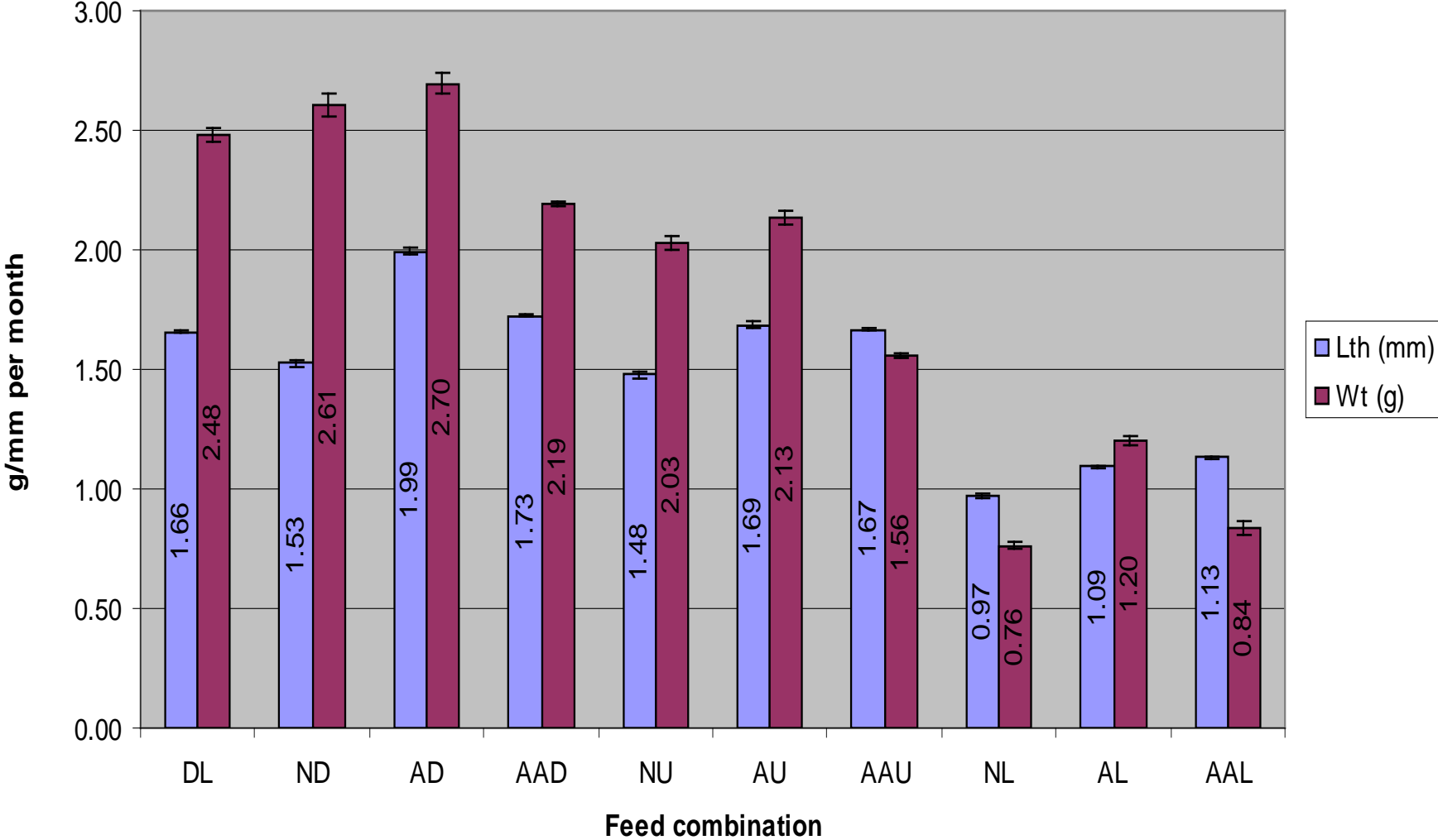


Feed Experiment (May 2010)

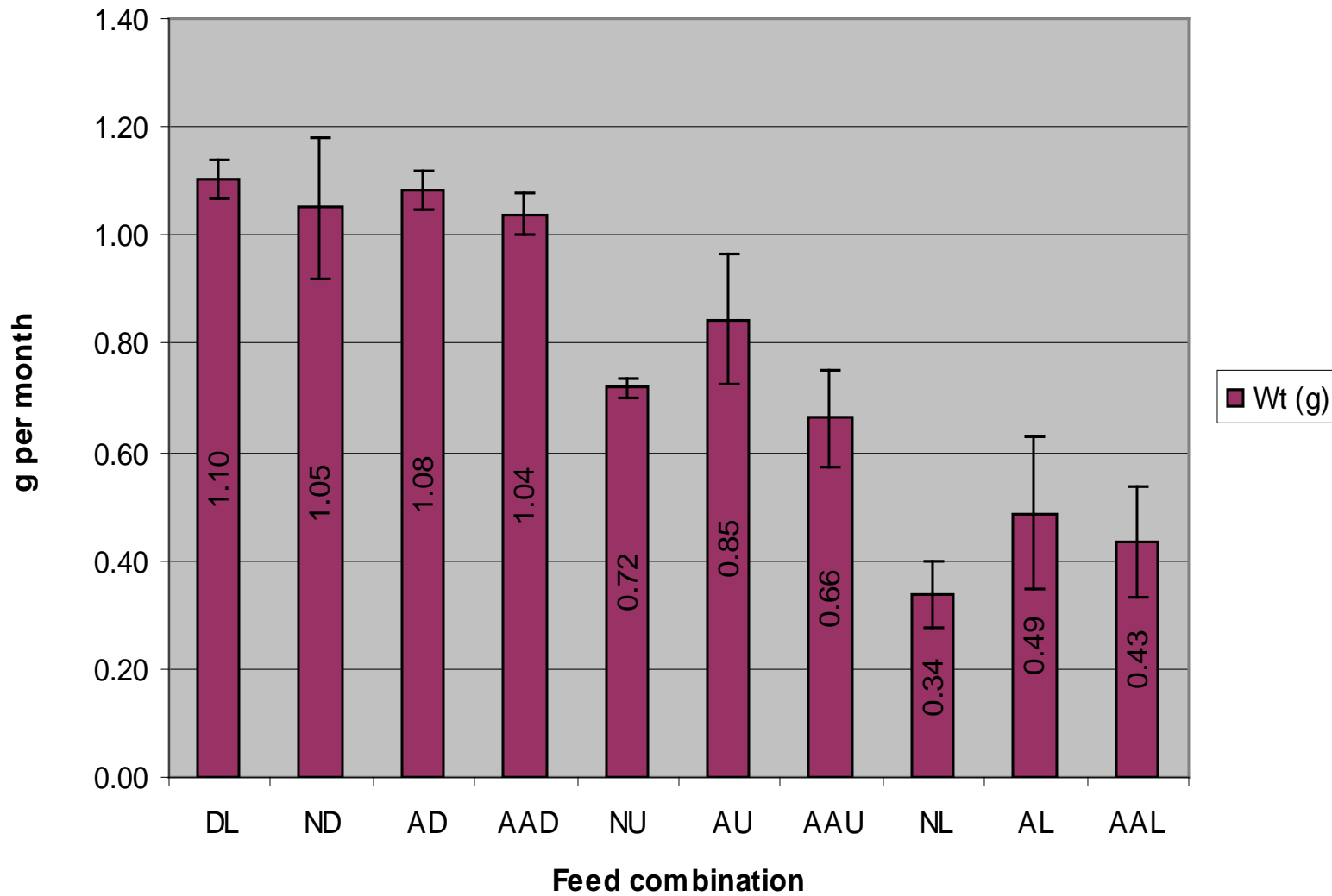
- Two sizes of abalone: 0.37g and 20g
- Combinations of 3 artificial feeds with 3 types of algae
- 4 Replicates per treatment
- Run for 7 months
- Look at FCR (feed consumed/body wt), cost, appearance, gonad index, stoutness index (weight/length), and market acceptance



Feed experiment: initial MEDIUM abalone growth/month (2 months)



Feed experiment: SMALL abalone WEIGHT increment/month



Initial FCR abalone

feed consumed (dry g) / body weight (wet g)

FEED	DL	ND	AD	AAD	NU	AU	AAU	NL	AL	AAL
FCR (S)	0.83	0.55	0.52	0.61	1.01	0.91	1.07	2.33	2.11	2.24
FCR (M)	1.81	1.39	1.4	1.82	1.88	1.94	2.19	7.38	5.83	10.84

Feed costs

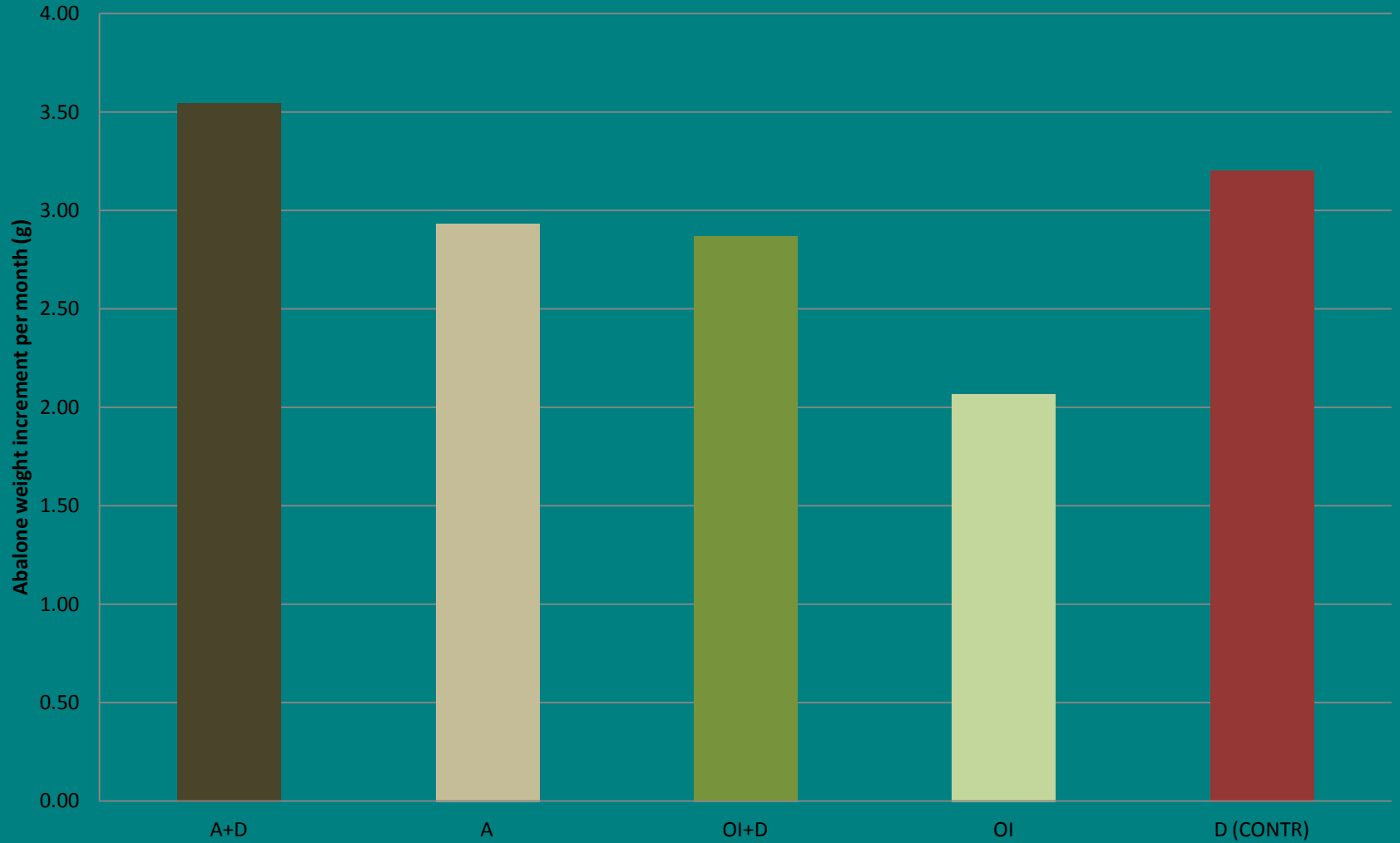
Cost of feeds:

- 1) Cultured Dulse: US\$1.11 /kg
 - 2) Imported Abfeed: US\$ 2.51/kg
 - 3) Imported Dried Laminaria: US\$2.58/kg
- Most cost effective tested feed combination: Dulse and Abfeed
 - Imported 12 tons of Abfeed from S.A.

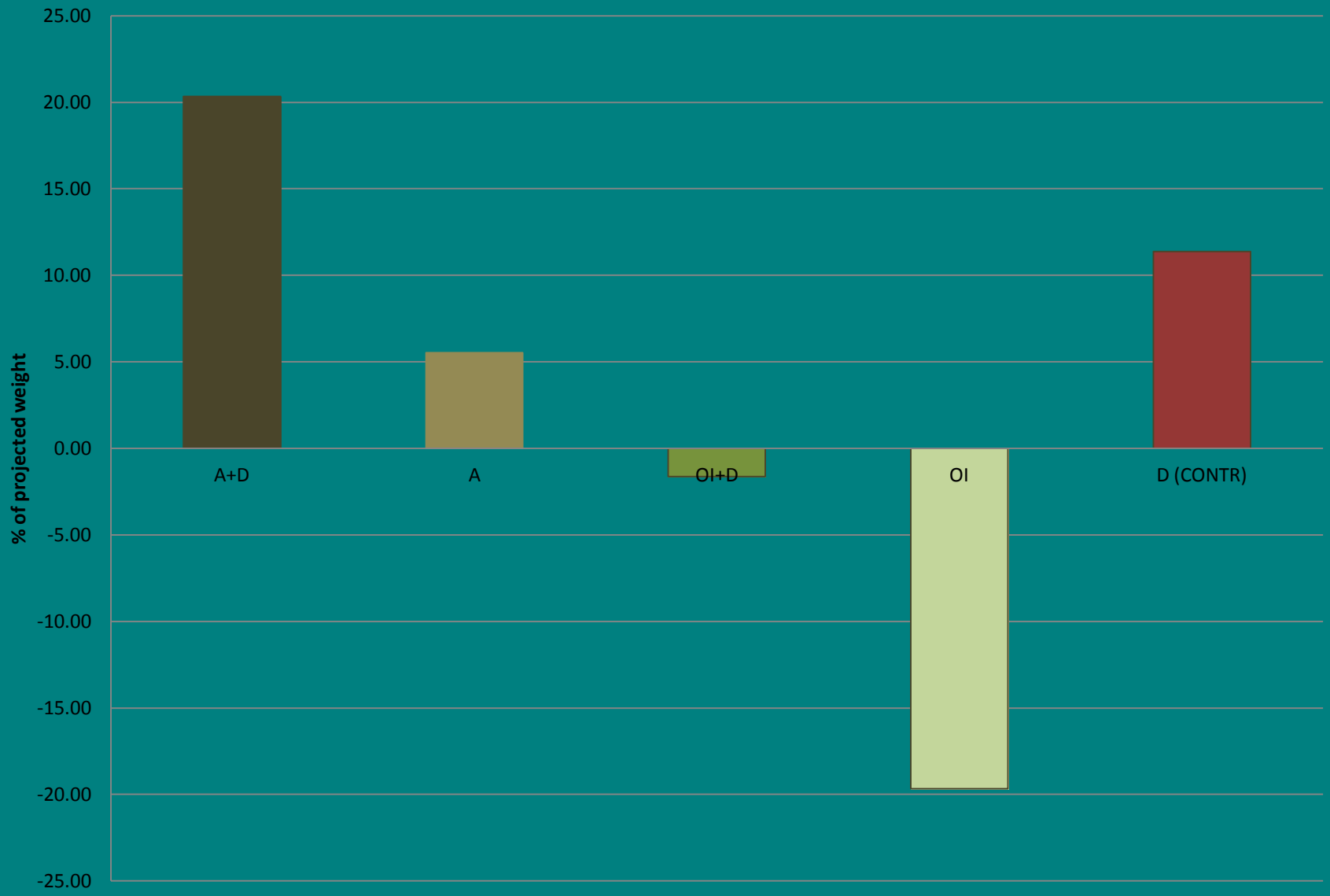
Farm trial: Dec 2010

- Compare performance OI vs Abfeed
- 5 Treatments: A, A&D, OI, OI&D, D (control)
- For combination feeds: 4D art; 3D Dulse
- For pelleted feeds: 6D (3 times per week)
- Ran 7 months – limited space!

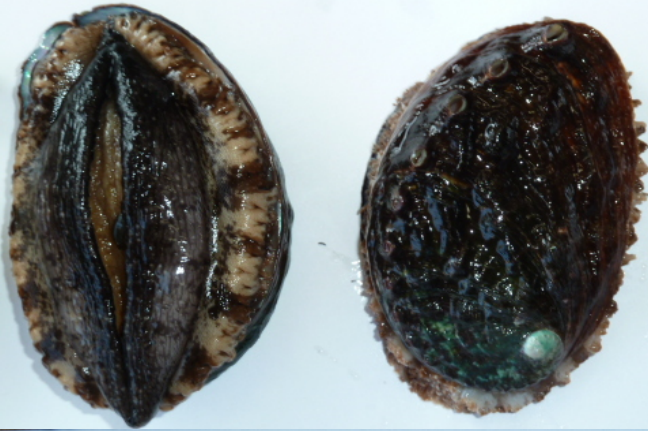
Abalone growth (g)/month



% of Projected weight



A + D



A



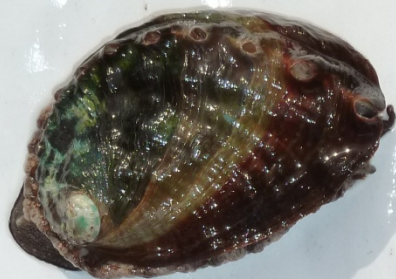
OI + D



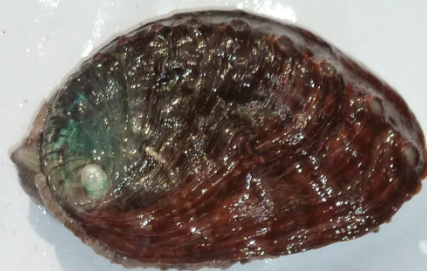
OI



A



A & D



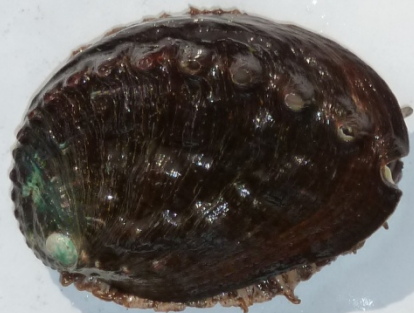
OI



OI & D



D



Conclusions

- The OI feed needs some work:
- 1) Improve growth performance
- 2) A more acceptable shell color
- 3) Utilize co-products from the Biofuels or other Algae Industries



Haumea by Mayumi Oda

Eat Local!

www.slowfoodoahu.org • www.hawaiiseed.org • www.kohalacenter.org

Thank you!