Fingerlings Production And Cost Benefit Analysis Of *Clarias gariepinus* Broodstock Fed Different Inclusion Levels Of *Azanza garckeana* Pulp.

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INTRODUCTION

- Fish is the major source of protein consumption and source of food for human, in the developing world (Onyia *et al.,* 2011).

- Fish require good quality fish feed in high proportion in order to increase the quality of eggs and sperm fertility(Hassan, 2001).

- Attempts are made to obtain quality eggs and sperm, to produce highest possible number of good quality seeds.

INTRODUCTION CONTD

Factors that affect fish seeds quality includes

- different strains,
- genetics,
- nutrition,
- contents of feed,
- temperature
- water quality(Adeparusi *et al.,* 2010).

POTENTIALS OF WILD FRUITS MEALS TO ENHANCE EGG QUALITY AND SPERM FERTILITY.

- Good quality and inexpensive feed ingredients that will improve the quality of egg and sperm fertility are needed.
- the use of wild fruits as medium to improve egg quality and enhance fertility is now receiving some attention Adedeji *et al.* (2006).
- Dada and Ajilore (2009) used extract of *Garcinia kola* seed to enhance fertility in *Clarias gariepinus,* and
- Adeparusi *et al.* (2010), used *Kigelia africana* fruit meal to enhance fertility in male *C. gariepinus*.

POTENTIALS OF *AZANZA GARCKEANA PULP* TO INCREASE SPERM FERTILITY AND EGG QUALITY *C.GARIEPINUS*

- *A. garckeana* popularly known as:
- "morajwa" (African chewing gum) in Botswana(Orwa *et al.*, 2009)
- "Goron Tula" in Northern part of Nigeria (Gombe State).
- grows naturally in semi arid areas receiving annual rain fall between 250mm and 1270mm(FAO 1983).
- the fleshy gummy pulp which is generally eaten is a good source of proteins, minerals, fibre and vitamins.

OBJECTIVES OF THE STUDY

- to estimate the fecundity and hatchability of broodstock fed varying inclusion levels of *A. garckeana* pulp meal ,
- evaluate the effects of fingerlings production using different inclusion levels of *A. garckeana* pulp meal and
- determine the cost benefit of using *A. garckeana* pulpmeal to produce fingerlings in hatchery within the Northeast of Nigeria.

MATERIALS AND METHOD

- Study Area
- Preparation of *A. garckeana* diets
- ✓ Sun drying
- ✓ Grinding
- ✓ Sieving
- ✓ Inclusion Levels: D1(0%),D2(5%),D3(10%),D4(15%)&D5(20%)
- Source of broodstock
- Artificial breeding
- Raising hatchlings to fingerlings

PARAMETERS EXAMINED

- ✓ Fecundity of female broodstock
- ✓ % Hatchability
- ✓ % Survival of fingerlings
- ✓ Mean feed intake
- ▶ Net profit value (NPV) = Total weight gain x cost/kg
- ▶ Gross Profit = Net profit value-Investment cost analysis
- ▶ Cost Benefit Rate : CBR = Net Profit (₦)/Investment Cost Analysis (₦)

RESULTS AND DISCUSSION

Table1:Fecundity,hatchability, survival and fingerlings sales

Parameters	D1(0%)	D2(5%)	D3(10%)	D4(15%)	D5(20%)
Total wt. of eggs(g)	106.05	114.65	121.26	111.65	149.66
No. of eggs/g	1320	900	1020	1240	1060
No. of eggs incubated	250	250	250	250	250
No. of hatchlings	155	240	245	230	190
% Hatchability	(62%)	(96%)	(98%)	(93%)	(76%)
Survival/% Survival	62 (40%)	216 (90%)	216 (88%)	193 (84%)	106 (56%)
Sales @ ₦30/	1860	6480	6480	5790	3180

Table 2: COST OF PRODUCTION

PARAMETERS	D1	D2	D3	D4	D5
Broodstock (2)	2000	2000	2000	2000	2000
Feed Intake (g)	236.5	201.3	230.1	202.0	219.1
Cost/g of Feed (₦ 0.33)	78.04	66.43	75.93	66.66	72.30
Cost of Azanza	0.00	250	500	750	1000
Feed Intake for Hatchlings (g)	7.625	9.97	4.68	2.38	6.00
Cost/g of Feed (₦ 114.6)	873.84	1142.05	537.29	272.44	687.6
Artemia	450	450	450	450	450
Hormone	300	300	300	300	300
Total Variable Cost (TVC)	3946	4419.75	4098	4043.48	4735

Table 3: Profit and Cost Benefit of Fingerlings Raised Using Different Inclusion Levels of *A. garckeana* Pulp meal

Parameters	D1(0%)	D2(5%)	D3(10%)	D4(15%)	D5(20%)
TRV	1800	6480	6480	6792	3180
TVC	3946	4419.75	4098	4043.48	4735
NPV	-2086	2060.72	2441	1746.52	-1555
CBA	-0.54	0.47	0.6	0.43	-0.23

CONCLUSION

- The best cost benefit ratio (CBR) and profit was in
- 10% inclusion (0.60 and ₦2, 441),
- followed by 5% inclusion (0.47 and ₦2, 060.22),
- 15% inclusion (0.43 and ₦1, 746.52),
- 0% and 20% had negative CBR and profit.
- Fish hatchery managers are encourage to use 10% inclusion level to produce more fingerlings.
- THANK YOU FOR LISTENING

THANK YOU FOR

YOUR ATTENTION