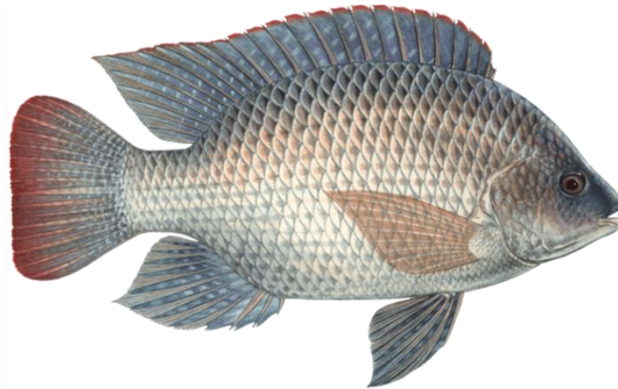


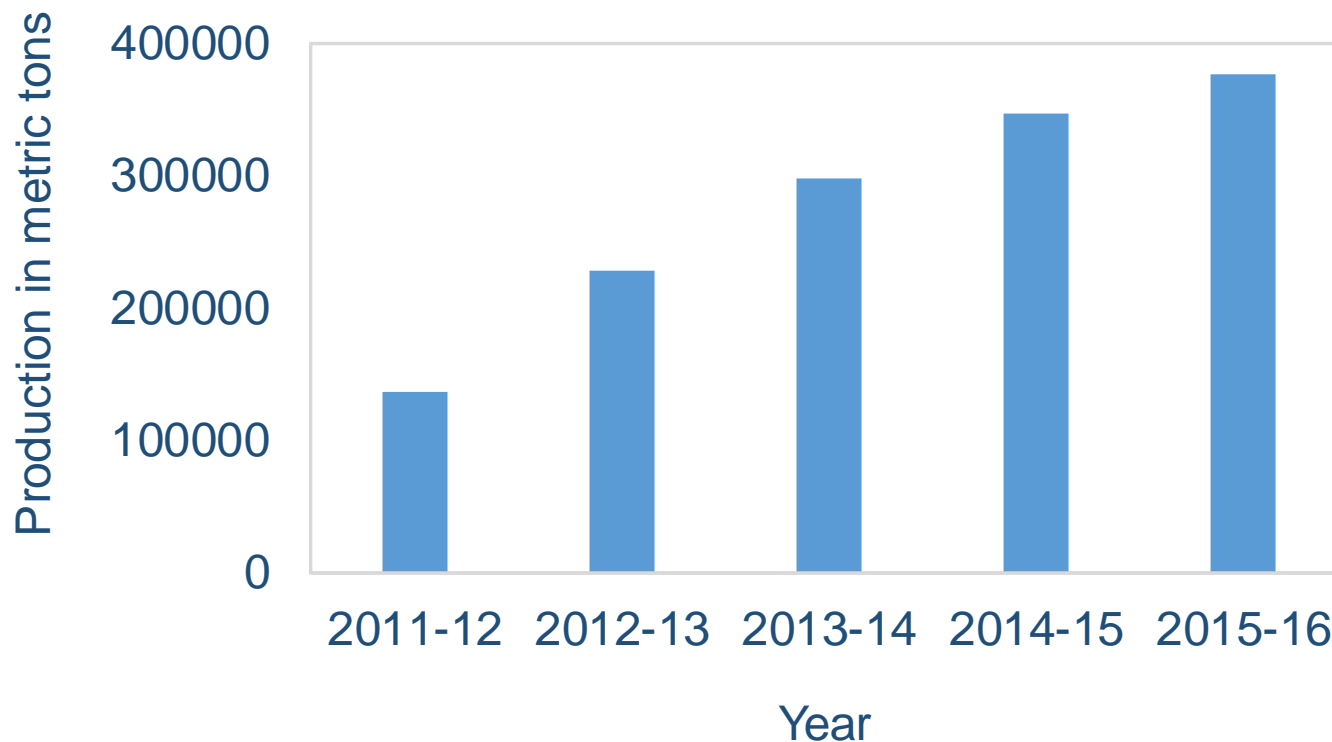


HEALTH MANAGEMENT IN TILAPIA AQUACULTURE



Meezanur Rahman, Hazrat Ali, Ahmed Jaman,

TILAPIA PRODUCTION IN BANGLADESH



- Contribute 17% of Bangladesh Aquaculture production
- 85% Tilapia produced in ponds, 8% in shrimp/ prawn farm

LITERATURE - PROBIOTICS IN TILAPIA

Method	Probiotic species	Benefit	Reference
Dietary	<i>Bacillus</i> sp., <i>Pediococcus</i> sp., <i>Enterococcus</i> sp., <i>Lactobacillus</i> sp.	Weight and specific growth rate increased significantly, Villi height and goblet cell counts increased	Ramos et al., 2017
Dietary	<i>Bacillus pumilus</i>	Disease resistance to <i>Streptococcus agalactiae</i> , increased immune response (phagocytic activity, superoxide anion levels)	Srisapoome and Areechon 2017
Dietary	<i>Lactobacillus plantarum</i>	Increased growth, heavy metal tolerance (cadmium), changes intestinal microbial flora	Qixiao Zhai et al 2017
Dietary	<i>Psychrobacter namhaensis</i>	Better growth rate and feed utilization efficiency. Hematocrit (Ht%), hemoglobin (Hb%), erythrocytes (RBC) and total leukocyte (WBCs) values were significantly higher	Makled So et al., 2017

LITERATURE - PROBIOTICS IN TILAPIA

Bangladesh: Improving productivity of tilapia in ponds

By Meezanur Rahman, Hasan Uz Zaman and Olivier Decamp

The efficacy of *Bacillus* probiotics in disease prevention and increasing yields.

Bangladesh has about 5 million ha of inland water resources such as rivers, estuaries, natural and manmade reservoirs, ponds and floodplains. The major species cultured are Indian and Chinese carps, tilapia and pangasius. However, in recent years, tilapia production has increased and expanded faster than carps and pangasius. Over the last 15 years, tilapia production increased to approximately 200,000 tonnes per annum, according to the Department of Fisheries (2014).

The increase in production and rapid expansion were achieved as a result of the successful adaptation of technology, such as high yielding all male seed, intensification, faster growth, and better profitability in culturing tilapia compared to other species. In Bangladesh, pond culture is the most common method for rearing tilapia. However, tilapia is often farmed in polyculture with Indian carp, Chinese carp and pangasius. This approach provides additional yields, better feed management and utilisation of natural productivity. The constraints include: disease and mortality caused by pathogens such as *Streptococcus*; ectoparasites; inappropriate health management protocols for antibiotic application for treatment and prevention of disease (Komar, 2008); higher feed costs; and low farm gate prices.



Tilapia farmers are looking for further improvement of rearing conditions to increase yields per unit area, prevent disease and mortality, reduce feed cost and increase average body weights at harvest. With rising production costs in China, tilapia farmers in Bangladesh see an opportunity to be the cheapest producers of farmed tilapia, alongside Vietnam.

The objectives of this study were to assess the impact of two types of probiotics and a formulation of natural plant extracts to prevent disease and to improve growth and yields in tilapia pond culture.

Aquaculture Asia Pacific, Vol 11, No. 4, 2015

TILAPIA FARMING IN PONDS

- Situation analysis at Comilla, Gazipur, Narshingdi, Mymensingh and Sherpur
- Farming system: Tilapia Carp Polyculture, Tilapia Pangus Carp polyculture, Tilapia Shing poly culture, Tilapia Shing Carp polyculture
- Stocking density : 2-5 per square meter
- Feed : Floating
- Disease is common (TiLV, *Streptococcus*, Fungus and Parasites)
- Production : 5-15 MT/ 5 months
- Health products include lime, zeolite, potassium permanganate, disinfectant, probiotics, yucca plant extract, vitamin mineral and antibiotics
- Large feed & seed companies farmers are major user of probiotics (eg. Spectra Mega Feed, Quality Feed, Nourish Feed, CP Bangladesh)

TILAPIA FARMING IN PONDS



Intensification



Disease

18% of health product market share

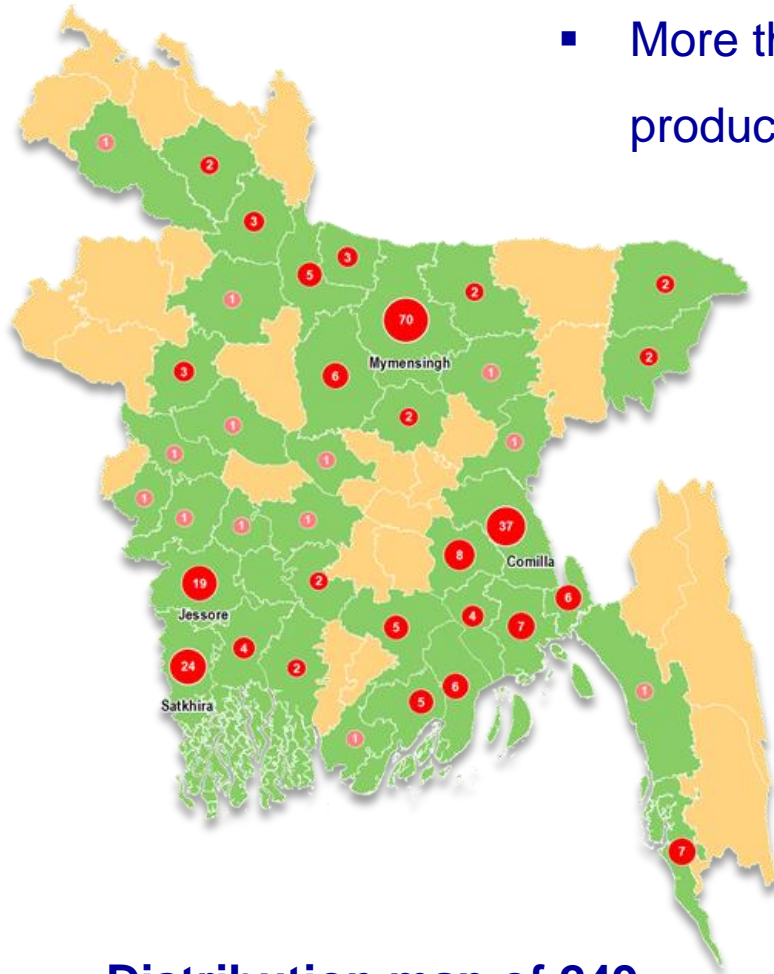


17 products by a farmer

PHP usage

MAJOR LOCATIONS OF HATCHERIES AND FARMS

- More than four hundred Tilapia hatcheries produce about five billion monosex fry each year



**Distribution map of 249
Tilapia hatcheries**

Major Districts of Tilapia production	
District	Production in MT
Jessore	43355
Comilla	38480
Mymensingh	24138
Chittagong	18285
Satkhira	11375

Source: DoF and WF

STUDY ON TILAPIA HEALTH MANAGEMENT

Objectives: Health management practices in Tilapia farms in Bangladesh

Tilapia farmer census list			
District	Upazila	Union	No of farmers
Jessore	Avaynagar	Paira	181
Khulna	Botiaghata	Jolma	108
Khulna	Botiaghata	Surkhali	115
Satkhira	Kolaroa	Jalalabad	124
Comilla	Plan to prepare a list of farmers in Comilla and Mymensingh through input shop, hatcheries, sales manager of feed companies. Randomly select farmers and survey.		
Mymensingh			

Update the list of Tilapia hatcheries in major locations

Thank You

