

Polyculture of Exotic Carps in Mid Hills



Fish can serve as an additional source of income
if integrated with the hill agriculture.



Directorate of Coldwater Fisheries Research

(Indian Council of Agricultural Research)

Bhimtal -263 136, Nainital (Uttarakhand)

Phone: 05942- 247280/247279, Fax: 05942- 247693

Email: director@dcfr.res.in, Website: www.dcfr.res.in



Though, the attempt for fish culture in the upland states of the country has been initiated since 1863, but the culture fishery remained in infant stage, till recently. Now, the scenario has changed and several progressive farmers have started mono and composite fish culture in small ponds and a few of them have achieved considerably good production. In the upland waters the Indian major carps do not grow well, due to the low thermal regime. Therefore, Chinese carps were taken as the candidate species for polyculture trials. The Chinese carp found suitable for the Mid-Himalayan region based on the 41 experiments conducted at the farm on composite carp farming system. It involved the three major Chinese carps namely grass carp (feeds on all types of aquatic and terrestrial grass), silver carp (feeds on plankton) and common carp (feeds on semi digested faecal material of grass carp, unutilized feed on pond bottom) stocked @ 2.8-4 fish/m³ (having advantage of higher oxygen level) in the ratio of 4-5:2-2.5:3-3.5, respectively.



Silver carp



Grass carp



Common carp

The supplementary feed prepared from locally available ingredients-oil cake, rice polish/bran etc. and fed @ 2-3 % of the body weight and fertilization of pond was done with raw cow dung (RCD) @ 9000 kg/ha/yr to ensure consistent growth. Average annual fish production of 3708 kg/ha had been achieved by polyculture of grass, silver and common carp.

Financial aspects

Operational cost: Rs.2700/100m²

Income: Rs.7200/100m²

Net profit: Rs.4500/100m²

Market Potential

There is a high demand of these exotic carp in the local markets of the hilly places and fish growers can be achieved the fair prices of the produce being the fish in fresh condition.



Technology Benefits

The farmers in the hill region have integrated type of farming pattern. Fish can serve as an additional source of income if integrated with the hill agriculture. To cop up the climatic stress, animals are the main source of protein in the hills but animal flesh is more expensive due to adding in transport cost. Locally farm produced fish is suggested to be the best substitute of the animal protein as it is in very fresh condition, cheaper source and alternate source of income to the dwellers. There is great scope for disseminating this promising technology in sub to mid Himalayan belt in order to upgrade the socio-economic conditions of the inhabitants.

Benefits of Technology

Enhanced production

High income ❖ Protein rich food

Compiled by

Dr. N. N. Pandey, Sr. Scientist (Aquaculture)

Dr. S. Chandra, Sr. Scientist

Published by

Director, DCFR Bhimtal



हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद

AgriSearch with a human touch

