IFS using alternate raised and sunken bed system

TECHNOLOGY BRIEF

Growing of rice + fish in sunken beds of **alternate raised and sunken bed system** (30 m length & 5 m width) instead of rice alone can give more yield (rice: 5.23 t ha^{-1}; fish: 3.7 t ha^{-1} 150 d^{-1}) and return. Combination of rice-fish in sunken beds with cabbage (28.5 t ha^{-1}), pointed gourd (4.7 t ha^{-1}) and snake gourd (20.2 t ha^{-1}) crops in adjacent raised bed can give the highest rice equivalent yield (48.8 t/ha), water use efficiency (174.54 kg ha-cm^{-1}), net water productivity (Rs.10.3 m^{-3}) and benefit-cost ratio (4.78). In this system fish fingerlings @ 5000 ha^{-1} is recommended. Fish culture in sunken bed helps in improving soil nutrient status while rice cultivation with fish improves water quality. This system has the potential to enhance the production by 6-7 fold and water saving of up to 20%.

IMPACT / UTILITY

Adoption of this technology with short-duration aquaculture by small and marginal farmers will improve the agricultural productivity, scocio-economic status of the farmer and will provide nutritional security to the rural folks. This system helps in crop diversification, increases cropping intensity, year-round employment opportunity and profitability. This replicable system can very well be adopted in irrigated canal command, medium and low land rice ecosystems.

HIGHLIGHTS

- Highest B:C ratio of 4.78 was recorded for Rice-Fish+Snake gourd+Pointed gourd + Cabbage combination.
- In this system, fish yield enhanced by 29% against monoculture system
- Improve water use efficiency & net water productivity (Rs.10.3 m^{-3}).
- This work was awarded with ICAR-Team Research Award (2003-04).

Project Details

Enhancing water use efficiency in canal commands. (Project Code: WTCER/00/48)

Publications

- *In: Technologies on livestock and fisheries for poverty alleviation in SAARC countries* (edited by M. Abdullah). SAARC Agricultural Information Centre, Dhaka, Bangladesh, 232p
- *In*: Agricultural technologies; NRM (ICAR), 2014

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