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Title: Growth, production and food preference of rohu *Labeo rohita* (H.) in monoculture and in polyculture with common carp *Cyprinus carpio* (L.) under fed and non-fed ponds

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Abstract: An experiment was carried out in 18 earthen ponds to investigate the effects of the addition of common carp *Cyprinus carpio* (L.) and artificial feed on natural food availability, food utilization and fish production in rohu *Labeo rohita* (Hamilton) ponds. Ponds were fertilized fortnightly with cow manure, urea and triple super phosphate. Rohu was stocked in all ponds at a density of 1.5 rohu m⁻². All treatments were carried out in triplicate. Treatments were: rohu with and without formulated feed, rohu plus 0.5 common carp m⁻² with and without feed, and rohu plus 1 common carp m⁻² with and without feed. The time period between stocking and harvesting was four and half months. Stocking 0.5 common carp m⁻² enhanced natural food availability in the pond, food utilization and rohu growth and production ($P < 0.05$). The effect was less pronounced when stocking 1 common carp m⁻². Formulated feed administration did not influence phytoplankton availability ($P > 0.05$) but increased zooplankton and benthic macroinvertebrate availability ($P < 0.001$). Feed administration also enhanced growth of rohu and common carp ($P < 0.001$). Rohu naturally ingests more phytoplankton than zooplankton but in the presence of formulated feed rohu shifted its natural food preference from phytoplankton to zooplankton. Common carp naturally ingests mainly zooplankton and benthic macroinvertebrate and small quantities of phytoplankton. However, when offered formulated feed, the latter becomes the preferred food item

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