

## Abstracts

### Abstract 1:

Effect of targeted feeding by varying pellet size on performance of carp-tilapia polyculture pond

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In fish polyculture, feed pellet size might allow targeted feeding of species that differ in size. In this study, we tested the effect of small (2mm) and large (6mm) pellet size on the production performance in ponds stocked with small Nile tilapia (*Oreochromis niloticus*) (~30 g) and large carps (~500 g). Twenty-four ponds measuring 45-m<sup>2</sup> each were assigned to test the effect of different combination of small and large pellets: S<sub>100</sub> (100% small pellets), S<sub>50</sub>L<sub>50</sub> (50% small, 50% large), S<sub>25</sub>L<sub>75</sub> (25% small, 75% large) and L<sub>100</sub> (100% large). There were six replicate ponds per treatment, and the growth period was 8 weeks. Each pond was stocked with 9 rohu (*Labeo rohita*), 9 catla (*Catla catla*), 9 silver carp (*Hypophthalmichthys molitrix*) and 150 Nile tilapia. Fishes were fed 15 g/kg<sup>0.8</sup>/day which was lowered to 12 g/kg<sup>0.8</sup>/day 6 days before harvest. Nile tilapia yield was highest in S<sub>100</sub> (10534 ± 1335 g) ponds and lowest in L<sub>100</sub> (8367 ± 565 g) ponds (P<0.05). Carp yield and survival were not affected by pellet size (P>0.05). The feed conversion ratio (FCR) increased from 2.30 in S<sub>100</sub> to 2.83 in L<sub>100</sub> (P<0.05). Results indicate that tilapia spent more energy and time in consuming large pellets which resulted in increased availability of feed for carps, but being slower eaters than tilapia, carps could not harness the benefit. Overall, tilapia dominated pond production raising their presence from 25% at stocking to 47% of total fish biomass at harvest.