

## Evaluation of self-feeders as a tool to study diet preferences in groups of Atlantic cod (

Among other applications, self-feeding has been used to study food preferences in fish allowing them to choose between feeders with different food content. Preference tests assume that (i) trigger actuations are motivated by appetite, (ii) fish can learn which feeder contains which food and discriminate between feeders solely on the basis of their content, and (iii) in groups of fish, the triggering preferences is representative for the individuals of the group. We studied individual triggering behaviour in four groups of 14 Atlantic cod (length of  $34 \pm 2$  cm, weight of  $424 \pm 102$  g, mean  $\pm$  SE, water temperature comprised between 7–8 °C) that were first given the choice between two self-feeders with identical content (Period 1 of 14 days) and subsequently with one feeder full and the other empty (Period 2 of 14 days). In all four groups, one or two individuals performed the majority of the actuations, and in three groups the high triggering fish was a female high-ranked for size and growth rate. Cod displayed a preference for one of the two feeders despite their identical content. When the preferred feeder was emptied, the preference switched after one to eight days but both feeders were still actuated throughout the experiment. In conclusion, the assumption that actuation frequency reflects food preference and is representative for the individuals of the group may not be true, at least for Atlantic cod. If aiming at determining preferences representative for the whole population multiple representative fish should be kept isolated in separate tanks, with self-feeders containing each food option, on each tank.

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