**Water settlement alters faeces composition and digestibilities of pink snapper diets**

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**Background -** Digestibility is often estimated in fish by collecting settled faeces. Markers like $Cr_2O_3$ in diets allow calculation of digestibility from their content in faeces. This works well for fish like silver perch that excrete mucous-bound faeces. However, pink snapper excrete loose faeces with little mucous. Experiments with pink snapper using settlement have given some low faecal Cr contents and untenable digestibilities. One suggestion is that during settlement, faeces disintegrated, fine faecal matter and Cr remained suspended, and was lost.

**Objective -** To improve the accuracy of the settlement method by using the indigestible binder, carboxy methyl cellulose (CMC) to retain fine matter and Cr in settled faeces.

**Design -** Diets contained basal mix (55%) with CMC (5%) or cellulose (5%) and 40% plant or animal meal. Settled faeces was wet-sieved, then weights and Cr contents of fine, medium and course fractions were determined. Faeces were also collected by purging, to avoid contact of faeces with water and to provide reference Cr contents and digestibilities of diets.

**Outcomes -** CMC increased fine faecal matter and Cr from canola and bloodmeal diets, but not from soybean meal, sheep meal, goat meal, meat meal, and two lupin kernel meal diets. Settled faeces from canola and animal meal diets had lower total Cr contents than purged faeces, while the basal diet and the other plant meal diets had higher Cr. Settled faeces had more variable Cr contents than purged faeces. CMC reduced digestibility by an average of 8% in purged faeces and did not improve the accuracy or precision of the settlement method.

**Conclusions –** Using settlement to collect fish faeces that will disintegrate in water is not recommended. Purging appears best for collection from carnivorous fish like pink snapper.