

Better fish feed with new calculation method

Researcher Phan Le Thien Thuat developed a method for making fish feed better suited to the species, with less protein waste.

Fish farms are using more and more different raw materials to feed fish, such as protein from peas, soya, insects, algae and offal (processed protein from chickens or pigs). The question is how you can determine the amount of energy in a diet made up of such diverse ingredients. Phan Le Thien Thuat, a researcher at Aquaculture & Fisheries, found that while the usual measurements say how much is digested

and absorbed in the bloodstream, that is not the same as the net utilizable energy — how much energy the fish can use for growth. The sector assumes a constant utilization value for all fish feed whereas the utilizable energy differs per digested macronutrient (protein, fat or carbohydrate).

Win-win-win

There needs to be a balance in the amount of protein and energy in fish feed for the fish to make best use of the protein. Too much protein or too little energy leads to more ammonia pollution in the water. Le

Thien Thuat calculated the net energy for digested protein, fat and carbohydrates for five fish species, including pangasius. The digestibility and energy efficiency differed per species. The new calculation method gave energy values for the pangasius that are 1 to 20 per cent more accurate, depending on the ingredients. The greater accuracy will let manufacturers produce more balanced feed products geared to the specific fish species. That is better for the fish, more cost effective for the farmer and reduces protein waste and environmental damage. ^{ss}