



Algemene gegevens	
PPS-nummer	AF-16174
Titel	Energy evaluation of fish feeds
Thema	Duurzame Veehouderij
Uitvoerende kennisinstelling(en)	1) WUR-ASG Dep. Dierwetenschappen (AFI/ANU/EZO) 2) WUR-ASG Wageningen Livestock Research
Projectleider onderzoek (naam + emailadres)	Dr.ir. J.W. Schrama (joan.schrama@wur.nl)
Penvoerder (namens private partijen)	Dr.ir. M. Rijnen, De Heus Animal Nutrition B.V.; Ede; The Netherlands
Contactpersoon overheid	Francoise Divanach
Startdatum	1 jan 2017 (effective start date/start PhDs 1 sept 2017)
Einddatum	End of 2021

Link naar samenvatting Kennis Online: nvt

Goedkeuring penvoerder / consortium	
De penvoerder heeft namens het consortium de jaarrapportage	<input checked="" type="checkbox"/> goedgekeurd <input type="checkbox"/> niet goedgekeurd
Evt. opmerkingen over de jaarrapportage:	Good start-up, promising plans. No further comments at this stage

Korte omschrijving inhoud/doel PPS
<p>In terms of feed formulation/evaluation, the aquaculture sector is running behind compared to farm animals. E.g., the pig sector applies net energy (NE) evaluation systems already since decades, which is a prerequisite for precision feeding. In fish feed formulation, energy is only evaluated with respect to digestibility, thereby omitting potential differences of the different macronutrients affecting/stimulating growth. Currently, a diversification of ingredients in fish feeds is taken place due to the growth of the sector and the increasing price and the decreasing availability of fish meal and oil. An NE approach in fish feed formulation that takes into account the dietary macronutrient composition will therefore improve current feed practices in aquaculture contributing to amongst others: improved resource-use efficiency and less waste production/environmental impact, thereby improving water quality and welfare of fish and as a result the total profitability of the sector. The project aims to develop NE evaluation systems for different fish species, which are currently lacking and to enable the implementation of these NE systems into feed formulation with respect to nutrient requirements (i.e., balancing energy content of diets, on NE basis, with other nutrients like protein). The project comprises 2 PhD-projects. PhD-1 studies the requirements of Nile tilapia to maximize body weight gain and optimize body composition in relation to optimal dietary net energy (NE) content. In other words PhD-1 will work on how to apply the developed NE systems in fish feed formulation and look at factors influencing the optimal protein to NE ratio in diets. The NE-formulas/evaluation systems are developed by PhD-2. The utilization efficiency for growth shows considerable between-species and within-species variability. PhD-2 will assess physiological and environmental factors affecting the NE-evaluation. An NE approach is novel in fish feed formulation. NE-equations for fish are not available. The feed industry is looking forward to apply NE-evaluation equations in aquafeed formulation, indicated by the contribution/participation of the PPS-partners in this project. NE-evaluation will facilitate an improved resource-use efficiency, stimulate the diversification of ingredient use, stimulate the valorisation of ingredients not usable as human food (i.e. lower quality ingredients) and enable precision feeding (balanced diets) in fish that minimize environmental impacts. Overall NE-equations for fish will an important contribution in ensuring future</p>

human demand for high quality proteins originating from fish for The Netherland, Europe and globally.

Resultaten

Activities done in 2017:

- The contracts for this project were finalized in January 2017. Immediately the search for two PhD started and they were selected.
- At the 1st of September 2017 both candidates started: Gauthier Konnert, for the PhD project: "Assessing optimal "P/E-ratio" in fish diets" and Thuat Phan for the PhD project "Assessing factors affecting between/within species differences in "NE-formulas".
- According to the project planning both PhD students started with their first phase of their PhD; formulating & making their training and supervision plan (including following their first PhD courses). They started to write their research proposal for WIAS.
- The general structure of their PhD projects was formulated.
- Their research plans for their PhD project were presented to the participating PPS-partners during the kick-off meeting of the project on 23rd of October 2017. During this meeting, the general structure of both PhD project was agreed between the partners.
- Summarizing, the main activities in 2017 (from 1st of September onward) were the start-up of the project/and the preparation of the actual research of the project.

What should the project deliver:

- The project should generate knowledge on NE-formulas for fish.
- In 2017 no results yet delivered, because it is in the starting phase of the project.

What will be the impact of 2017 activities

- Due to the start-up of the project there are no results yet delivered and thus also no impact yet.

Aantal opgeleverde producten in 2017

Wetenschappelijke artikelen	Rapporten	Artikelen in vakbladen	Inleidingen/ workshops

Bijlage: Titels van de producten of een link naar de producten op een openbare website