



PPS-jaarrapportage 2017

De PPS-en die van start zijn gegaan onder aansturing van de topsectoren dienen jaarlijks te rapporteren over de inhoudelijke en financiële voortgang. Voor de inhoudelijke voortgang dient dit format gebruikt te worden. Voor PPS-en die in 2017 zijn afgerond is een apart format "PPS-eindrapportage" beschikbaar.

De jaarrapportages worden integraal gepubliceerd op de websites van de TKI's/ topsector. Zorg er svp voor dat er geen vertrouwelijke zaken in de rapportage staat.

De PPS-jaarrapportages dienen voor 1 maart 2018 te worden aangeleverd bij de TKI's bij info@tkitu.nl of info@tki-agrifood.nl. Voor Wageningen Research loopt de aanlevering via een centraal punt.

Algemene gegevens

PPS-nummer	AF-15220
Titel	Controlling the safety of insects for feed/food
Thema	AF-Voedselveiligheid
Uitvoerende kennisinstelling(en)	Wageningen University & Research (RIKILT)
Projectleider onderzoek (naam + emailadres)	HJ van der Fels-Klerx, ine.vanderfels@wur.nl
Penvoerder (namens private partijen)	Heidi de Bruin en Bart de Ruiters, Proti-Farm R&D BV
Contactpersoon overheid	Gijs Theunissen and Marjan van Creijl, Ministerie LNV
Startdatum	01-01-2016
Einddatum	31-12-2019

Goedkeuring penvoerder / consortium

De jaarrapportage dient te worden besproken met de penvoerder/het consortium. De TKI's nemen graag kennis van evt. opmerkingen over de jaarrapportage.

De penvoerder heeft namens het consortium de jaarrapportage	<input checked="" type="checkbox"/> goedgekeurd <input type="checkbox"/> niet goedgekeurd
Evt. opmerkingen over de jaarrapportage:	

Korte omschrijving inhoud/doel PPS

The aim of the current project is obtain more insight into the safety of the use of insects for feed and food production. The project focuses on the possible microbiological and chemical contamination of insects and their derived products, from different sources of substrate.

Resultaten

In 2017, an experiment has been done with rearing of black soldier flies (BSF) on different types of supermarket returns. In total four different substrates were used including whole meals with and without meat, and with either plastic or carton as packaging material. The experiment was performed at Protix and had to be repeated twice, after which the experiment was performed on smaller scale at Wageningen University (Department of Entomology). Samples of the substrates and the larvae were analysed for various chemical contaminants. These included four heavy metals (cadmium, lead, mercury and arsenic), and 17 dioxins congeners and 4 PCBs. In the first quarter of 2018, the samples will also be analysed for PAH (16 contaminants) and mineral oils, and results will be written down into a scientific paper.

Also in 2017, the experiment and results the 2016 experiment with mycotoxins have been described in a scientific paper that has been submitted to the journal *Toxins*. Some revisions have

been done as well, and the paper is now nearly accepted.

Also, a literature review has been done, and written down into a review article on the possible contamination of insects reared for feed and food with microbiological and chemical hazards and allergens.

Wat is er aan de hand?

Before insect can be introduced on the large scale for feed production, other substrates than the one that is currently allowed (GMP+ feed) in the Netherlands should be made possible. This needs, amongst others, investigation of the safety of the use of substrates for insect rearing.

Wat doet het project daaraan?

The study performed in 2017 in the course of this PPS project aimed to investigate the safety of BSF reared on supermarket returns, a possible substrate for large scale insect rearing. BSF were grown on four different types of supermarket returns, and the possible presence of a large variety of contaminants in the larvae was investigated.

Wat levert het project op?

The study results will provide insight into the possible accumulation of contaminants by BSF when grown on supermarket returns.

Wat is het effect hiervan?

Results provide information on the safety (or safety issues) from using alternative substrates, compared to the one currently allowed (GMP+), for large scale rearing of BSF as feed ingredient.

Aantal opgeleverde producten in 2017 (geef in een bijlage de titels en/of omschrijving van de producten of een link naar de producten op openbare websites)			
Wetenschappelijke artikelen	Rapporten	Artikelen in vakbladen	Inleidingen/ workshops
1	0	0	1

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

KennisOnline website: <http://www.wur.nl/nl/project/Borgen-van-de-veiligheid-van-insecten-1.htm>

Camenzuli L, Van Dam R, De Rijk, T, Andriessen R, Van Schelt J, and Van der Fels-Klerx HJ. "Tolerance and excretion of the mycotoxins aflatoxin B1, zearalenone, deoxynivalenol and ochratoxin A by *Alphitobius diaperinus* and *Hermetia illucens* from contaminated substrates". *Toxins* 10(2), 91. doi:10.3390/toxins10020091.

Van der Fels-Klerx, HJ. Safety of insect for use in feed and food (oral presentation). NGN workshop, held 8-9 June 2017, Wageningen, The Netherlands.