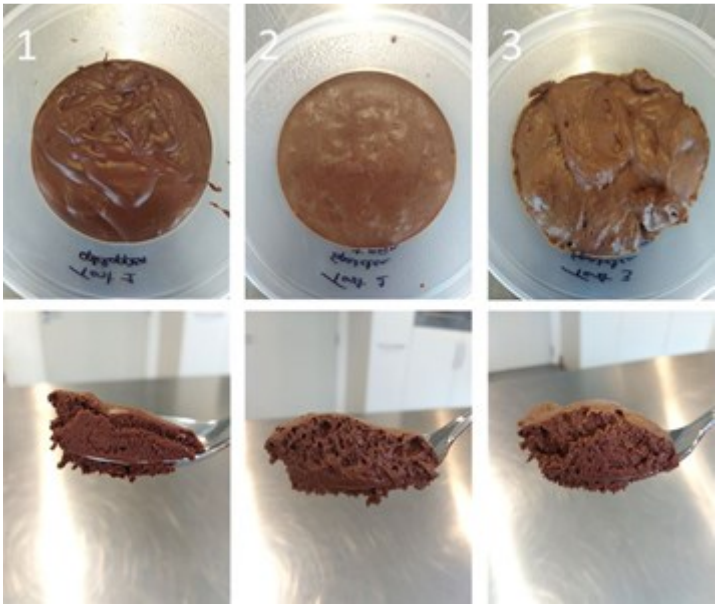
BioBoost
Accelerating biobased horticulture

Egg white replacement from chickpea and soy bean cooking fluids



Crop	Pea *Pisum sativum L.* Chickpea *Cicer arietinum* Soy bean *Glycine max*
Croppart	Seed
Application area	Food & feed
Status	Development stage
Public availability	Public

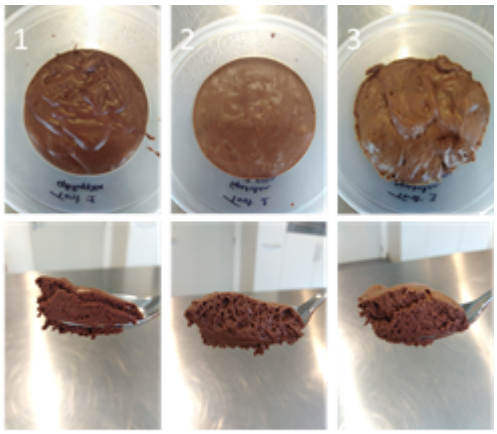
Description

ILVO investigated the valorisation potential of cooking water (by-product), also called aquafaba, from the processing of chickpeas and soy beans. For this ILVO partnered with a Flemish company that produces biological meat substitutes, which generates large amounts of cooking water by-products during the cooking processes.
The cooking water contains saponins, which are bio-active compounds that give a 'whipping' effect to the cooking water.
The whipped up cooking water was used to replace egg white to make vegan chocolate mousse, a vegan cheese preparation and vegan butter.

ILVO investigated how cooking water by-products from the processing of chickpeas and soy beans could be introduced on the market. Valorisation of the cooking water was inspired by the ‘aquafaba’ recipes abundantly found on the internet, in which chickpea cooking water or residual fluids from chickpea food cans can be used as an egg white replacement for vegans.

Recipes were developed to make vegan chocolate mousse (find it here), a vegan cheese (find it here) preparation and vegan butter (find it here).

Examples of end products



Vegan Chocolate Mousse

Recipe 1: pure chocolate (70%), aquafaba (chickpea food-can), agave syrup. Recipe 2: pure chocolate (70%), aquafaba (chickpea food-can), agave syrup, cider vinegar. Recipe 3: pure chocolate (70%), aquafaba (chickpea food-can), coconut milk (butter), granulated sugar.

Vegan Cheese preparation

Recipe 1: Cheese preparation containing cashew nuts. Recipe 2: Cheese preparation containing chickpeas. Recipe 3: Cheese preparation containing soy beans.