Cooking Larvae Diet

PLOS Genetics

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EXTERNAL LINK

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THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

Aw WC, Towarnicki SG, Melvin RG, Youngson NA, Garvin MR, Hu Y, Nielsen S, Thomas T, Pickford R, Bustamante S, Vila-Sanjurjo A, Smyth GK, Ballard JWO (2018) Genotype to phenotype: Diet-by-mitochondrial DNA haplotype interactions drive metabolic flexibility and organismal fitness. PLoS Genet 14(11): e1007735. doi: 10.1371/journal.pgen.1007735

PROTOCOL STATUS

Working

1 Weigh out agar 1 g per 100 ml of food to be prepared

2 Weigh out 0.022 g sugar, 2.719 g treacle, 7.938 g yeast and 7.321 g semolina per 100 ml of food for the 1:2 P:C diet, or 0.934 g sugar, 14.596 g treacle, 1.285 g yeast and 1.185 g semolina per 100 ml of food for the 1:16 P:C diet

3 Measure out water into large beaker, add small amount from large beaker to separate beaker

4 Add semolina to the small beaker and stir to ensure semolina is hydrated, leave aside

5 Add agar and sugar to large beaker and mix

6 Mark the volume on the beaker in pen

7 Place in microwave and bring to boil

8 Add treacle to large beaker, mix, and bring to boil

9 Add yeast to large beaker, mix, and bring to boil, continue heating until mixture stops over-boiling

10 Once the food will not boil over, add water to marked level to maintain the correct volume

11 Boil for 10 minutes, mixing every 3 minutes, adding water to maintain volume

12 Remove food from microwave and allow mixture to cool to 70^{o}C

13 Add semolina

14 Allow food to cool to 60^{o}C

15 Add 1ml of 10% propionic acid, 1 ml of 1% phosphoric acid, and 0.4 ml of 25% nipagin dissolved in 100% ethanol per 100ml of food cooked

16 Stir until semolina maintains suspension in the food

17 Pour 25 ml of food per bottle

18 Ensure semolina maintains suspension in the food mixture, stirring the food in the bottle if necessary

19 Leave food to set and cool for 2 h

20 Store food for no more than 1 week