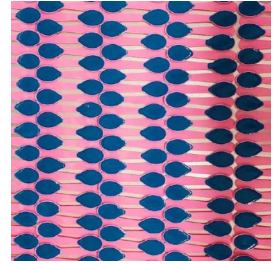


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Preparing fly-food spoons for *Drosophila* embryo collection

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Protocol status: Working

We use this protocol and it's working

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Abstract

This protocol details the preparation of fly-food spoons for the collection of *Drosophila* embryos. These spoons are designed for placement within standard plastic *Drosophila* vials, primarily for the purpose of counting embryos from single-mating pairs. The method can be adapted for use with various standard fly food recipes. However, we advise against using this protocol for collecting embryos intended for downstream processing. The soft consistency of the food can make embryo removal challenging and is likely to result in significant food carryover.



Materials

Materials

- diH₂O
- Cling wrap
- Conical tube, 50 mL
-  Drosophila Agar, Gelidium, 100 Mesh **Genesee Scientific Catalog #66-104**
-  Droso-Plugs, Narrow Vials, Manual Insertion **Genesee Scientific Catalog #59-200**
- Fly food in 500 mL or 1 L beaker
- Food coloring, blue (McCormick Culinary Blue Food Coloring)
-  Inactive Dry Yeast, Nutritional Flake **Genesee Scientific Catalog #62-106**
-  Kimtech Kimwipe delicate task wipes **Kimberly-Clark Catalog #34155**
-  Liquinox Biodegradable Cleaning Compound **Thomas Scientific Catalog #2902N20**
-  Narrow Drosophila Vials, Polystyrene, Reload System **Genesee Scientific Catalog #32-109RL**

Equipment

- Baking trays
- Ice-cream spoons (Karat U2450 2.9" PS Disposable Tasting Spoon)
- Microwave
- Syringe, 30 mL (we use glass)

Protocol materials

-  Kimtech Kimwipe delicate task wipes **Kimberly-Clark Catalog #34155**
-  Inactive Dry Yeast, Nutritional Flake **Genesee Scientific Catalog #62-106**
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Safety warnings

- ! This protocol involves the use of various chemicals and reagents that require careful handling and strict adherence to safety guidelines to ensure safe laboratory practices. Please review the Material Safety Data Sheets (MSDS) for each reagent before beginning the protocol and take appropriate precautions. All steps should be performed while wearing gloves, a lab coat, and eye protection.

Before start

- Sterilize the working surface with 10% bleach and 70% ethanol.
- Prepare fly food in a 500 mL or 1 L beaker. We use this protocol:

Protocol



NAME

Preparing food for *Drosophila melanogaster* and its relatives

CREATED BY

J. Dylan Shropshire

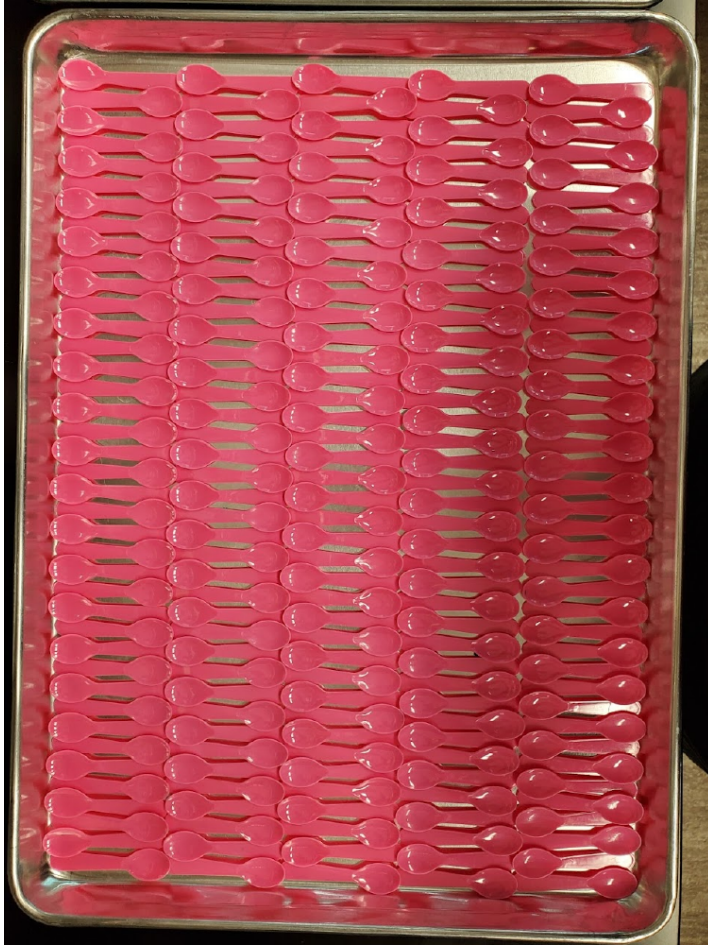
Preview

Prepare fly-food spoons

1h 15m

- 1 Align clean spoons on a large metal baking tray (as pictured, below).

10m



- 2 Using a microwave, heat a beaker of fly food until boiling. Once it begins to boil, remove the beaker from the microwave and stir. Repeat this process until the food is evenly heated to boiling.

10m



Note

Keep the beaker lightly covered with cling wrap to prevent splashing. If left unattended, the food may quickly overflow from the beaker.



- 3 Add  0.1 g of  Drosophila Agar, Gelidium, 100 Mesh **Genesee Scientific Catalog #66-104** per  100 mL of fly food.

2m



Mix well.

- 4 (Optional) Add blue food coloring until the food is the desired color (as pictured, in  go to step #5).

2m



Mix well.

Note

Food coloring is added to improve embryo visibility.
If using a darker molasses-based food, adding food coloring is not recommended.

- 5 Using a  30 mL syringe, move the food from the beaker to the individual spoons.

10m



Note

Spoons containing bubbles are usable; however, flies commonly lay their embryos within the resulting depressions. This can complicate subsequent embryo counts.



- 6 Use a  Kimtech Kimwipe delicate task wipes **Kimberly-Clark Catalog #34155** to clean away any misplaced food before adding the spoons to *Drosophila* vials. 2m
- 7 Cover the tray of spoons with an upside-down baking tray. Allow the food to solidify. 10m
- 8 While waiting for food to solidify:
- 8.1 Clean the beaker, syringe, and utensils. 2m



8.2 In a  50 mL conical tube, prepare a 1:1 v/v mixture of

2m

 Inactive Dry Yeast, Nutritional Flake **Genesee Scientific Catalog #62-106** and dH_2O .

9 Apply a thin, even layer of yeast paste to the surface of the solidified food on each spoon using a brush. Complete coverage of the food surface is not required.

5m

Note

Yeast is added to attract flies to the spoon and encourage egg laying.

10 Cover the tray of spoons with an upside-down baking tray.
Allow the yeast paste to dry.

5m

11 Add spoons individually to

15m

 Narrow Drosophila Vials, Polystyrene, Reload System **Genesee Scientific Catalog #32-109RL**

and cap with

 Droso-Plugs, Narrow Vials, Manual Insertion **Genesee Scientific Catalog #59-200**

Note

Carefully insert each spoon into a vial with the food-bearing end positioned towards the bottom.
Exercise caution during insertion to prevent dislodging the solidified food from the spoon.
If the food slides off the spoon, consider adding more agar in  [go to step #3](#) .

12 Store at  Room temperature if using within  24:00:00 .



Otherwise, store at  4 °C for up to  48:00:00 .

Note

To prevent drying, avoid prolonged storage.
If stored refrigerated, allow spoons/vials to equilibrate to room temperature before introducing flies.



Clean fly-food spoons

1d 8h 12m

- 13 Loosen food from spoons by submerging them in a covered beaker filled with

[M] 1 % (v/v)



Liquinox Biodegradable Cleaning Compound **Thomas**

Scientific Catalog #2902N20

and tap water Overnight .

16h



- 14 Remove loosened food debris by thoroughly rinsing the spoons under running tap water.

10m

- 15 Dry spoons by placing them on a layer of paper towels Overnight .

16h



- 16 Store clean spoons in zip-lock bags or in covered beakers.

2m