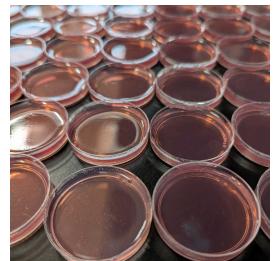


May 17, 2025

Preparing grape-juice agar plates for *Drosophila* embryo collections

DOI

dx.doi.org/10.17504/protocols.io.eq2lyqb5evx9/v1



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Protocol Citation: Alphaxand Njogu, J. Dylan Shropshire 2025. Preparing grape-juice agar plates for *Drosophila* embryo collections. [protocols.io https://dx.doi.org/10.17504/protocols.io.eq2lyqb5evx9/v1](https://dx.doi.org/10.17504/protocols.io.eq2lyqb5evx9/v1)

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Protocol status: Working

We use this protocol and it's working

Created: May 13, 2025

Last Modified: May 17, 2025

Protocol Integer ID: 218147

Keywords: Drosophila, embryos, fly food, collection, eggs, juice agar plates for drosophila embryo collection, plastic drosophila bottle, juice agar plate, drosophila embryo collection, drosophila embryo, collecting embryo, preparation of grape, preparing grape, measuring embryo, grape, embryo, petri dishes for the collection, plate, petri dish, group of fly, oz bottle

Abstract

This protocol details the preparation of grape-juice agar plates, yielding 80 to 100 plates in 35 mm petri dishes for the collection of *Drosophila* embryos. These plates are intended to be affixed to plastic *Drosophila* bottles (6 oz and 8 oz). For optimal results, we recommend using 8 oz bottles, as their firmer plastic ensures a more secure plate fit. This method is suitable for collecting embryos intended for downstream processing or to count embryos laid from a group of flies. If measuring embryo-lay rates from individual pairs, we recommend starting with this protocol:

Protocol



NAME

Preparing fly-food spoons for *Drosophila* embryo collection

CREATED BY

J. Dylan Shropshire

Preview

Materials

Materials

- Autoclave tape
-  Drosophila Agar, Gelidium, 100 Mesh **Genesee Scientific Catalog #66-104**
- diH₂O
-  Ethanol, 200 Proof **KOPTEC Catalog #DSP-MD-43**
- Petri dish, 35 mm diameter
- Serological pipette tip, 50 mL
-  Tegosept, Fly Food Preservative **Genesee Scientific Catalog #20-259**
- Welch's 100% Concord Grape Juice

Equipment

- Autoclave
- Media bottle, 1 L
- Erlenmeyer flask, 250 mL
- Graduated cylinder
- Precision balance
- Serological pipette

Protocol materials

 Drosophila Agar, Gelidium, 100 Mesh **Genesee Scientific Catalog #66-104**

 Tegosept, Fly Food Preservative **Genesee Scientific Catalog #20-259**

 Ethanol, 200 Proof **KOPTEC Catalog #DSP-MD-43**

Troubleshooting

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

1. Sterilize the working surface with 10% bleach and 70% ethanol.

Autoclave agar solution

42m

- 1 Measure the following ingredients using a graduated cylinder and precision balance, and combine in a  1L media bottle:

10m

-  350 mL diH_2O
-  12.5 g



 Drosophila Agar, Gelidium, 100 Mesh Genesee Scientific Catalog #66-104

- 2 Loosely cap the media bottle containing the agar/water solution. Affix a piece of autoclave tape to the top of the bottle.

2m



- 3 Place the flask in an autoclave bin filled with tap water.

30m



Autoclave the media bottle containing the agar/water solution at  121 °C for

 00:30:00 .

Note

Placing the media bottle in an autoclave bin with a few inches of tap water helps maintain the agar solution's warmth after autoclaving. This extended heat retention provides additional working time for pouring the plates (as described below).

Create grape-juice solution

10m



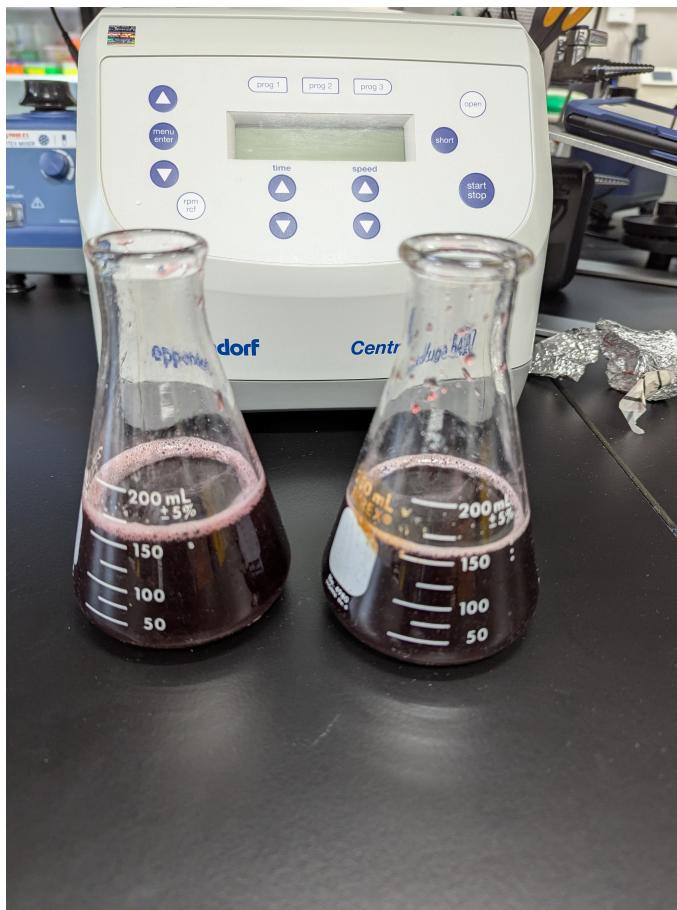
4 While waiting for the autoclave: measure the following ingredients in order using a graduated cylinder and precision balance, and combine in a  250 mL Erlenmeyer flask:

-  0.25 g  Tegosept, Fly Food Preservative **Genesee Scientific Catalog #20-259**
-  10 mL  Ethanol, 200 Proof **KOPTEC Catalog #DSP-MD-43**
-  150 mL Welch's 100% Concord Grape Juice

Swirl the flask to combine.

Note

It is expected that the Tegosept will only partially dissolve.



Prepare work station

15m

- 5 While waiting for the autoclave: align clean 35 mm petri dishes on a clean work surface.

15m

Pour grape-juice agar plates

47m

- 6 Add the contents of the  250 mL flask containing grape juice to  1 L flask. Mix well by swirling until the color of the grape juice is evenly distributed.

2m



Note

When pouring, allow the solution from the 250 mL flask to flow slowly along the inner wall of the 1 L flask. This technique helps prevent bubble formation.

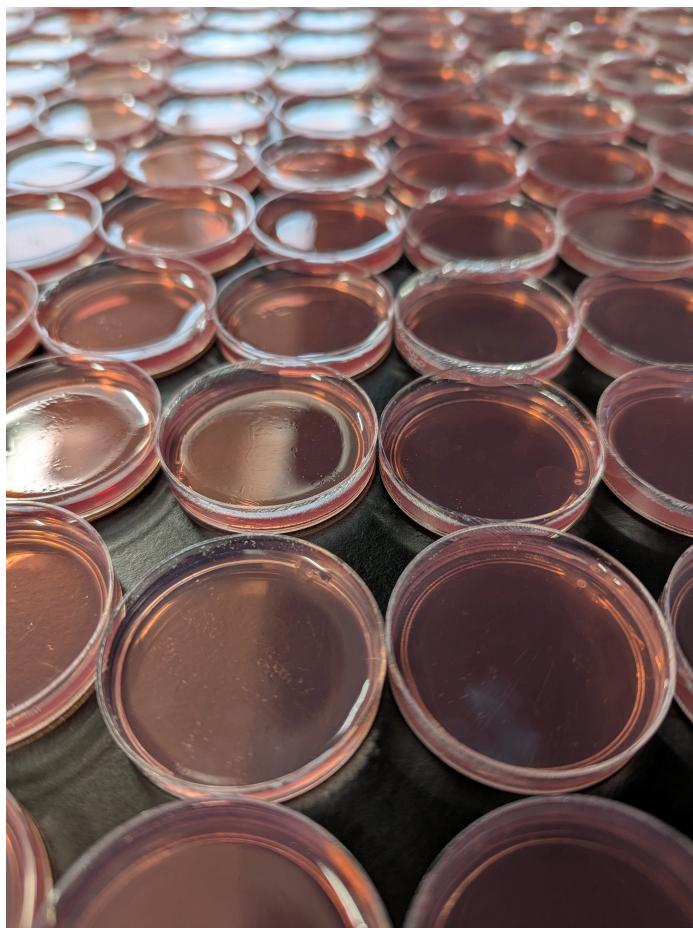
7 Using a serological pipette with  50 mL tip, distribute the agar-grape-juice solution into 35 mm petri dishes. Fill each plate completely and avoid introducing bubbles to the plates.

5m



Note

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



8 Allow the plates to cool at  Room temperature .

30m

9 Once cool, plates are ready to use. To store plates for later, collect into stacks of 25, wrap in cling film, and keep at  4 °C until use. Plates can be stored for up to 2

10m

weeks.