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Rye Broth Recipe

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ABSTRACT

This method describes the systematic preparation of a Rye-Based Broth for use in microbiological cultures. The broth consists of rye flour, sucrose, and, optionally, B-sitosterol dissolved in dichloromethane. The method involves the careful mixing of ingredients, filtration, and handling of dichloromethane (optional), followed by autoclaving to sterilize the broth.

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Preparation of Rye-Based Broth

1 In a 1.5-liter beaker or jug, combine 60 g of rye flour and 20 g of sucrose with 500 ml of water.

2 Mix the contents thoroughly.

3 Add 500 ml of boiling water to the mixture. Avoid boiling the solution, as starch may cause viscosity.

4 Stir the mixture occasionally for the next 30 minutes to keep the flour in suspension. If using a magnetic stirrer, employ gentle stirring to prevent excessive foaming.

Filtration

5 Filter the solution using a fine sieve, avoiding the use of filter paper.

6 Optionally, for a clear broth, transfer the solution into a 1-liter measuring cylinder and allow it to settle for a few hours to remove rye flour grit.

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Incorporation of B-sitosterol (Optional)

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Dissolve the B-sitosterol in a small volume of dichloromethane, ensuring complete dissolution.

Note

Handle dichloromethane with glassware, avoiding plasticware.
Use a glass pasteur pipette for transferring the dichloromethane solution.

8 Rapidly add the dissolved B-sitosterol to the rye broth, as dichloromethane evaporates quickly.

9 Employ a magnetic stirrer to gently stir the mixture, ensuring homogeneity

Autoclaving

10 Due to the tendency of the rye broth to overflow in the autoclave, fill the Schott bottle no more than half full.

Note

Place the Schott bottle inside a metal container to contain potential overflows.