



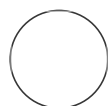
NOV 13, 2023

## Rye Broth Recipe

Diana Lee<sup>1</sup>

<sup>1</sup>ICMP - Landcare Research

ICMP culture collection



Diana Lee

ICMP - Landcare Research

### 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.

OPEN  ACCESS



#### DOI:

[dx.doi.org/10.17504/protocols.io.x54v9pwp4g3e/v1](https://dx.doi.org/10.17504/protocols.io.x54v9pwp4g3e/v1)

**Protocol Citation:** Diana Lee 2023. Rye Broth Recipe.

**protocols.io**

<https://dx.doi.org/10.17504/protocols.io.x54v9pwp4g3e/v1>

**License:** This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

**Protocol status:** Working  
We use this protocol and it's working

**Created:** Nov 08, 2023

**Last Modified:** Nov 13, 2023

**Keywords:** Rye broth,  
Phytophthora growth media,  
Pythium growth media,  
Oomycetes growth media

## 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.



## Incorporation of B-sitosterol (Optional)

7



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.