

WCSB, Wageningen University	IBISBA-SOP-WU08
	Version 1.0

EPP - Standard Operating Procedure

(only for selected experiments intended to transfer results from one lab to the other)

Title: Determination of cell dry weight

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Instruction

Determination of cell dry weight

1. *Introduction / Purpose*

This protocol describes how to measure the cell dry weight of microorganisms.

Keywords: Cell dry weight, CDW

2. *Equipment and chemicals*

2.1. *Equipment*

- Oven
- Centrifuge

2.2. *Chemicals*

- 0.9% NaCl in H₂O

2.3 *Bacterial strains*

- Strain of interest

2.4 *Other materials*

Special consumables:

- Aluminium cups

3. *Procedures*

Preparation

- Weigh empty aluminium cups
- Prepare 100 ml bacterial culture, dilute to optical density series in 10 ml medium (eg: OD₆₀₀ of 0.2, 0.6, 1.0, 1.4, 1.6)

Dry cells

- Centrifuge 15 min 4700 g 4°C, discard supernatant
- Wash twice with 10 ml 0.9% NaCl solution
- Centrifuge 15 min 4700 g 4°C, discard supernatant

- Resuspend pellet in a very small amount of 0.9% saline solution (depending on pellet size, as little solution as possible)
- Transfer pellet to **weighed** aluminium cups
- Dry o/n in oven @ 110°C
- Weigh pellets in aluminium cups
- Analyse the results using Microsoft Excel

5. Remarks / troubleshooting

Take into account that old cells and young cells can have different sizes. Therefore, the same cell density can have a slightly different cell dry weight.

6. Biosafety

No biosafety issues were associated with this protocol.

7. Acknowledgements



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