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Harvest protocol for cereal and grass crops from pot trials

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Protocol status: Working

We use this protocol and it's working

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Abstract

This is a harvesting protocol for pot trials with cereal or grass crops. It outlines how to harvest the plants and how to process them for further analysis.

Materials

Scissors or shears for cutting plants

Paper bags and zip lock bags, and a means to label them

A threshing machine (for cereal crops)

Balance with at least 2 decimal places

Oven that will reach 80 degrees C.

Wheat and oats harvest

- 1 Cut plants as close to the soil surface as possible, ensuring no soil adheres to any part of the plant.
- 2 Remove ears, count and record number
- 3 Separate the grain from the ears using the Wintersteiger LD180 laboratory threshing machine Internal note: see Safe Working Procedure for LD180 thresher)

Equipment

LD180	NAME
Laboratory thresher	TYPE
Wintersteiger	BRAND
001	SKU
https://www.wintersteiger.com/en/Plant-Breeding-and-Research/Products/Product-range/Laboratory-preparation/70-LD-180	LINK



- 4 Collect cleaned grain and put in a paper bag of known weight
- 5 Combine the chaff from threshing and the stems, and put in a separate paper bag of known weight
- 6 Weigh (g) both fractions on a balance with at least 2 decimal places (after recording the appropriate check weight for the balance to ensure it is functioning accurately). Subtract the bag weights to obtain the fresh weights of each fraction.



- 7 Dry both fractions for 48 hrs at 80 °C or until stable weight
- 8 Reweigh on the same balance as [⇒ go to step #6](#) and record check weight. Subtract the bag weights to obtain the dry weights of each fraction.
- 9 Place in labelled zip lock bags

Grass harvest

- 10 Leave around 6 weeks between cuts (can vary this depending on assessment)
- 11 Cut grass at a height of 5 cm from the soil surface and ensure no soil is adhering to the herbage. Place herbage in a paper bag of known weight.
- 12 Weigh (g) on balance with at least 2 decimal places (after recording the appropriate check weight for the balance to ensure it is functioning accurately). Subtract the bag weight to obtain the fresh weight of herbage.
- 13 Dry for 48 hrs at 80 °C or until stable weight, leaving the bag open at the top to allow moisture out
- 14 Reweigh on same balance as [⇒ go to step #12](#) and record check weight. Subtract the bag weight to obtain the dry weight of herbage.
- 15 Place in labelled zip lock bags