

# Martin Lishman

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## Easi-Read Potato Dry Matter Field Kit

### Contents of Kit

- 1 x weigh scale with separate instructions
- 1 x pack of filter papers
- 1 x folding knife with corkscrew
- 1 x core sampler for ware potatoes
- 1 x calibration chart for ware potatoes
- 1 x core sampler for salad potatoes (only supplied in Salad Version of kit)
- 1 x calibration chart for salad potatoes (only supplied in Salad Version of kit)

### Introduction

The Easi-Read Potato Dry Matter Field Kit records the dry matter content of individual potatoes. It is calibrated against a range of tubers using the 'Single Tuber Suspension Method' and is allocated a calibration chart on that basis. A separate calibration chart is supplied for each type of Core Sampler supplied.

The alternative 'Bulk Suspension' hydrometer method of testing dry matter content takes the average reading of up to 25 potatoes. While it is accurate if properly maintained using clean water, it does not present individual tuber readings. To compare with the bulk average method, it is advised that up to ten samples are taken with the Easi-Read and averaged.

Experience with the Easi-Read soon indicates the variation that can be expected within individual samples. It is worth noting that many quality control processes test individual potatoes and not average bulks, so the Easi-Read can be an important component of quality testing.

### Operating Instructions

The "Easi-Read" Scale is a portable unit, but should be set up on a horizontal stable base. Always switch the scale on *before* placing anything on the platform. If the scale is switched on and nothing placed for weighing, the scale will automatically switch off after 1 to 2 minutes. The scale can be adversely affected by electromagnetic fields, such as those caused by mobile phones, and should not be used in the vicinity of such equipment.

*Separate instructions are included for the scale and should be read before it is used.*

1. Cut a section across a potato tuber, leaving a *flat* surface (ensure that at least 50mm/2" thickness is available).
2. Start to press the Core Sampler *evenly* into the flat cut surface of the tuber.
3. Place two dry filter papers on a *firm, dry* surface with one on top of the other.
4. Turn the potato over and rest the base of the Core Sampler on the dry filter papers.
5. Press down *evenly* on the potato to take a core sample.
6. Lift well clear of the now wet filter papers. (*Keep these free from further contamination*).
7. Cut the flesh of the potato away from around the Core Sampler, ensuring that the material is pared *exactly level* across the top of the Core Sampler. (This process should be carried out well away from the wet filter papers).
8. Remove any surface particles and moisture from the outside of the Core Sampler.

9. Switch on the scale and Tare two dry filter papers.
10. Remove the dry filter papers from the scale and replace with the *wet* ones.
11. Place the Core Sampler on top of the wet filter papers on the scale.
12. Refer scale weight shown to the Calibration Chart for a direct read out of “Density” and “Dry Matter %”.
13. Remove the potato core from the Core Sampler, using the penknife corkscrew.
14. When removed, check that the sample plug is vertical when stood up on either end on a flat surface. An angled plug means that the volume has not been fully filled and will not give an accurate reading.
15. ***Remove all residues from the Core Sampler before re-using.***

- Notes:** - It is important to take a wide range of samples and average the results.
- The reference chart only applies to the Core Sampler with the matching serial number, and is calculated on the precise volume and weight of that Core Sampler’s cylinder. If both salad and ware size Core Samplers are supplied, be sure to use the correct calibration chart for each one.
  - It is important to read the separate instructions for the scale. This is a very sensitive piece of equipment and must be operated correctly. The scale is calibrated for use in the UK. Before using outside the UK the scale may need to be recalibrated to take account of any variation in the natural magnetic field of the earth. Please read sections 6.6 and 6.7 of the separate scale instructions on how to use an adjusting weight.
  - After use, always close the knife supplied. During use, always ensure that the knife is used safely.

### **Technical Assistance**

If you experience any difficulty in operating the Martin Lishman ‘Easi-Read’ Potato Dry Matter Kit, please contact Martin Lishman Ltd:

Tel: + 44 (0)1778 426600

Fax: + 44 (0)1778 426555

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### **Warranty**

The Easi-Read Potato Dry Matter Kit (the unit) is guaranteed for 12 months from the date of purchase against any defect or malfunction caused by faulty parts or workmanship. To claim under warranty, the complete unit or part should be returned, at the claimant’s expense, to Martin Lishman Ltd with a written explanation of the problem. Should there prove to be a defect or malfunction caused by faulty parts or workmanship, it will be repaired or replaced and returned to the claimant without charge. If a warranty claim is rejected, the cost of replacement or repair will be notified to the claimant before any work is carried out.

Any warranty claim will automatically be invalidated if the unit has been modified or internally tampered with in any way. The manufacturers will not cover under warranty damage or faults occurring to the unit which have been caused by inappropriate use or by use not in accordance with the operating instructions. Under no circumstances will Martin Lishman Ltd re-imburse any costs associated with a warranty claim if these costs have been incurred without agreement in advance.

Under the terms of warranty for the unit under no circumstances will liability exceed the cost of replacement or repair. The manufacturers and Martin Lishman Ltd will not be liable for any consequential or indirect loss suffered by purchasers or users of the unit, whether this loss arises from correct or incorrect use, defect or malfunction caused by faulty parts or workmanship or in any other way. Non-exhaustive illustrations of consequential or indirect loss are loss of profits, loss of contracts and damage to property.

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