

4. **NEVER ALLOW THE BASKET, ESPECIALLY WHEN FILLED WITH POTATOES, TO HANG UNSUPPORTED FROM THE HOOK ON THE HYDROMETER OTHERWISE PERMANENT DAMAGE MAY BE CAUSED TO THE INSTRUMENT.**

4. **Never lift the equipment from the barrel by holding the cylinder. The weight of the basket containing the potatoes will damage the unit beyond repair. Any such action will not be covered by warranty.**



# Zeal Potato Hydrometer

Model: D4500

## IMPORTANT

Please read these assembly instructions before use



### Technical Support

For any advice on use of this equipment please contact Martin Lishman Ltd +00 44 (0) 1778 426600

### Warranty

The Potato Hydrometer (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.

Manufactured in the UK by G H Zeal Ltd and distributed exclusively by Martin Lishman Ltd

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## Potato Hydrometer

For determining the solid content or percentage dry matter of potatoes

**Model D4500** Percentage Dry Matter of Potatoes - 17.0% to 25.0%  
Density of Potatoes - 1.065/1.110 g/ml

**Each potato hydrometer comprises:**

- 1 stem and brass weight
- 1 ball and hook
- 1 basket
- 1 stainless steel weight



*Stem and brass weight*



*Ball and hook*



*Basket*



*Stainless steel weight*

- Match the stem serial number to the box containing the weight and ball
- Screw the stem onto the ball (hand tight will suffice, do not over tighten)
- Once assembled, match the stem and ball serial number, to the basket provided

Now follow the instructions for use

### **Notes:**

The brass weight is a screw fit to the stem. It is a separate component that, for convenience, we have factory fitted to the stem. If for whatever reason the weight becomes separated from the stem and or ball, simply hand tighten, the ball and stem are watertight and would be unaffected by this.

### **Instructions for Use**

**Under no circumstances must this equipment be lifted by the cylinder whilst the basket with potato samples is attached.**

A clean, metal or plastic container of at least 356mm dia. x 660mm deep will be required so that, when filled with tap water (approx. temperature 15.6°C/60°F), the instrument with basket attached will float freely. A 182 litre drum or plastic bin is ideal for this purpose.

### **Preparation**

To adjust the Hydrometer before use:-

1. Attach the metal weight, by means of its hole, to the hook at the centre of the cross members of the basket. (DO NOT move this hook. It should always remain inside the basket for use with the metal weight, for calibration purpose only).
2. Supporting the whole weight of the basket in one hand, immerse it fully in the water container. Then with the other hand attach the Hydrometer, by means of the hook at the bottom, through the centre point of the crossover of the basket wires at the top of the basket and lower apparatus gently until it is floating freely. Take care that the top of the Hydrometer stem does not become submerged in the process..
3. When floating freely, in equilibrium, carefully turn the white plastic cap at the top of the Hydrometer stem (clockwise to raise, anti-clockwise to lower), until the instrument floats with the red line at 1.070 on the scale level with the surface of the water.

### **Use:**

4. Select and thoroughly wash a quantity of average size potatoes, equal to a total weight of 3.63Kg from the batch to be tested. (It is permissible to cut one potato in order to obtain the correct weight).
5. Remove the metal counterpoise weight from the basket and gently place the selected potatoes in the basket.
6. Then follow procedure detailed in 2 above.

### **Reading:**

7. The point at which the water level crosses the graduated scales indicates the density and dry matter percentage of the potatoes.

### **PRECAUTIONS**

1. Always remember to use only thoroughly washed potatoes. Should the water become contaminated by particles of earth, inaccurate readings will be obtained. Therefore it is recommended that the water in the container is changed at regular intervals.
2. Each Hydrometer should only be used with its matched wire basket. This can be ensured by checking the serial number on the plastic label attached to the basket corresponds with the serial number on the Hydrometer scale.
3. It is emphasised again that particular care should be taken to ensure that the top of the Hydrometer stem (the white cap) is not submerged. If water does get inside the Hydrometer it will become unserviceable.