

# Measuring Air-Filled Porosity of Compost

1. Follow the directions for measuring bulk density of compost.
2. Place the bucket on the scale and record the weight, as per directions for measuring bulk density.
3. Slowly add water to the material in the bucket, allowing the water to penetrate all of the composting material.
4. Add water to the level of the 20 L mark in the bucket.
5. The addition of water may take up to 5 minutes as the water slowly fills the pores in the compost.
6. Record the weight of the compost and water.
7. Subtract the weight of the compost from the weight of the compost and water
8. Calculate the air-filled porosity by dividing the weight of water added by 20 and multiplying by 100 to obtain % air-filled porosity.

Example:

Weight of compost in bucket = 14.5 kg

Weight of compost and water in bucket = 20.8 kg

$$20.8 \text{ kg} - 14.5 \text{ kg} = 6.3 \text{ kg}$$

$$\frac{6.3 \text{ kg}}{20 \text{ L}} = 0.315 \times 100\% = 31.5\%$$



*Recommended air-filled porosity for composting is 35-50%. Forced air systems can function well on the lower end. Passively aerated systems benefit from higher air-filled porosity.*