

M1.Low humidity results in more woodlice moving;

So increased movement increased chance of leaving dry / unfavourable environment so reduce water loss / reduce evaporation;

[2]

- M2.**
- (a) (i) both are polymers / polysaccharides / built up from many sugar units / both contain glycosidic bonds / contain (C)arbon, (H)ydrogen and (O)xygen; 1
- (ii) hemicellulose shorter / smaller than cellulose / fewer carbons; hemicellulose from pentose / five-carbon sugars and cellulose from hexose / glucose / six-carbon sugars;
(only credit answers which compare like with like.) 2
- (b) protein / nucleic acid / enzyme / RNA / DNA / starch / amylose / amylopectin polypeptide; 1
- (c) (i) to make sure that all the water has been lost; 1
- (ii) only water given off below 90 °C;
(above 90°C) other substances straw burnt / oxidised / broken down; and lost as gas / produce loss in mass; 2
- (d) enzymes are specific;
shape of lignin molecules will not fit active site (of enzyme);
OR
shape of active site (of enzyme);
will not fit molecule; 2 max
- (e) 1. made from β -glucose;
2. joined by condensation / removing molecule of water / glycosidic bond;
3. 1 : 4 link specified or described;
4. "flipping over" of alternate molecules;

5. hydrogen bonds linking chains / long straight chains;
 6. cellulose makes cell walls strong / cellulose fibres are strong;
 7. can resist turgor pressure / osmotic pressure / pulling forces;
 8. bond difficult to break;
 9. resists digestion / action of microorganisms / enzymes;
- (allow maximum of 4 marks for structural features)*

6 max

[15]