

21 Fermenters and GM – Part 2 — Answers

Answers

Work through these after trying the questions yourself.

21.6 Growing bacteria or fungi (microbes) to make useful products.

21.7 Any two of: insulin; penicillin; mycoprotein.

21.8 Any two of: temperature; pH; oxygen; nutrient supply; removal of waste.

21.9 Changing an organism's genes (its genetic material) by removing, changing or adding genes.

21.10 Any one of: making human insulin in bacteria; giving crops resistance to herbicides or pests; improving food value.

21.11 **1.** Cut out the human **insulin gene**. **2.** Join it into a bacterial **plasmid** (the carrier). **3.** Put the plasmid back into **bacteria**. **4.** Grow the bacteria in a **fermenter**, where they make human insulin, which is then collected.