



Agricultural Science Past Exam Questions

Describe an Experiment...

Higher Level

2013 – Question 4

Describe laboratory **or** field experiments for any **two** of the following:

- (a) To investigate the effect of structure on total pore space in a soil.
- (b) To grow a culture of bacteria from the root nodules of clover.
- (c) To estimate the amount of grass dry matter (DM) in a paddock.
- (d) To determine the energy value of a farm foodstuff.

(48 marks)

2012 – Question 4

In the case of any **two** of the following, describe a laboratory **or** field method:

- (a) To assess the quality of grass silage.
- (b) To prepare a sample of plant cells for examination under a microscope.
- (c) To show that carbon dioxide is necessary for photosynthesis.
- (d) To demonstrate cation exchange in a soil.

(48 marks)

2011 – Question 4

Describe a laboratory **or** field experiment for any **two** of the following:

- (a) to determine the dry matter content of different potato varieties
- (b) to determine the hygienic quality of milk
- (c) to demonstrate soil flocculation
- (d) to demonstrate the effects of grazing on the botanical composition of grassland.

(48 marks)

2010 – Question 4

Describe a laboratory **or** field method to determine any **two** of the following:

- (a) The texture of a sample of wet soil.
- (b) The number of earthworms in a pasture.

- (c) The rate of transpiration of a plant.
- (d) The digestibility of rolled barley versus whole barley when fed to cows.

(48 marks)

2009 – Question 4

Describe a laboratory **or** field method to show any **two** of the following:

- (a) The percentage germination of a cereal.
- (b) The calorific value of a farm animal ration.
- (c) The effect of a selective herbicide.
- (d) The presence of bacteria in the root nodules of clover.

(48 marks)

2008 – Question 4

Describe a laboratory **or** field method to determine any **two** of the following:

- (a) The percentage of sugar in a sample of grass.
- (b) The influence of any one named environmental factor on the growth rate of a crop plant.
- (c) The butterfat content of milk.
- (d) The activity of the liver enzyme catalase.

(48 marks)

2007 – Question 4

Describe a laboratory **or** field experiment in relation to any **two** of the following:

- (a) The effect of structure formation on total pore space in soils.
- (b) The determination of the percentage germination of a sample of seed.
- (c) The botanical composition of an old permanent pasture.
- (d) The determination of the digestibility of rolled grain as compared to whole grain.

(48 marks)

2006 – Question 4

Describe a laboratory **or** field method to show any **two** of the following:

- (a) The presence of a named mineral nutrient in a soil sample.
- (b) The extraction of pigments from a sample of grass.
- (c) The presence of protein in a sample of peas.
- (d) The production of heat during the germination of seeds.

(48 marks)