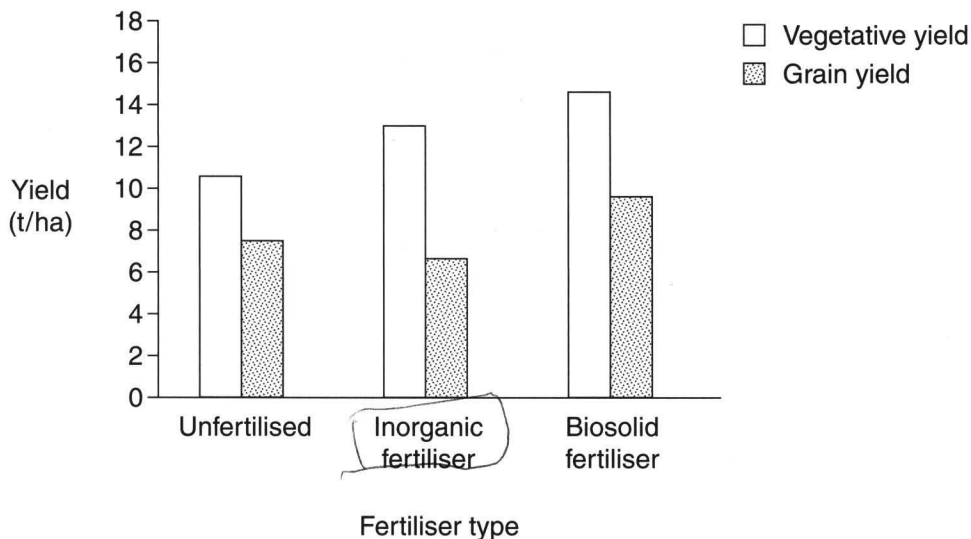


Question 25 (7 marks)

Digested 'biosolid' (the solid residue produced from effluent) is being applied as a fertiliser as an alternative to inorganic fertilisers.

A study was carried out to investigate the effects of biosolid fertiliser on the growth and grain yield of maize. The level of vegetative yield (t/ha) and grain yield (t/ha) are shown.



- (a) Explain why the grain yield from the application of inorganic fertiliser differed from that of the control. 3

Inorganic fertiliser such as ~~nitrate~~ ^{superphosphate} showed less t/ha than the unfertilised trial. This may be due to the readily available nutrients which were depleted quickly during the ~~re~~ vegetative state of growth. If the plant did deplete these nutrients during initial growth, there wouldn't have been enough nutrients available for reproductive growth, due to runoff/leeching.

Question 25 continues on page 18

Question 25 (continued)

(b) Explain why a maize producer may decide NOT to use biosolid fertiliser.

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Bio Solid fertiliser may be very expensive & the farmer cannot justify using a more expensive fertiliser. Also if the maize producer was a broad-acre farmer, the application method may not be suitable for large acreages. Organic fertilisers are normally used for intensive farming & smaller acreages. If it is easier & more justifiable to use ~~the~~ inorganic fertiliser, due to its easy ability of being spread, a farmer may prefer to use this.

End of Question 25