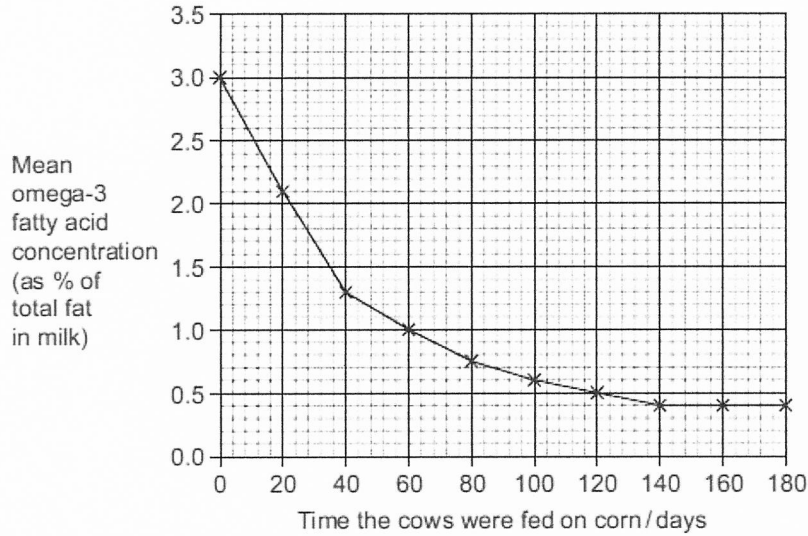


Lipids Question for Maths/Graph Skills

Omega-3 fatty acids are found in cows' milk. Scientists investigated changes in the concentration of omega-3 fatty acids in milk when cows were moved from eating grass in fields to eating corn in cattle sheds. The following figure shows the results of one investigation.



- (a) The concentration of omega-3 fatty acids in milk changed when cows were fed on corn instead of grass. Describe how.

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(2)

- (b) (i) Calculate the rate of decrease in the mean omega-3 fatty acid concentration between 0 and 40 days. Show your working.

Answer.....% per day

(2)

- (ii) The omega-3 fatty acid concentration is expressed as a percentage of total fat. Explain the advantage of this.

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- (iii) One farmer concluded from the graph that feeding cows on corn reduces the omega-3 fatty acid content in milk. Evaluate this conclusion.

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Extra space

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Mark Scheme

- (a) (Omega-3 concentration) falls more rapidly at first;
Levels out at 140 days / concentration of 0.4%; 2
- (b) (i) Two marks for correct answer of 0.04 or 0.043;;
One mark for incorrect answer which clearly identifies total fall of 1.7; 2
- (ii) To take into account variation in fat content of milk / fat content varies from
cow to cow;
Allows comparison; 2
- (iii) The graph shows a decrease with time feeding on corn;
No control group;
Might have fallen anyway / might decrease with time rather than with time
spent feeding on corn;
Other factors / other named factor might also have changed;
Only one investigation so might not be representative;

4 max

[10]