

91294



Level 2 Agricultural and Horticultural Science, 2013 91294 Demonstrate understanding of how NZ commercial management practices influence livestock growth and development

2.00 pm Friday 29 November 2013 Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of how management practices influence livestock growth and development in commercial production in New Zealand.	Demonstrate in-depth understanding of how management practices influence livestock growth and development in commercial production in New Zealand.	Demonstrate comprehensive understanding of how management practices influence livestock growth and development in commercial production in New Zealand.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

TOTAL	

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ASSESSOR'S USE ONLY

You are advised to spend 60 minutes answering the questions in this booklet.

QUESTION ONE: LAMB PRODUCTION

The health of the lambs is important during their growth and development. Most farmers vaccinate their lambs to prevent diseases such as scabby mouth.

(a) Explain how vaccinating lambs affects their growth and development for meat production.

Selecting the breed of sheep is one of the most important management practices on any farm. Since 2003, the Alliance Group meat processing plants have been scanning lamb carcasses. The scan measures the meat in the loin, leg, and shoulder, minus the bone and fat, to find the best meat yield. This information is given back to the farmer to assist in sheep breeding decisions. ASSESSOR'S USE ONLY

(b) Justify the use of scanning at the meat processing plants to enable farmers to make sheep breeding decisions that will improve the quantity of lamb meat sold.

In your answer, consider:

- how the breed of sheep and breeding decisions influence the growth and development of sheep for meat production
- the information that can be provided to the farmer from scanning
- how scanning can affect the quantity of lamb meat produced.

QUESTION TWO: PASTURE UTILISATION IN BULL BEEF PRODUCTION

Most bull beef farmers use pasture as their main source of feed to increase the liveweight of their bulls. Pasture monitoring and topping are two management practices that improve the quality and utilisation of the pasture.

(a) Explain how the use of ONE of these management practices (pasture monitoring *OR* topping) improves the growth and development of the bulls.



Stocking rate influences livestock growth and development. The table below shows the effect of stocking rate on production and profit for a bull farm.

Stocking Rate (bulls/ha)	2.5	3.5	4.5
End liveweight (kg)	530	495	455
Sale price (per bull)	\$1019	\$949	\$874
Profit (per bull)	\$579	\$509	\$434
Profit (per ha)	\$1447	\$1781	\$1953
Pasture utilisation (%)	59	74	81
Liveweight gain (kg/ha)	825	1033	1 1 5 0

 Table 1
 Effect of stocking rate on production and profit

Using the information in the table above, select the stocking rate that you consider will optimise profit for the bull farmer.

Selected stocking rate:

(b) Justify your selected stocking rate over ONE of the other stocking rates by comparing pasture utilisation and profit to the farmer.

In your answer, consider:

- how the stocking rate would influence the growth and development of bulls
- efficient pasture utilisation
- financial returns to the farmer.

QUESTION THREE: BROILER PRODUCTION

In commercial broiler production for chicken meat, the chickens are kept in environmentally controlled sheds.

Broiler production shed



(a) Explain how environmentally controlled sheds would influence the growth, development, and yield of broiler chickens.



To stock the environmentally controlled sheds, the broiler chickens are hatched in incubators.

(b) Justify the importance of using incubators in commercial poultry production over the use of broody hens.

In your answer, consider:

- growth and development of the chicken embryo
- providing environmental consistency
- the financial impact of timing of hatching and maturity for the market.

