

# S

93105Q



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD  
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

## Scholarship 2018 Agricultural and Horticultural Science

2.00 p.m. Friday 9 November 2018  
Time allowed: Three hours  
Total marks: 24

### QUESTION BOOKLET

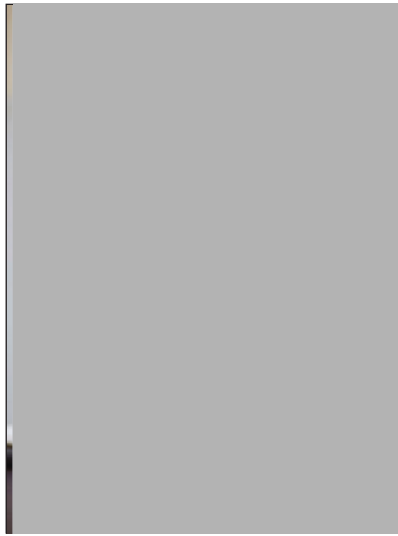
There are **THREE** questions in this booklet. Answer **ALL** questions.

Write your answers in Answer Booklet 93105A.

Check that this booklet has pages 2–3 in the correct order and that none of these pages is blank.

**YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.**

**QUESTION ONE: THE IMPACT OF ALTERNATIVE PROTEIN-BASED FOOD PRODUCTS  
(8 marks)**



Advances in food-processing technologies, increasing global demand for food, environmental concerns, and consumers looking for alternative food experiences have all contributed to the rise of new, protein-based food products, such as chickenless chicken, animal-free milk, cultured beef, and insect protein.

Discuss:

- the drivers of this move to alternative protein-based food products; and
- the opportunities and threats this development presents to existing New Zealand primary production systems.

Source (top image): [http://www.gfi.org/images/uploads/2016/08/PerfectDay\\_Bottle\\_Rendering.jpg](http://www.gfi.org/images/uploads/2016/08/PerfectDay_Bottle_Rendering.jpg).

Source (lower image with text): <https://sunfedfoods.com>.

**QUESTION TWO: THE VALUE OF WATER (8 marks)**

Discuss the perspectives of at least THREE different stakeholder groups (e.g. producers, the wider community, iwi) regarding the economic, social, and cultural 'value' of water.

**QUESTION THREE: PRIMARY PRODUCTION SYSTEMS AND INNOVATION (8 marks)**

Most New Zealand primary production systems are focused on the large-scale production of a product with consistency, uniformity, and a defined range of product attributes. This focus can often be to the detriment of targeting niche market opportunities.

Choose TWO New Zealand primary production systems, and, for each one, critically analyse how the existing system allows (or hinders) the production and marketing of new, high-value niche products, as distinct from catering for the uniform mass production of commodities.

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