

EXAM 6 – CANADA, FALL 2018

12. (2.25 points)

a. (0.25 point)

Briefly describe the purpose of probable yield tests.

b. (0.5 point)

Briefly describe the following two elements incorporated in the final premium rates for AgriInsurance programs:

- i. Reinsurance load
- ii. Self-sustainability load

c. (1.5 points)

Briefly describe the process of self-sustainability assessment in terms of:

- i. Type of simulation
- ii. Length of the financial position projection
- iii. Two possible adverse scenarios under testing
- iv. The criteria of self-sustainability for all scenarios

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SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 12	
TOTAL POINT VALUE: 2.25	LEARNING OBJECTIVE(S): B1, B3
SAMPLE ANSWERS	
Part a: 0.25 point	
<p><u>Sample 1</u> To ensure there is no over-insurance</p> <p><u>Sample 2</u> To ensure probable yields accurately reflect the crops' long-term production capacity and the methodology doesn't result in over-insurance.</p>	
Part b 0.5 point	
<p><u>Sample 1</u></p> <ul style="list-style-type: none"> i. If government purchases private reinsurance, premium rate methodology can allocate the reinsurance costs to various plans via reinsurance loads ii. Load to replenish surplus so that plan is able to restore past deficits within reasonable time period & withstand loss volatility <p><u>Sample 2</u></p> <ul style="list-style-type: none"> i. To account for reinsurance cost when province purchase private insurance ii. To recover deficit and maintain a surplus level appropriate to sustain volatility in loss experience 	
Part c: 1.5 points	
<p><u>Sample 1</u></p> <ul style="list-style-type: none"> i. Fully stochastic simulation ii. 25 years iii. 1. Increase liabilities -> more liability, more loss exposure 2. decrease liabilities -> right after CAT event, vulnerable capital position or hard to replenish surplus with given low premium iv. 1. The recovery from the 95th percentile fund balance deficit would occur, on average, within 15 years; and 2. The recovery from the 95th percentile fund balance deficit would occur, with 80% probability within 25 years <p><u>Sample 2</u></p> <ul style="list-style-type: none"> i. Fully stochastic simulation ii. 25 years iii. Increase in liability = higher exposure to loss Adverse claim experience iv. For all scenarios (base and all adverse), the recovery from 95th percentile deficit must occur on average with 15 years and with 80% probability within 25 years 	

SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT

Candidates were expected to understand the production insurance program including probable yield tests, additional loadings in the final premium calculation, and the process of self-sustainability assessment.

Part a

Candidates were expected to understand the purpose of probable yield tests.

A common error included:

- Explaining the concept/calculation of a probable yield without explicitly mentioning the purpose.

Part b

Candidates were expected to understand the two factors incorporated in the final premium rate for a production program.

Common errors included:

- For the reinsurance load, not explaining that the province purchases private insurance or discussing the allocation of marginal reinsurance cost to various plans.
- For the self-sustainability load, only mentioning recovery of the past deficit and not discussing building/maintaining a surplus for the future.

Part c

Candidates were expected to understand the key process of the self-sustainability assessment.

For part iii., credit was given for any plausible adverse scenario such as a catastrophe.

Common errors included:

- Confusing the concept of "length of the financial position projection" with the concept of "self-sustainability criteria"
- Not specifying recovery from the 95th percentile deficit for self-sustainable criteria