

Advanced Agribusiness Management

Instructions

The Exam is worth 20% There are three (3) questions with multiple parts. Answer the questions in the spaces provided on the question sheets. If you run out of room for an answer, continue on the back of the page. Show working for all answers.

Questions

1. (a) What is the Ellsberg paradox? (1 point)
- (b) Why is it important? (1 point)
- (c) What can be done about it/How can it be avoided? (1 point)
- (d) What is the Allais paradox? (1 point)
- (e) Why is it important? (1 point)
- (f) What can be done about it/How can it be avoided? (1 point)

Answer:

2. Consider a two-year crop rotation problem between fallow and planting another crop. Crop yield and therefore gross margins depend on what was planted the previous year. Formulate a linear programming problem for crop rotation with a two year sequence. The gross margin for planting following fallow is 10 and the gross margin for fallow following planting is 5 (assume grazing on stubble). Continuous cropping can be ignored as can continuous fallow. your farm has 100 acres area.
- (a) Formulate a linear programming tableau for this problem. (4 points)
 - (b) Solve this problem via the graphical method. (4 points)
 - (c) Interpret your results. (2 points)

Answer:

3. Given the following data calculate

Goods are sold at a rate of 1 per day, the costs of ordering new goods is \$20 irrespective of the size of the order and each item ordered costs \$2 the costs of storing goods are 0.8 per item stored. the lead-time for orders is 2 days and initially 20 items are in stock.

(a) When supplies should be ordered (2 points)

(b) How much should be ordered (2 points)

Answer: