



AAE 320 Farming Systems Management

Exam # 1 Review

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Goal

- Explain what to expect for exam
- Overview topics on exam
- Give idea of how to study

Exam #1: Friday October 15 In Class

- What to Expect
- Organization & format similar to previous exams
 - Mostly problems testing your knowledge of major concepts via mathematics
 - Other questions: true false and/or short answer,
 - Look at previous exams on the class page for example format and questions
- Remember 2020 exam was take home: longer than yours
- All others were in class

Exam #1

- Three types of Problems/Questions
- 1. Quantitative Questions (math problems to work out)
 - Think breaks, problem sets, examples, old exams
 - Examples in class in pre-recorded lectures
- 2. Context questions on Quantitative Questions
 - Give very short written answers
 - Example: interpret your partial budget result

Exam #1

- 3. Non-Quantitative Questions
 - Write a few sentences: The space provided will guide you on how much to write, no need to write a bunch
 - Questions about the materials and issues we discussed in class
 - Readings, videos, small groups, discussion sheets, ...
 - Basic terms used in problem sets: cover crop, cow-calf operation, heifer vs cow, seed treatment, types of fertilizer, input substitution, ...

Topics Covered

- Introduction
 - Overview of Wisconsin Agriculture
 - 2 part video, PowerPoint, Discussion Assignment #1
 - U.S. Food System
 - 1 video, PowerPoint, Discussion Assignment #2
- Production Economics
 - Quantitative Topics
 - Non-Quantitative Topics

Production Economics

- Partial Budget Analysis
 - 1 video and PowerPoint
 - Think Break #1
 - Problem Set #1
- Partial Budget Examples
 - 1 video, PowerPoint, and PowerPoint with answers

Production Economics

- Single Input Production Economics
 - Focus on optimal input use when choosing 1 input
 - Production function, marginal product, average product
 - $VMP = r$ identifies the optimal input use
 - Table form or using Calculus
 - 3-part video and PowerPoint
 - Think Breaks #2 to #5
 - Problem Set #2
- Single Input Production Examples
 - PowerPoint and PowerPoint with answers

Production Economics

- Multiple Input Production Economics
 - Focus on optimal input use when choosing 2 inputs
 - Equal margin principle: $MRTS = MP_x/MP_y = -\Delta Y/\Delta X = r_x/r_y$
 - Isoquants, Tradeoff curves, input substitution,
 - Table form or using Calculus: how to find optimal inputs
 - 3-part video and PowerPoint
 - Think Breaks #6 to #8
 - Problem Set #3
- Multiple Input Production Examples
 - PowerPoint and PowerPoint with answers

Production Economics

- Minor Topics covered along the way
- Linear Interpolation
 - Will not need to use the formula
 - If you need to interpolate, it will be simple, calculate the average of two entries
- Units conversion
 - Expect a separate question: \$/ton of fertilizer that XX% N: what's the N price. Will not need to do it for calculus

Production Economics

Non-Quantitative Topics

- Economics of Cost
 - 3 videos, plus class time
- Nitrogen in Agriculture
 - 4 videos/reading, class discussion
 - Discussion Assignment sheet #3
 - Follow-up class lecture with PowerPoint
- The More-On Principle
 - Video, additional follow-up to N in ag

How to Study/Prepare

- Know the Think Breaks and Problem Sets and how to work these types of problems
- Read over or do the old exams
 - There are differences in the material covered
- Exam will mostly be quantitative, focused on the optimality conditions and their use to make decisions on input(s)/output
- Expect more on the special topics lectures than in years past: we spent more time on than in previous years
- Email/call me with questions