

**Agricultural Technology and Mechanical Systems Career Development Event 2014
State Team Activity – Theme: Plant Production Systems**

Directions:

Work as a group to complete parts A, B and C. You may use both word and excel to produce a report of your work. Please submit all materials imbedded in a single word document. (Consult the included report scoring rubric to include all necessary criteria and formatting for your document). Organize yourselves in order to properly address all sections. While you are working you will be evaluated by an observer on your ability to work as a team. Save a copy of your document and print one copy for submission and evaluation. You have 1 hour.

Scenario:

You are the Wyoming onsite manager for a wealthy land development firm based out of New York City. Recently the firm purchased 4037 acres here in Wyoming, and has charged you with the management of the land with the production of Alfalfa and Winter Wheat. The development firm has instructed you to compare the production costs of both alfalfa and winter wheat on the property vs. the return from selling the crops to find out which is more profitable. Using the included information in this document, compare Alfalfa and Winter Wheat to determine which would ensure the development firm the largest profit.

Part A

As a team, calculate the amount of seed in pounds needed for the production of each crop. After doing so, calculate the number of bags of seed needed and report the total cost for each (Alfalfa seed is sold in 50 lb. bags at a cost of \$199.99 per bag, and Winter Wheat seed is sold in 50 lb. bags at a cost of \$75.00 per bag). After you have determined the anticipated yield for each crop, report the gross profit for each, based on the current market price and identify the best crop option to ensure the most profit.

Alfalfa: 23lbs/acre x 4037 acres = 92,851 lbs. of seed

Winter Wheat: 80lbs/acre x 4037 acres = 322,960 lbs. of seed

Alfalfa: 92,851 lbs. of seed/50 lbs. per bag = 1858 bags x \$199.99= \$371,581.42

Winter Wheat: 322,960 lbs. of seed/ 50 lbs. per bag = 6460 bags x \$75.00 = \$484,500

Alfalfa: 3.01 tons per acre x 4037 acres = 12151.37 tons X \$194.50 = \$2,363,441.47

Winter Wheat: 46 bushels per acre x 4037 acres = 185,702 bushels X \$8.77 = \$1,628,606.54

***Alfalfa would be the better option.**

Part B

The development firm has decided the most profitable crop will be planted on 60% of the allocated cropland with the least profitable being grown on the remaining 40%. Develop a table identifying which plots will be used to grow each crop. Be sure to include the total acreage amount for the plots you have selected, and the gross income for each crop based on the percentages grown.

4037 Acres X 60% = 2422.20 Acres of Alfalfa planted

2422.20 X 3.01 tons per acre = 7290.82 tons X \$194.50 = \$1,418,064.49

4037 Acres X 40% = 1614.80 Acres of Winter Wheat planted

1614.80 X 46 bushels per acre = 74280.80 bushels X \$8.77 = \$651,442.61

Team will develop a chart identifying acreage plots for each crop with the total acreage for the plots. It will not matter which plots they choose as long as the numbers match the above.

Part C

What are you going to recommend to the land development firm? Use your knowledge of good business practice and information from Part A and B to justify your recommendation with a one-paragraph response.