Name_____ **School**_____ **Contestant Number** _____

2013 Wyoming State FFA CDE
Agricultural Technology and Mechanical Systems
Environmental and Natural Resources

You have recently been hired to serve as an agricultural consultant for a local farming and hay operation. Mr. Goldstein, the operations manager for the farm has decided to devote 1.5 sections of available land to irrigated alfalfa. According to your calculations you have determined that the alfalfa needs to be planted .25" deep in a sandy loam soil with 2% organic matter and a relatively neutral pH. (**The back may be used for calculations**)

1. How much alfalfa seed would you recommend that the operations manager need to cover the planting area with alfalfa seed at a **1 1/2 lb. per acre** seeding rate?

2. At a cost of **$175.00 per 50 lb.** of seed, how much will it cost to cover the total planting area?

3. There was a calculated loss of **10%** of the seed that did not germinate. How many acres of alfalfa failed as a result of this germination loss?

As a part of your contracted services to the farming and hay operation, you check in every three weeks with the operations manager to assess the growth of the crop and to stay ahead of any issues that may develop. In your last visit you discover that Mr. Goldstein is having problems with a Canadian Thistle and Crabgrass eruption in his growing alfalfa. Considering the need for cost effectiveness utilize the additional information sheet available and the chemicals costs below and determine the following.

Chemical	**Cost of Product**	**Chemical**	**Cost of Product**
Butyrac	$4.00/qt.	Kerb 50 W	$4.75/qt.
Round Up Ultra	$3.25/qt.	Velpar	$3.00/qt.

1. Which herbicide should be used? _____

2. Total ounces of chemical needed to cover the total acreage under cultivation? _____

3. Identify the active ingredient in the herbicide that you have elected to use. _____

Criterion	Points possible	Points earned
First Section Questions	21 (7 points ea.)	
Second Section Questions	6 (2 points ea.)	
Safety	3	