Maximizing Crop Yields & Profit

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Part I: Overview of MaxYield Cooperative MaxYield Cooperative is a vibrant 104-year-old agricultural company dedicated to their vision of: “We See More In Your Fields.” For generations, this cooperative has allowed its members to band together and achieve things that they could not do individually. Their focus is to provide solutions for their members needs to stay competitive in all aspects of agriculture: animal feed, fuel, crop production, grain handling and marketing.	Part II: Agronomy Specialist Job Specifics Agronomists, or crop scientists, specialize in producing and improving food crops by acting as a liaison between the crop researchers and the farmer. They will consult on seeds, fertilizer, and crop protection. Agronomists scout fields, which involves walking through the fields and looking for different bugs, weeds, nutrient deficiencies and checking on crop growth. If there is a problem with a crop, an agronomist will examine the crop, looking for signs of disease, insect problem, weed issue, or soil nutrient problem. The agronomist will then pinpoint the cause, review research findings and recommend solutions to famers on how to maximize yields and be the most cost effective at the same time.
Part III: Introduce the Problem A farmer has come to you realizing that his fields are not uniformly producing and wants your expert advice in order to maximize crop production. You will use your understanding of the needs of the plant, nutrients, soil types and pH to make recommendations on proper seed selection and nutrients needed for economically profitable crop production.	Part IV: Background MaxYield Cooperative realized that farming has moved beyond the days of plowing, planting, and fertilizing. To maximize yield potential, the farmer needs maximize their farm management to utilize soil science, planting variables, and the right nutrients. Key to this process is an understanding of the roles of the essential chemicals Nitrogen (N), Phosphorus (P), and Potassium (K) and other micronutrients in plant growth and development. Understanding that the field is not uniform so the ability to read graphs and interpret fertility map data is crucial to building management zones each with its own recommendations.
Part V: MaxYield Cooperative’s Business Solution MaxYield Cooperative developed a unique SciMax Solutions Advisory Team that combines business, science and technology to provide individualized support to the farmer. They developed a grid soil sampling program that is designed to help the farmer understand the variable soil conditions in his fields and then use this information to make nutrient management recommendations with the goal of reducing risk, increasing yields and increasing profits. https://www.scimaxsolutions.com/	Part VI: Student Solutions What are common soil types/composition in Iowa? What nutrients do plants need to grow? What happens if a plant has too much or too little of a nutrient? What is grid soil sampling? What does variable rate planting mean? Utilize nutrient data and soil maps to make recommendations. How can increasing crop yields increase profits? https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm