

## 2023 Envirothon oral presentation scenario

You graduated with a degree in Agronomy in 2013 and have been working for an agricultural business organization as a conservation agronomist since that time. In your daily work, you advise producers how to implement agronomic conservation practices such as no-till/strip-till and cover crops on their farms. You enjoy your work since it is rewarding to see the positive environmental impact from farming practice changes. Now a new opportunity has been presented to you.

Your family farm has been in your family since 1856. Your granddad has been farming the land and has grown the original 80 acres to an operation of 640 acres. He cares deeply about the land and hopes that someone in the family will take over now that he has decided to retire. He has taken care of the land by implementing several conservation practices over his farming career so you know the land is well cared for. Your dad did not want to farm and still is not interested in taking over so your granddad came to you offering a share crop lease.

The land is variable with most of it being A or B slope with one field of 160 acres which contains several acres of C slope. Your granddad has told you that when he was young, his dad kept the 160 in pasture to protect the slopes from erosion. Five years ago, your granddad began operating that field using no-till. The rest of the fields have been conventionally tilled. He has noticed changes in the soil structure of the no-till field and is pleased with those changes. All of the fields have been in corn/soybean rotation.

As you sit at your grandparents' kitchen table discussing how you would like to operate the farm, your grandmother tells you that farming the land will be different. She has kept decades of weather records detailing rainfall events and temperatures. She tells you that the number of dry days in the spring to plant are fewer than 50 years ago when they started operating the farm. She also has witnessed a trend in heavy rainfall thunderstorms while also seeing more/longer dry spells in the summer months. She says the climate seems to be changing and the farm will have to adapt to the changes.

You have advised many clients on implementing climate friendly farming practices, now you have a chance to implement those practices yourself. Discuss with your grandparents the way you will change the operation or continue some practices and why.

- What practices will you implement in the fields that have been conventionally tilled?
- Are there new conservation practices you will implement
- Explain the potential costs since your grandparents are paying 50% of the cost in the share-crop lease
- What are the potential yield impacts on these fields
- Are there potentially positive climate impacts from the practices your propose
- Explain soil health to your grandparents
- What changes do you want to make to the 160 acre field
- Consider returning it to pasture and explain how you would manage the livestock in that field, including water needs
- How will these changes address the weather concerns your grandmother mentioned
- What will your crop rotation be
- What programs available through state or federal government would you consider using