**What were the two most interesting ideas you learned on the field trip, and why were they so interesting to you? Please think deeply but keep your answers concise.**

1. I found it interesting when Charlie Forman said that Monsanto has made farming more enjoyable for him. When watching the Food Inc. documentary, it was very clear that the farmers felt used and cheated by Monsanto. This struck me as especially interesting because it seems that **depending on what you are looking to gain, Monsanto can either be very useful or detrimental**. Charlie appeared to be looking for the biggest economic gain, which Monsanto can provide through GMO crops. However other farmers who are less focused on economics can be negatively affected by being locked into a Monsanto contract.
2. I also found **the very noticeable difference in the “sponginess” of the soil on the organic field versus the path at Ironwood was interesting**. This demonstration connected really well with what we have learned in class about exploiting agriculture fields and the impact this has on soil health. The organic field was noticeably healthier just by walking on it. The impact that no till, nitrogen-fixing clover and local biota had was astounding. The fact that this field is used for agriculture goes to show there is a sustainable way to maintain soil health and still produce crops.
3. Charlie at Forman Farms mentioned that Monsanto made farming fun and provided a greater farming experience which contrasts to what we saw in Food Inc. I think Charlie is faced with making choices that are morally and economically challenging and he chose what he believed to be economic survival. When contrasting this farm to Ironwood Farm, I found that although Charlie had a much greater crop yield and flow of income, he also faces challenges economically by being a larger supplier as the farming economics is very dependent on his purchaser’s global relationship and their relationships with the economy.
4. What I found most interesting at Ironwood Farm is the method of farming that Chris did by allowing succession to occur on one plot of land and using another plot of land to farm and slowly shift it towards the succeeded area. This coupled with his **use of custom chicken manure mixture rather than traditional cow manure was extremely fascinating because of how he produces the manure with a mixture of seaweed and nitrogen fixing mechanisms**. I personally found that the way Chris did his farming was lower yield but overall much more sustainable than Forman Farms.
5. At Forman Farms, our guide Charlie showed us his "small" non-organic farm. While some of his practices were environmentally problematic, **I was intrigued and encouraged by Charlie's experimental endeavours. He mentioned a patch of land he had experimented with exotic agricultural crops like quinoa and progressive agricultural practices like attempting to influence the fungal/bacterial activity within the soil.** I found this interesting because it seemed slightly out of character for Charlie based on his apparent concern with the economic consequences of his farming. I enjoyed that he takes time away from his revenue-generating crops to experiment with avant-garde ideas.
6. At Ironwood Organics Farm our guide Chris was an inspiring individual who understood the depth and complexity of agricultural processes and was entirely concerned with operating his farm with the goal of improving the overall health and fertility of his land, rather than simply extracting as much value as possible in the form of yields. **I was intrigued by the idea that was at the epicentre Chris’s farm: maintaining biodiversity for its own sake**. The concept of restorative agriculture was intriguing to me because I think it will be a vital tool for our civilization once the inevitable catastrophes caused by our current means of food production (among other things) arise.
7. I was particularly interested by Charlie Forman’s comment that he enjoys farming a lot more now that he has new ‘toys’ such as equipment and chemicals etc which he can add to his crops to maximize his economic benefits. This was a stark contrast to Chris’ enjoyment of the hard labor that he endures to allow him to farm without these ‘toys’. Their ideas of farming and what it entails were very different in that ‘simpler’ farming made Charlie much happier whereas the more intensive work that Chris does himself was what he enjoyed most.
8. I was also interested by the huge **emphasis that Charlie put on the importance of economic value in terms of what crops he grows and how he manages the farm based on what will create the greatest income. Again, this contrasted sharply with Chris’ values of the importance of maintaining biodiversity in his fields, even if it costs him economically**. Chris seemed more aware of how his fields and the processes within them worked rather than how much income he generated.
9. The first interesting idea was from Charlie Forman, who gave us an economical point of view when it comes to agriculture. Forman praised the development of GMOs and chemical pesticides, and even thanked Monsanto for their services. I found this very interesting considering what we’ve seen in Food Inc., as it brings to light the fact that **farmers face vast challenges when it comes to economic efficiency, such as trade tensions talked about by Forman, and that companies like Monsanto give them solutions.** **Thus, it’s no simple task to simply say ‘farm sustainably’, as there are many factors at play**.
10. The second interesting idea came from Ironwood organics, where Chris gave us a look through the lens of sustainability instead, adopting a more long-term approach to soil management. **Chris thought of soil as a currency, analogous to money, and I found his philosophy interesting as it put the importance of nutrient cycling into perspective, thinking of carbon inputs as small deposits, that over time, would be compounded (in the form of productivity and soil health) and repaid into a very profitable soil in the future, the same way a bank account amplifies funds in saving accounts.**
11. On Chris’ farm, the idea of having **a field dedicated to biodiversity**. No crop grows on the field and whatever is grow is cut to maintain a height and let the material go back into the soil. This resulted in enormous biodiversity of birds, bats and fireflies. The thought of having a field dedicated as havens for species is compelling **and simply having a portion of land for this purpose may have positive impacts to the rest of the farm as well as the surrounding ecosystem.** Planting a variety of trees and crops in a fashion to increase biodiversity could be a potential solution to minimize the reduction of species richness caused by conventional agriculture.
12. On Forman’s farm, **the economics of scale presented numerous challenges to a farm of that size. Despite the amount of land being cultivated, margins remained thin and at times, volatile due to market pressures.** The larger the operation is, the more concession it may have to make due to competition. The **idea of subsidization of European farms was brought up and a similar program in Canada could be implemented where more sustainable environmental practices are given larger subsidies**. This may allow for larger farms to adopt these practices without negative consequences to their bottom line.
13. **At Forman Farms, Charlie Forman stated that if he were to switch over to Monsanto agricultural practices, his life would be ‘simpler.’  If he were to be planting the newer seeds modified with traits that make it easier to work with, he would be making more money and saving time. This was something I had never heard or read about before especially since when we watch documentaries like Food Inc, Monsanto is usually the enemy that is closing in on smaller operations like the Forman Farm. I can see how Monsanto can present like an attractive option for some.**
14. At Ironwood Organics, what I found to be interesting was that putting hope and upholding biological principles work. Although we talk about it extensively, to see it in action was eye opening and inspiring. **Promoting biodiversity and allowing trophic interactions to protect and create ‘Climate Ready’ crops and prepare for the future was incredible to see in action** and financially viable for that operation. **Thinking** beyond how much money can be made this season and rather **towards how productive can the soil be in 50 years** needs to be applied to more agricultural operations if we want a better future.
15. At Ironwood farm I found it interesting **the practices Chris uses and how he will think of not only his land as an ecosystem but the neighbouring land as well and he realizes his actions will not only affect the soil of his crops but will extend to some of the largest freshwater systems** in Canada. I thought Chris’s approach to agriculture was very beautiful and thoughtful, in that it made sustainable farming simple and easily obtainable but at the same time his practices, though much more beneficial for the environment, were unrealistic in feeding a large population.
16. **Another idea that stood out to me was the Charlie at Forman Farms, although not an organic farmer, did try to adopt many practices that would be less negatively impactful on the environment including use of wood chips as a renewable resource and reduction of pesticide use.** With Chris’s approach the net gain from the farm seemed a lot less but his impact on the Earth was so much more positive than Charlie’s. **Charlie’s practices, however, did seem more innovative and forward-thinking and seemed to allow him to produce a higher yield of food product**. These thoughts were interesting to me because both of these men have similar ultimate goals and a similar passion which are producing food and having a minimal negative impact on the environment, but their modes of execution are so different.
17. The first most interesting idea I learned from the field trip was the **Charlie’s** (Forman Farms) practices and opinions on Monsanto products. It was interesting to see how he mentioned **Monsanto’s products have changed his life into making it more fun, and where he can get a profit doing what he loves. It threw me off guard, as the Food Inc film showed how appalled farmers were towards Monsanto products. I also found it so fascinating that he flew in workers from Mexico to work for him – legally of course.** I just never thought it would be something they would do just to have workers on the farm.
18. The second most interesting thing I learned from the field trip was **Chris**’ passion and thoughts behind his organic farm. He used his **passion for the environment and his knowledge in science to incorporate sustainable practice on his farm. I thought it was incredible that he also allows some experiments to happen on his field; it really shows his supports to the science community!** I also thought it was so cool that he has diverse species on his farm; like different hazelnuts, potatoes, beans ,etc! It was really cool to see different kinds of crops that you wouldn’t normally see in a typical commercial farm.
19. I was very interested in how **Chris knew the exact hydrology and watershed of his land and each field in particular. He knew exactly how the water runs through the land and exactly what waterways it will connect to and drain into. This kind of knowledge is significant for understanding how run off from farms, even if they aren’t close to a body of water can enter and affect aquatic ecosystems.**
20. I was also interested in the different approaches both farmers had towards mycorrhizal fungi associations and their crops. **Ironwood farms, being completely organic encouraged complete natural growth and formation of mycorrhizal associations.** Whereas, Forman farms grew mycorrhizal fungi and then introduced them to the fields. Both approaches are important to appreciate as they are both taking advantage of the natural way plants acquire nutrients, although they are fundamentally different. **Perhaps if Forman farms didn’t put any ‘chemicals’ on his fields the mycorrhiza may form naturally.**
21. **When work is done out of love and for the betterment of society/nature, the people working seem genuinely more content with their lives and overall wellbeing.** Each farm we visited had a different outlook and overall goal. One, having a closer tie to business, preoccupied with what must be done in order to stay financially stable. As well as needing government support in order to move into a more sustainable focus. Whereas, the other was slightly more aware of each living organism that encompassed the farm, with a focus on the betterment of the land and impacts to the environment. This enabled the latter farmer to create a sustainable ecosystem that could one day replenish itself, regardless of the money cuts in doing so. This difference could be due to having the means (*economic* capacity and educational training- Paul’s added editing) in order to switch over to becoming a sustainably run farm where all living things on the property are protected and repurposed.
22. **By learning how different people view their work simply by how broadly they choose to see their overall impact, taught me a valuable lesson going forward in life**. **Everything should be done with 110% effort, love, and understanding, such that you can be aware of how your actions, every day, make a difference (good or bad).** And how to make educated choices that are as disconnected from a personal need, as possible.
23. Forman Farm and Inwood Organics differed in not only their farming techniques but also the motives driving them to continue to farm. **I was especially impressed by Charlie Forman’s passion to be more adaptive in his farming techniques with the current climate change emergency. I was not expecting an “industrial” farmer like Charlie Forman to be so flexible in adopting new strategies that will help in mitigating climate change effects. I found this to be interesting because it made me think about how we can change conventional agricultural techniques through simply educating farmers.** How can we make sure farmers are still earning their desired income while practicing sustainable agriculture as at the end of the day, industrial farmers seem to care more about the economics than soil?
24. Another interesting idea was Chris Wooding planting hazelnut trees on his farm. I found this to be very interesting because I had no idea how beneficial planting hazelnut trees is for soil in terms of sequestering carbon, reducing soil erosion, and them providing a longer period of soil cover. These ideas were interesting to me because it shows how innovative agriculture can be and by **simply creating a demand for organic food we can change the supply (or the methods we use to produce food).**
25. I was fascinated by the differing economic philosophies between Forman Farms and Ironwood Farms. **When talking to Charlie it was made clear how important customer choice is, and accordingly how a mass change in public demand is probably the most effective strategy for attaining (economically) viable sustainable agriculture.** Charlie, who I presume is like most farmers, will tend to do what is best for their finances – which there is nothing wrong with. **Therefore, while agriculturally sustainable improvements are always welcome, perhaps most effort should be invested in social change?**
26. I really enjoyed **Chris’ insights into his farming and his passions for all the mechanisms and interactions of an agroecosystem**. While he may view farming as an art like Charlie, Chris really seems **to embrace the science of (sustainable – Paul’s added edit) agriculture** – and always looking for the better way. Consequently, I appreciate how Chris looks for new systems/crops to implement. While he is keen on economic viability (as he should), his search for it doesn’t undermine his core values. He always has sustainability and land/cultural improvement at the forefront.
27. **Chris’ focus on restorative agriculture** on his organic farm was especially interesting to me because it was a concept of which I had never heard. Comparisons between conventional and organic agriculture is typically talked about by comparing which ones have the fewest negative impacts. **It was interesting to hear about a type of agriculture that could actually have almost entirely positive impacts on ecosystems**.
28. **Charlie was asked** **what kinds of indicators he used to measure soil health. I found it interesting that his response focused on visual and scent indicators of soil such as a humus smell, the presence of worms, higher porosity, and a lack of puddles.** This was an interesting concept to me, since he mostly practiced conventional farming. **I had previously thought that all conventional farmers would see agriculture as more of a science, since that would be the way to make the most money. However, it turned out that Chris was more traditionally scientific in his methods than Charlie.**
29. One of the more fascinating ideas I saw was **the use of a chemical sprayer at the organic farm, and the ecofriendly replacement of cattle manure (which produces greenhouse gasses) with homemade “manure” fertilizer that could easily be applied to his fields**. I thought this was an ingenious and simple method that could help reduce climate change.
30. However, one of the other great ideas I took in from this week was from the first farm, which was **how in most cases, organic farming is not economically feasible, and that we should treat those farmers who use pesticides and GMO’s with a little bit more perspective before we label them as evil.** While their practices may not be sustainable, they may be **unable to transition without putting their livelihood at risk.**
31. I found it interesting comparing the responses that both Charlie and Chris gave to our questions. I found Charlie had a mindset to his production that felt largely two dimensional, whereas Chris was eager to reference the compounding facets of a lot of the causes of soil degradation. **Forman Farms has a business model that is cutting-edge but ultimately capital-driven and Charlie’s answers reflected this; his crop rotation and selection depended on what was going to sell that year, and this was prominent in his presentations - his farm structure was built upon this model.** Chris uses old technology on his farm that has long since been outdated but is less invasive and can still accomplish the same tasks. **Chris’ farm was structured around a more ecologically considerate framework where the products he was choosing to grow were all intentional, like they were pieces of the greater chess game of biodiversity**.
32. I also found it interesting comparing the two farmers’ perspectives on the longevity of their operations. At some point Charlie started talking about the fact that the average farmer only has “30 tries to get it right”. It was therefore of critical importance to get the land figured out as early as possible to then reap the rewards of successful agricultural practices for as many years as possible. Chris did not reference the average career length of a farmer in his presentations; he did however mention that some of his land was originally for cow rearing and had become significantly depleted, and that he was working to restore it to its original, natural state. **They both intend on making the land they are using healthier for those who will inevitably use it after they are gone: the difference is Charlie viewed that process as one that accompanied his production goals, whereas Chis saw it as a process that dictated his production choices**.