Permaculture Team Annual Production

Introduction

Permaculture as defined by Graham Bell is “the conscious design and maintenance of agriculturally productive systems which have the diversity, stability, and resilience of natural ecosystems. It is the harmonious integration of the landscape with people providing their food, energy, shelter and other material and non-material needs in a sustainable way.” At the Gibbs House, located off Parkview road, permaculture is demonstrated by growing a variety of crops to educate the surrounding community. Education is the number one priority on the permaculture team, techniques such as a weekly farm stand, using cover crop techniques to regenerate the nutrient levels in the soil, and scaling back on growing a large variety of crops and focusing on mastering a smaller variety here at the farm.

Methods

All research took place at the Gibbs House East Field. This is the annual production field where the permaculture team grows a large variety of crops to educate WMU students and the surrounding community. Through volunteer opportunities, non WMU students can also participate in the daily task the permaculture team does. One of the techniques used to show off what can be done on this small parcel of land is hosting a weekly farm stand (figure 1). This is a great way to demonstrate permaculture to not just the students, but the community as well.

Soil management is crucial to the quality and well-being of the plants that are grown here at the Gibbs House. Cover cropping techniques are uses to provide weed suppression and to add nutrients into the soil during the off season (figure 2). Blends of turnip, radish, oats, buckwheat, and field peas are planted to outcompete the weeds for nutrients, making it difficult for the weeds to thrive. Also, in the winter time these plants will die, then in the spring they are either tilled or flattened over in which adds nutrients into the soil for the next crop to be planted. In addition to the added nutrients, if the dead cover crop is flattened it works as a natural weed barrier.
Results

(figure 1)

(figure 2)
Figure 3 above shows some of the different crop varieties that were grown. As you can see the tomato crop was by far the largest producer this fall semester. Which leads into the successes and hardships. The kale production was very low this season due to ground hogs. Closing off the holes around the fences where they come in helps with this issue. Also, germination of spinach seeds in the greenhouse was a challenge. The seeds never seem to germinate even under perfect conditions. The root of the issue is still being contemplated but humidity and temperature in the hoop house, or an issue with the seed planting machine could be the problem. On the contrary the large crop yield of the tomatoes was a large success. The cover crop blend worked well, weeds were under control and the nutrients that will be provided into the soil this spring will be rich. Also, this year the volunteer turnout was higher than expected.

Conclusion

Moving forward, scaling down would help focus on education. The large variety of crops that were planted this year was a bit distracting. If a smaller variety of crop was to be planted, the team could focus on mastering a smaller variety. Also, scaling down would present the opportunity for cover cropping more of the plantable space. This will add important nutrients to the soil for when the next crop is to be planted in that area. In conclusion, the Gibbs House is a place of learning and educating. Together the permaculture team puts forth our message of living a more sustainable and environmentally friendly life.