

Compost in the Cafeteria

Arianna Porter

To who it may concern,

My name is Arianna Porter and I am a senior at Hanover High School. At school we consider ourselves a green community. We constantly strive to find new ways to be environmentally friendly. We use a recycling system that a lot of waste from going into the landfill. We offer tote bags to students to use at the COOP. I think the next step would be to add a bin for compost in the cafeteria, and then eventually around the school. I have seen this done successfully in many local places, including Bradford Elementary, the Ray School and Dartmouth College. We should be the next school on board because this could encourage kids to be more environmentally friendly, which I think they strive to be, and also to create natural fertilizer.

Composting is putting together waste and other components to create a natural fertilizer. Finished compost can be used as a soil amendment, reduces the use of herbicides, chemical fertilizer, and chemical runoff. The loss of soil and its consequences are a rising issue on our planet today. The act of composting also reduces landfill disposal. The finished product increases soil fertility, structure, and water holding capacity so that healthier plants can grow there. I am interested because I know that composting can be an easy thing to do and it can also save a lot of trash from going into landfills. Food in the landfills emits methane gas which is worse for the environment than CO₂.

I have been working with Jonathan Brush and with Dick Lloyd to see if it would be possible to start a compost system at HHS next fall. I have found a way for the compost removal to happen through Bob Sanburg, who currently picks up compost

for the Ray School. However, in order for him to pick it up, we need to pay him about \$100.00 per month for the school year. Even though we could save money on trash removal (by generating less trash each week), we still need to find extra funds for the project. However, I think this is worth the extra cost.

The system could start small. First I would like to start in the cafeteria with food preparation employees and then expand the project throughout the school if possible. By starting little, we can get through the set backs and experiment with systems before we expand it to other students and staff. We would also be able to see just how much we are putting into the system and saving from going into the trash. I have been to the Bradford Elementary and I seen how their system works. Additionally, I have been talking to the environmental club about how they can help. It is a fairly simple operation that would be much like recycling, only with covers to prevent the smell (which doesn't occur if you remove the compost daily into larger bins outside for pick up).

I have attached a copy of the summary of my final math project. I did a survey determine if kids would use a system and if the support is well spread throughout the population of HHS. I think that it shows very solidly that this would be a worthwhile project to start next year. I also think this is a great opportunity to teach kids and staff about how compost works and what it does for the planet.

If this system works, it would be a great way to reduce waste at HHS and maybe other schools in the area can start to be greener too. We just need a bit of funding to start off the project.

Sincerely,

Arianna Porter

Summary of Prob/Stat Final

In conclusion, we found that our data greatly supported our cause. We set out to find if a compost system at HHS would be worth the funding, and if the students and staff would support it. Our tests all proved to us that the students do use the recycling system, and they are supportive of using a new system, no matter gender or age.

First, we did a test to find whether age affected your recycling habits. We did not find a p-value that was lower than 5% for any age group, which means we could not say that age groups use the recycling system different amounts per day. This is encouraging to us because no matter what age you are in school, you still have the same tendency to recycle. We can say that most of the population of HHS supports the recycling system and uses it daily.

We also did a test to find out whether gender affected recycling habits. We found that we did not have enough evidence to say that there was a difference between the two genders and their recycling habits. This is good news for us because we know that the school is uniformly green, and that both boys and girls support the system at HHS.

Our second test was to find whether or not upperclassmen knew more about compost than underclassmen. Are older kids more educated about the issue than younger kids? We found that this was indeed the case. The upperclassmen were more educated about compost than underclassmen were. This leads us to believe that an assembly for the school or a lesson on compost during common ground would be a great way to educate people about the issue and why it is so important.

This helps us to know where to put in our energy when we teach people about our

potential system. Also, underclassmen are going to be key to educate because they will be the ones carrying on the system when the upperclassmen leave.

Our third test was to see if girls or boys favored having a compost system more than the other gender. We did an interval and found that zero was within our interval, meaning that there was not enough information to say there was a difference between the genders. This is actually meaningful for us because we are able to say that girls and boys could both be supportive of a compost system.

We also wanted to find the true percentage of people who recycle at HHS to see how much of the school participates in a system that works and is available to the students. We found that between 94 and 100% of the population uses the recycling system. We now know that if a system is put in, easy to use, and available, it has a chance to being used daily by the students. If our compost system is similar to the recycling system, then hopefully it will be well received.

Next, we tested to see if each grade composted at home the same amount. We wanted to see if there were differences between the "greenness" of the grades. We found that we didn't have enough information to say that the grades were not different in their composting habits. This is encouraging because this says that each grade has some experience with compost and might know how to use a system well because they already do at home.

We wanted the true percentage of the population at HHS who would use a compost system if it was created. We found that we are 90% confident that the true percentage would be between 70.3 and 90.7%. This is an extremely positive result for us. We are encouraged to bring this information to the school board to ask for funding for our compost project. We think that if this amount of the population at HHS were to use a system, we could divert much of the waste from the landfills

and into a system that could make organic fertilizer.

To see how green our students really are at Hanover, in respect to composting, we calculated the true percentage of people who compost at home. We are 90% confident that between 35.9% and 61.6% of the population of HHS composts at home. This is a very wide range of percentages and is not as high as we thought it was going to be. Are the citizens of our high school green at home too? This forces us to think more about educating our students and staff on compost and how easy it is to do so at home as well.

Our project leaves us hopeful about creating the compost system. It also leaves us educated that we have to teach people about compost before we expect them to do it. We have now found that much of the population at HHS participates daily in recycling at home and at school. A fair percentage of kids know what compost is and would be willing to use a system if it were put in at school. If we can work to make a functional system and get the funding that we need, this could be a big step for HHS. In addition it leaves us wondering about other schools in the area. The Bradford Elementary School, and the Ray School already have compost systems that are up and running. Could this be a new thing for the upper valley schools? Are similar school districts going to start composting as well? What does it mean to be a "green" school? This could be a big step for the upper valley in learning how to give back to the planet.