COVID19 and Creating Martian Compost

I have declared 2020 the year of #ProjectMartian at Mezzacello. I took part in a grant with great big aspirations and some very cool science. It was a partnership grant with PAST Foundation, The Columbus Foundation, and Scotts Miracle Gro. The point of the grant was to explore creating beds on another planet with easily sourced and lightweight materials to build a growing environment on Mars. The plan was to create 10 videos covering different STEM aspects of growing food in a substrate of compost and Martian dirt – and select accelerants, minerals and chemicals. There was an amazing summer camp experience planned, maker manias, and killer lesson plans for teachers and students. Then we had COVID19 lockdown. This was a bummer – but it did not deter me or mother nature. I still did all the work. I took part in online zoom forums, hosted virtual tours, created processes and machinery to do what I wanted robots to do on Mars. And I had a blast!



[/media-credit] Materials for Martian Beds to be delivered to PAST Foundation. Everything was controlled very closely.

In addition to creating entirely new systems and processes at Mezzacello for efficiently growing food in these killer new compost beds, I also singlehandedly created Five 1.43 cubic meter compost beds at PAST Foundation. This is a large amount of compost. Picture 8 cubes 1 meter on each side. I collected that for 12 weeks over the late spring and summer and set it up in the raised beds at PAST. I layered in green, brown, diatomaceous earth (very fine, sharp plankton shells to simulate Martian regolith), inoculant, compost accelerant,

minerals. Layer, pour and repeat. Five layers in each 1.82 x 2.43 meter (6’x8′) beds. Each bed was 33 cm (12″) deep.



[/media-credit] The #ProjectMartian compost beds at PAST Foundation. There is 33cm of compost in each of those beds!

The beds at PAST remained tightly covered all summer long by waterproof tarps. The tarps allowed me to meticulously control and document the amounts of water I wanted add and to discover the correct ratios of water to compost. The results were impressive. I will have 4.3 cubic meters of compost in the late winter. I will use this “seed compost matrix” in the 2021

spring and summer camps at PAST Foundation. The plan for summer 2021 is to extend this model with robotics and automated tending systems. I was very proud of the system that I developed. There were failures. But now I know better. Not everything will grow well in this substrate. But I can tell you this, Mark Watney was right, potatoes grow so well in this!



[/media-credit] My awesome neighbors saving back green grass clipping for #ProjectMartian

My favorite side effect element of this project was how much

closer and well-connected I became with my neighbors in the densely populated urban area where Mezzacello is located. It took a moment to get my neighbors to recognize that I was dead serious about begging for their grass clippings! I developed a robust network of fabulous neighbors who truly supported my vision. And not just in Olde Towne East, but in Grandview, in Upper Arlington and Westerville as well. It turns out that building a model garden system for another planet also builds better gardens of engaged and caring neighbors on this planet as well. That fills me with pride and hope. When we show up, we all grow up. Thanks to my friends!

Fear, Necessity, Economics and the Future

Hence Mezzacello Exists. This is a reflection on the past, the present, and the future.