

## Metal Halide Greenhouse Lighting on Mars

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When the new Martians arrive there soon from Earth, they'll probably live off soybean wafers. Goodness willing, those will soon be replaced with Mars-grown chickens and rabbits. I can't wait for those days! :) Converting Martian dust into soil won't be easy but I believe we can do it and we must! :) Can you imagine mars-worms, known as earthworms here, breeding in Martian soil? It gives me goosebumps! :)

Creating symbiotic human-supporting relationships among farm animals and plants is NOT easy even here on Earth! But we must try our best on Mars! :) There are two words I will coin here in this essay:

1. reliablify, from reliable, to make more reliable
2. resilienfy, from resilience, to make more resilient

On Earth *and* Mars, ***we need to reliablify and resilienfy our farms!*** :) Now allow me to tell you a little story about my last two terrariums (maybe someday I'll call them mare-ariums) O.O My last terrarium was an ant-lion habitat which had desert like conditions: zero moisture, no sun required because they lived under sand, so I easily kept it in the garage and watched them make sand-traps for their prey which I had to give them – palmetto baby-bugs I collected from under gas-cans (for the generator, we live in Hurricane Alley). I learned about their life-cycle and reproduction online while I watched them make traps. [cough] um .. after a while [cough] I realized this terrarium was a 'little' boring and unsustainable (I ran out of baby-bugs really fast!). [laughing now] So I made a more beautiful terrarium lush with dwarf baby's tears (one of my favorite plants), pictured below.



Notice the wood-bits on the left; it's important in the story. I misted the whole thing with hose-water, not drenching it – just dampening it. Then put it where you see it thinking it's set. But it was **not** set. A few hours later a fungus started to wildly propagate on the wood and I'm like "Oh .. my .. God!" ~ Man how could I be **SO** wrong!

What was I missing?! Um [cough] **sunlight**.

Sunlight **stabilizes ecologies** big and small; it sanitizes and moderates organisms. A few days outside in the sun will fix my mistake; **on Mars, we won't have that luxury!**

Let's plan ahead to bring a 'few' metal halide lights with us to avoid what happened above. Better safe than sorry..

This article is dedicated to my lovely daughter Hope Micheal; without her, I'd be stuck in an infinite fungal loop. ;)