# FUTURISTIC MYCOLOGY

By now, pretty much everyone is agreed on the fact that climate change is coming and that it's a bad thing. Actually it's a really, really bad thing. As the world's population continues to increase and extra people, with extra mouths to feed are born, the demand on food supplies will increase dramatically. The United Nations estimate that in the next ten years the demand will raise by about 14%, with the ten years after that seeing similar gains. On the other hand, climate change is set to cause a serious problem for food production and many scientists estimate that even our current production rate is not sustainable.

## MYCOLOGY VS CLIMATE CHANGE

What we need are tools that allow our crops to become better at dealing with a harsh, changing environment. That's where fungi come in.

A company called Adaptive Technologies has created a fungal product called BioEnsure which does exactly that, it helps crops grow in conditions far outside of their regular temperature range they can tolerate. The researchers who developed this product took inspiration from plants already growing in seemingly impossible conditions. In Yellowstone national park, a site full of volcanic activity, Dr. Rodriguez and Dr. Redman of Adaptive found plants that were able to grow in 65 degree Celsius temperatures. When transported back to the lab they found microscopic mycorrhizal fungi growing on the plant.

When the fungal growth was removed the plants were unable to keep growing in the stressful high temperatures. After it was added back in, the plants started to grow again, proving it was their fungal friend, not an adaptation that allowed them to face Yellowstone temperatures. Adaptive Technologies hope to expand their product line and believe BioEnsure is just the tip of the iceberg in a host of fungal products that can fight against climate change.