

HARMONY GROWTH GREENHOUSE

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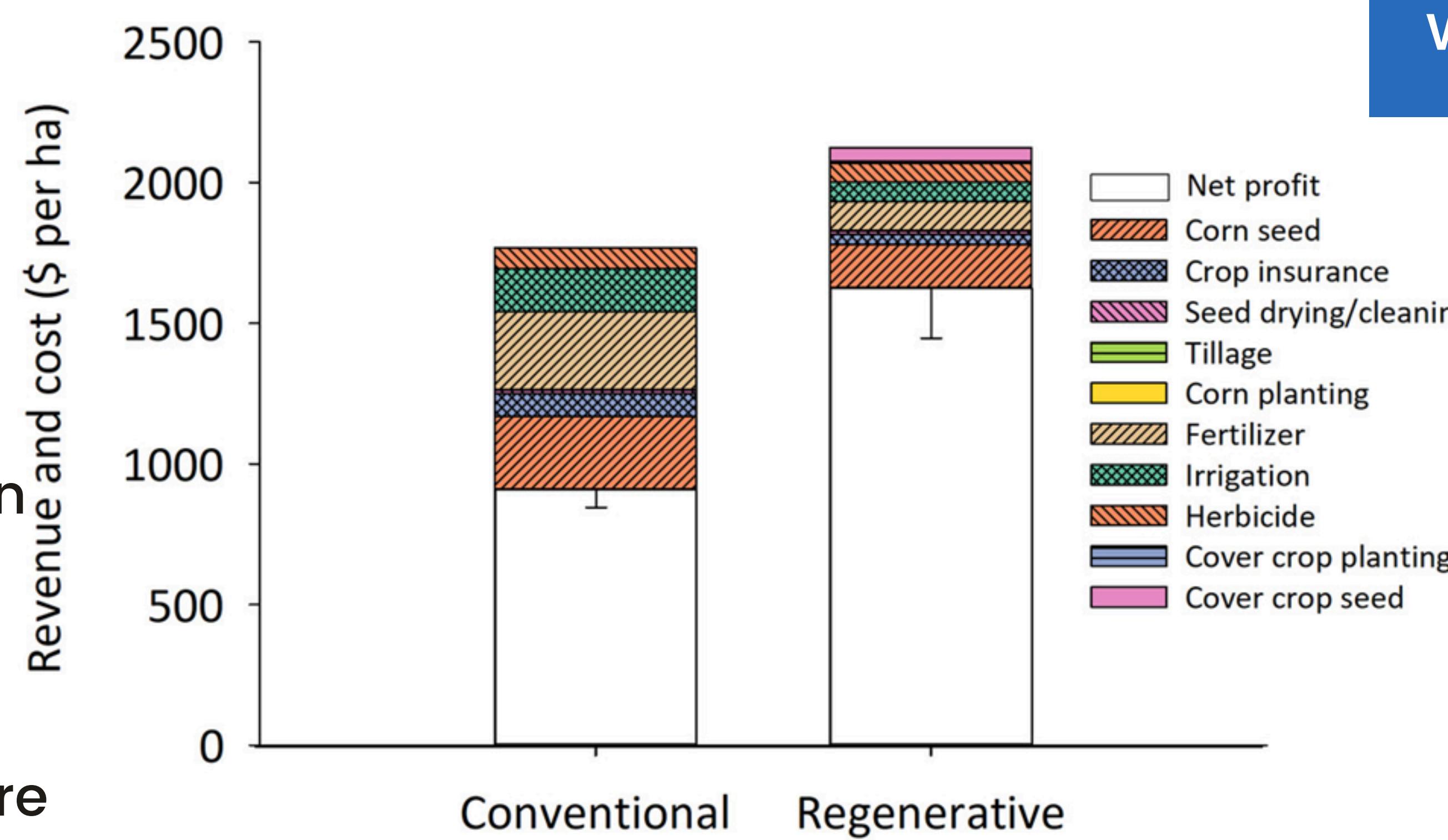
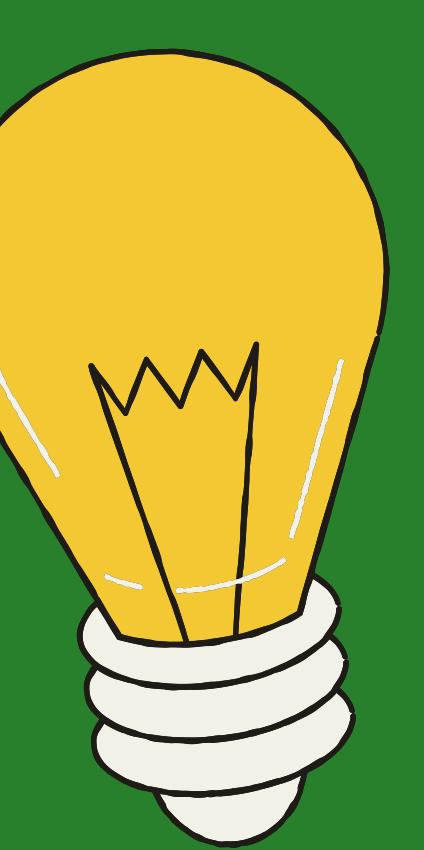


Our research project focuses on five sustainable methods to improve agriculture. We are exploring green infrastructure, biodegradable 3D printed materials, gene modification, and the use of sound in greenhouses. The goal is to increase plant growth and apply these methods on a large scale.

3D PRINTED REGENERATIVE RESOURCES

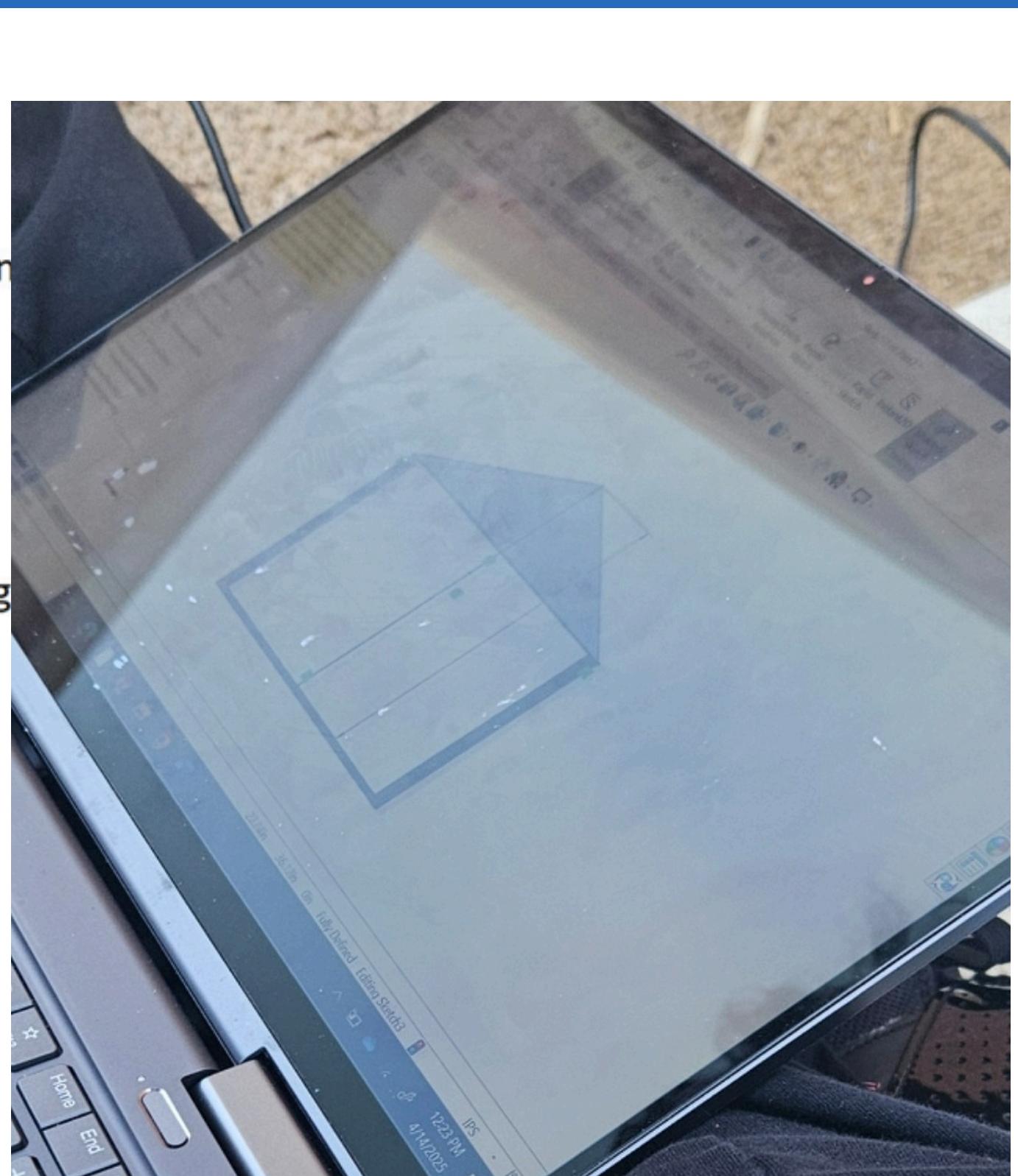
3D printed material combined with modern technology could show an increase in soil fertilization and an overall increase in agricultural productivity.

3D printed technology could be implemented into the greenhouse in order to increase productivity and present an increase in crop growth. This would be beneficial to the greenhouse as it would make it more efficient then a traditional greenhouse.



OPTIMAL URBAN DESIGN OF GREEN INFRASTRUCTURE

By optimizing urban design with integrated greenhouse infrastructure, our project serves multiple functions both inside and outside. We incorporate a vertical gardening wall to improve air quality and regulate humidity. Additionally, we feature a "bee door" to attract natural pollinators, promoting biodiversity and ecological balance. We also used upcycled windows, doors, and wood to support sustainability and reduce construction waste.



GENE MODIFICATION



ADVANCING GENETIC SCIENCES WITH TECHNOLOGICAL ADVANCEMENTS

This research for this project explores how technological advancements, such as CRISPR and genetic sequencing, are revolutionizing genetic sciences. It examines the impact of these innovations on medical research, agriculture, and biotechnology.

HOW IT WILL BE INTEGRATED INTO THE GREENHOUSE IN THE FUTURE

By leveraging genetic modification techniques, plants in the greenhouse can be engineered for improved growth, resistance to diseases, and enhanced nutritional content. The project will analyze the effects of these modifications on plant health and sustainability.

THE USE OF SOUND FREQUENCY IN HARMONY GROWTH GREENHOUSE

By using sound frequency in our greenhouse, we established a method to enhance plant growth through sound wave stimulation. While individual studies have explored the effects of sound frequencies on plants, there has been no large-scale application within greenhouse environments. Through testing specific frequencies, we aim to determine whether certain sound waves can discourage bees from building hives while still encouraging them to pollinate.