DEVELOPING A UAS DATA HUB FOR THE WHEAT-COORDINATED AGRICULTURAL PROJECT

Ismail Olaniyi1; Jinha Jung1
1Lyles School of Civil Engineering, Purdue University, West Lafayette, USA

INTRODUCTION
According to the Food and Agriculture Organization (FAO), the United States is ranked among the top 5 largest wheat-producing countries in the world. In order to maintain its competitiveness in the global market, the USDA saw the need to increase the productivity of US wheat crop varieties. To do this, there is a need for various kinds of data, including the plant’s physical characteristics, location-based datasets, plant genetics, etc. These data would help farmers and scientists make decisions on the variety of wheat that performs best in a specific location and under specific conditions. Growing this variety of wheat would therefore lead to better crop productivity.

RESEARCH SIGNIFICANCE
This research would help to ensure increased production of wheat crop, highly improved traits of the grains by creating more varieties, and so on.

STUDY AREA
[Map of United States of America showing study areas]

METHODS AND MATERIALS
- Public wheat data repository – T3 Breedbase (https://wheat.triticaceaetoolbox.org/)
- Phenomics data – growth, performance, composition, etcetera
- Genomic data – traits, genes, variation, etcetera
- Unmanned Aerial System data collected by the participating Universities. The UAS carries various kinds of sensors such as Multispectral, RGB, Lidar, etcetera

RESULTS
[Welcome to Wheat CAP UASHub]

CONCLUSION
- Improved yield
- Easy data access
- Zero Hunger
- Better crops