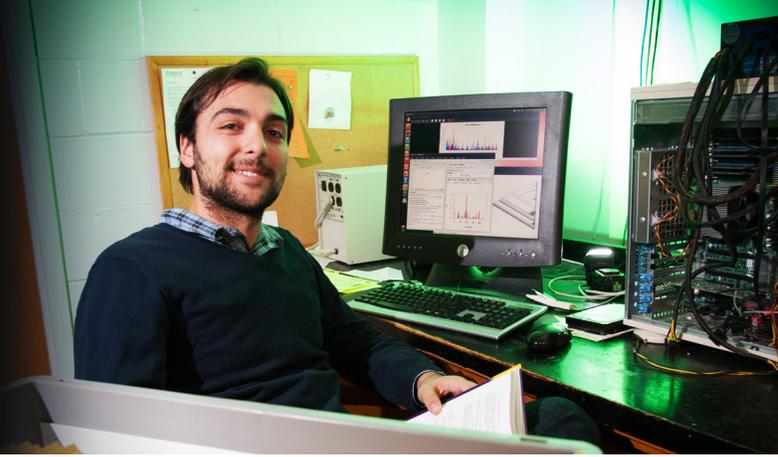


GRADUATE AG RESEARCH SPOTLIGHT



Alencar Xavier

"Purdue has awesome experimental stations; we are able to generate a massive amount of high-quality data from our fields."

Alencar Xavier, Ph.D. candidate, Department of Agronomy

THE STUDENT: Alencar Xavier, the son and grandson of farmers, grew up in a small town in southern Brazil. His passion for agriculture dates to his early youth, he says, "when I often found myself walking in the soybean field trying to figure out how 'plants work.'" He enjoyed his first experience with plant breeding in the potato lab at the Federal University of Santa Maria, and in his fifth year, came to the University of Minnesota through an exchange program. As part of the program, he worked for a breeding company for seven months and then took graduate-level courses at the university. He returned home and began looking at highly ranked U.S. universities for ongoing study. "Purdue was my first choice," he says. "I would have freedom to choose the focus of my research. I would get good field experience associated with a strong theoretical background in breeding. And some very good professors I had in college were Purdue alumni." Xavier came to Purdue for master's degree studies in spring 2013 and began his doctoral work in his second year.

THE RESEARCH: Xavier conducts both field and computational experiments. From May to October, he works at Purdue's experimental station, ACRE, growing soybeans and collecting data. Offseason is dedicated to complex, computation-intensive data analysis. "Our lab develops efficient models with two purposes: to find genes responsible for better nutritional properties or genes that help to increase yield; and to predict how plants perform based on their genomic information,"

he explains. His advisors are Assistant Professor of Plant Breeding and Genetics Katy Rainey and senior statistical geneticist and Professor of Animal Sciences Bill Muir.

WHY SOYBEANS?: Soybeans are Brazil's most important crop, Xavier says, citing the plant's unique nutritional properties as the cheapest and most efficient known source of protein. "I also had great influence from my family to work with soybeans," he adds. "My father is a soybean farmer and soybean production consultant." And while his research focuses on soybeans, the lab's models can be applied to any plant or animal and human genetics.

THE RIGHT FIT: "The College of Agriculture offers everything the aspiring scientist needs, from access to technology for data collection to great computing power," he says. "Purdue's department of statistics offers many classes related to data analysis for bioinformatics, and a good fraction of their faculty members work with genetics," he adds.

FUTURE PLANS: Xavier expects to graduate by May 2016. He is leaving his options open but would consider a postdoctoral position or work in industry as a soybean breeder or quantitative geneticist. His long-term plans include returning to Brazil. In his free time, he enjoys basketball, Pilates and yoga, movies and reading; Stephen Hawking and Arthur Conan Doyle are favorite authors.