



Perennial Sorghum Breeder

Position Background

The Land Institute's team of plant breeders and ecologists are working to develop perennial grain crops for use in biodiverse, ecologically sound food production systems. Since 2002, one of those programs has been breeding perennial grain sorghum, using populations derived from crosses between *Sorghum bicolor* and the perennial species *S. halepense*. This new sorghum breeder position will continue advancing this multi-decadal project by producing genetically improved germplasm and cultivars of perennial grain sorghum.

Responsibilities and Duties

- Each year produce perennial sorghum breeding populations derived from new F₁ hybrid combinations, backcrosses, and intercrosses involving annual grain sorghum strains on one hand and perennial sorghum strains on the other.
- Conduct phenotypic evaluation of both diploid and tetraploid annual x perennial sorghum populations in the field, greenhouse, and laboratory in order to select plants, plant families, and cultivars that exhibit rhizome development and/or winter survival as well as improved grain production and adaptation to the U.S. Central Plains and other regions.
- Conduct field evaluations, analyze and interpret results, and disseminate results through refereed publications, regular reports to fellow Land Institute researchers and administrators, conference papers, oral presentations, and other means.
- Work with Land Institute ecologists in their efforts to develop possible intercrop and crop protection strategies.
- Continue and extend cooperative research with the Plant Genome Mapping Laboratory at the University of Georgia on developing marker-assisted breeding methods.
- Exchange seed or other propagules of breeding materials, molecular resources, and information with cooperating researchers in other organizations, according to established procedures.
- Continue and expand current research relationships and germplasm exchange with national and international sorghum programs in East Africa and West Africa. Seek out new cooperators in other regions.
- Consult with researchers in the perennial rice program at Yunnan University on breeding methods and the overlapping genetic basis of rhizome development in rice and sorghum.

Supervisory Requirements

Supervise one research technician and seasonal interns.

Qualifications

- Education/Training: Ph.D. degree in crop breeding, crop genetics, or a similar field.
- Knowledge of and experience in experimental design and statistical analysis.
- Knowledge of basic molecular genetics and cytogenetics.
- Good communication skills, both written and oral.

Compensation

The Land Institute offers an excellent benefits package and a competitive salary that is commensurate with experience.

About the Organization

The Land Institute is a 501 (c)(3) nonprofit organization based in Salina, Kansas, that was founded in 1976. TLI currently operates on an annual budget of approximately six million dollars and has 37 employees. TLI is working on a solution to one of humankind's most critical challenges: how to produce food without destroying precious soil, water, and ecological resources. TLI's core activity is research to create an agriculture that incorporates many aspects of what makes natural ecosystems sustainable—especially diversity and perennality. In practical terms this equates to breeding perennial cereal, legume and oilseed crops and experimenting with growing them in polycultures that maintain fertility and deter pathogens and herbivores. For more information, please visit www.landinstitute.org.

To Apply

To be considered for this position, interested candidates should submit a resume, cover letter, and contact information for three references to careers@landinstitute.org. Review of applications will begin March 2, 2020. Position will remain open until filled.

The Land Institute is an equal opportunity employer and actively encourages applications from women and people of all ethnic and national origins and sexual orientations.