

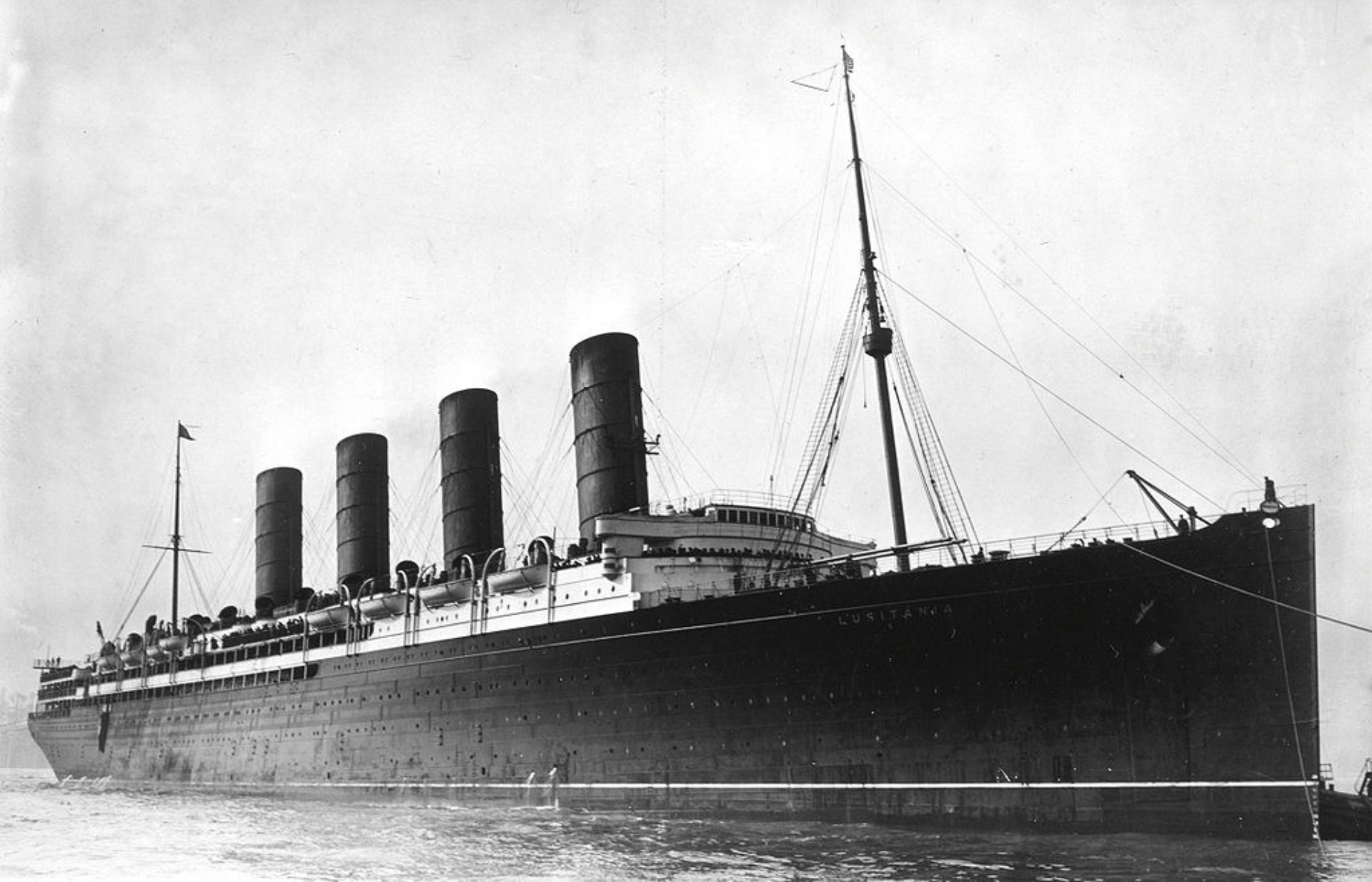
A photograph of a field of tall, golden-brown grasses, likely Kernza, under a cloudy sky. In the background, a tall, cylindrical silo is visible among some trees and a building.

# Kernza<sup>®</sup> Breeding and Genomics

Lee DeHaan  
The Land Institute



**1903, 120 feet, 12 seconds**



**1906, 2198 passengers**



**2007, 853 Passengers**



# Intermediate Wheatgrass improvement

— Non-shattering



**Shattering**

**Selected**











- Initial assembly by NRGene
- Population Sequencing
- RNA Sequencing for annual/perennial comparison
- RNA Sequencing for phylogeny

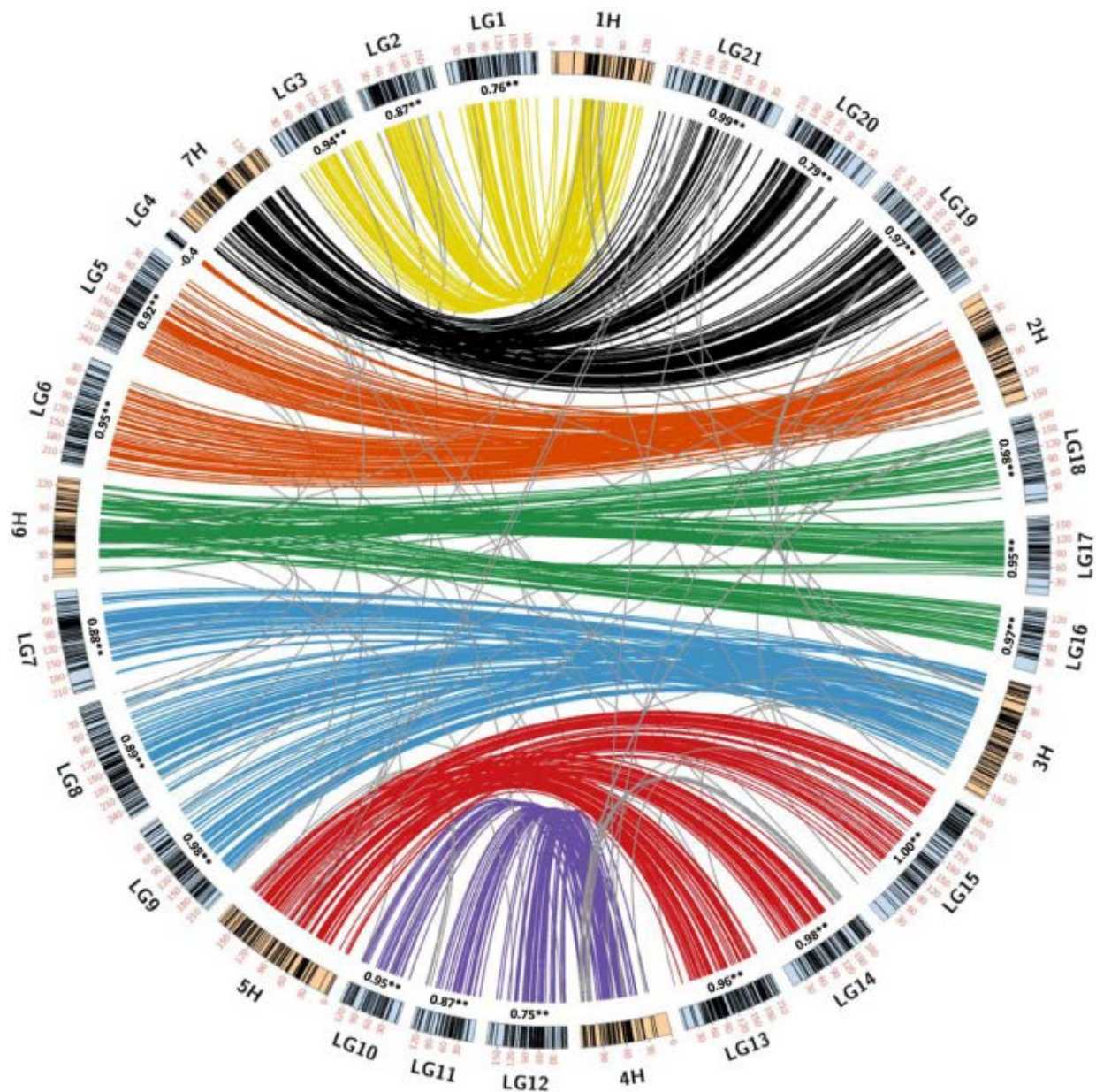
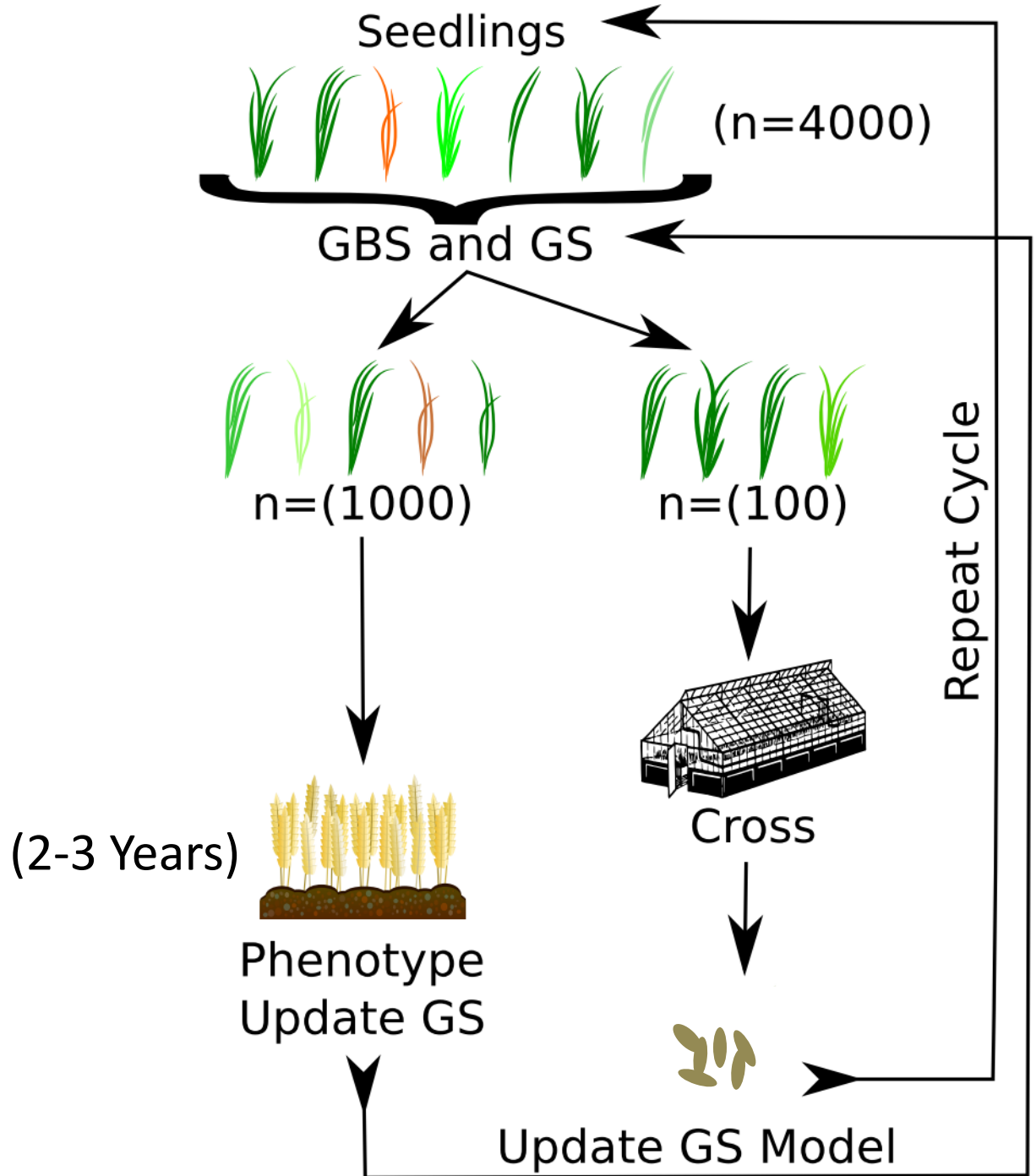


Figure 5. The collinearity of linkage groups of intermediate wheatgrass with barley chromosomes. The linkage groups were designated as LG1 to LG21, with LG1–3 corresponding to 1H, LG4–6 to 2H, and so on. The Spearman rank correlation coefficients ( $\rho$ ) were calculated using R package 'pspearman'. \*\* Indicates significance at  $p < 0.01$ .

# Genomic Selection





More at: [www.landinstitute.org](http://www.landinstitute.org)