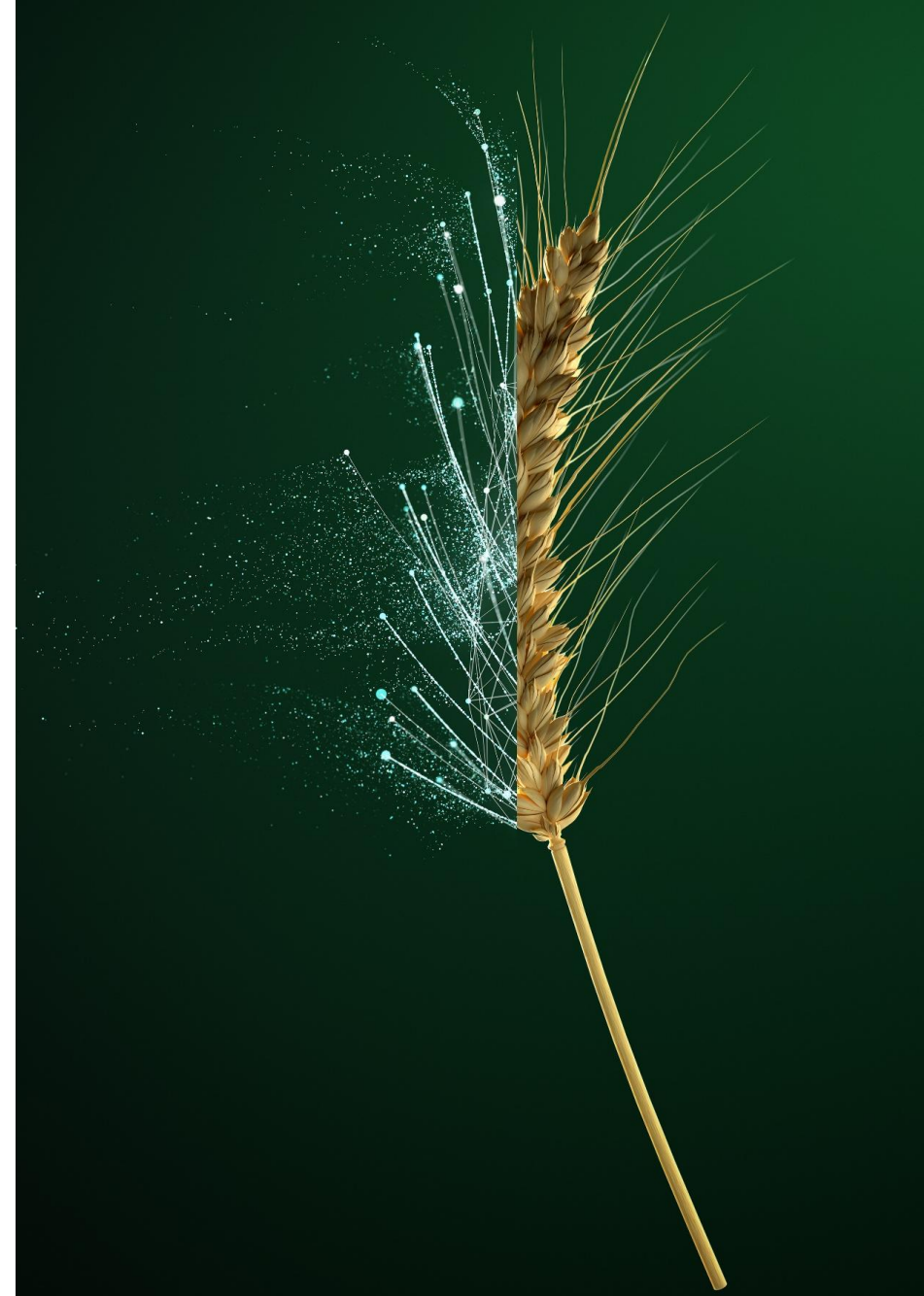


Hybrid wheat considerations

Jessie Alt, PhD
Global Wheat Lead

Corteva wheat

- Existing varietal wheat business
- Corteva's hybrid crop model
- Proprietary hybridization system
- *Nothing like this has been done before*



Hybrid wheat breeding program

Overview

Stable efficient inbred development

Early testing

- Heterotic group separation via rapid genomic recurrent selection
- Maximize genetic combinations in yield testing

Parent trait focus

Sterility conversions during inbred development process

Final several years of yield trial testing utilizing converted inbreds

Corteva's wheat hybridization system

Proprietary novel patented system developed via traditional plant breeding

Female Parent
*Non pollen
producing*



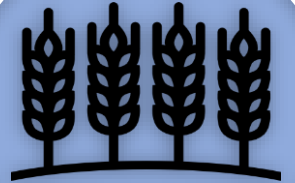
+

Male parent
*Pollen
producing*



=

**Production
at Scale
for farmers**



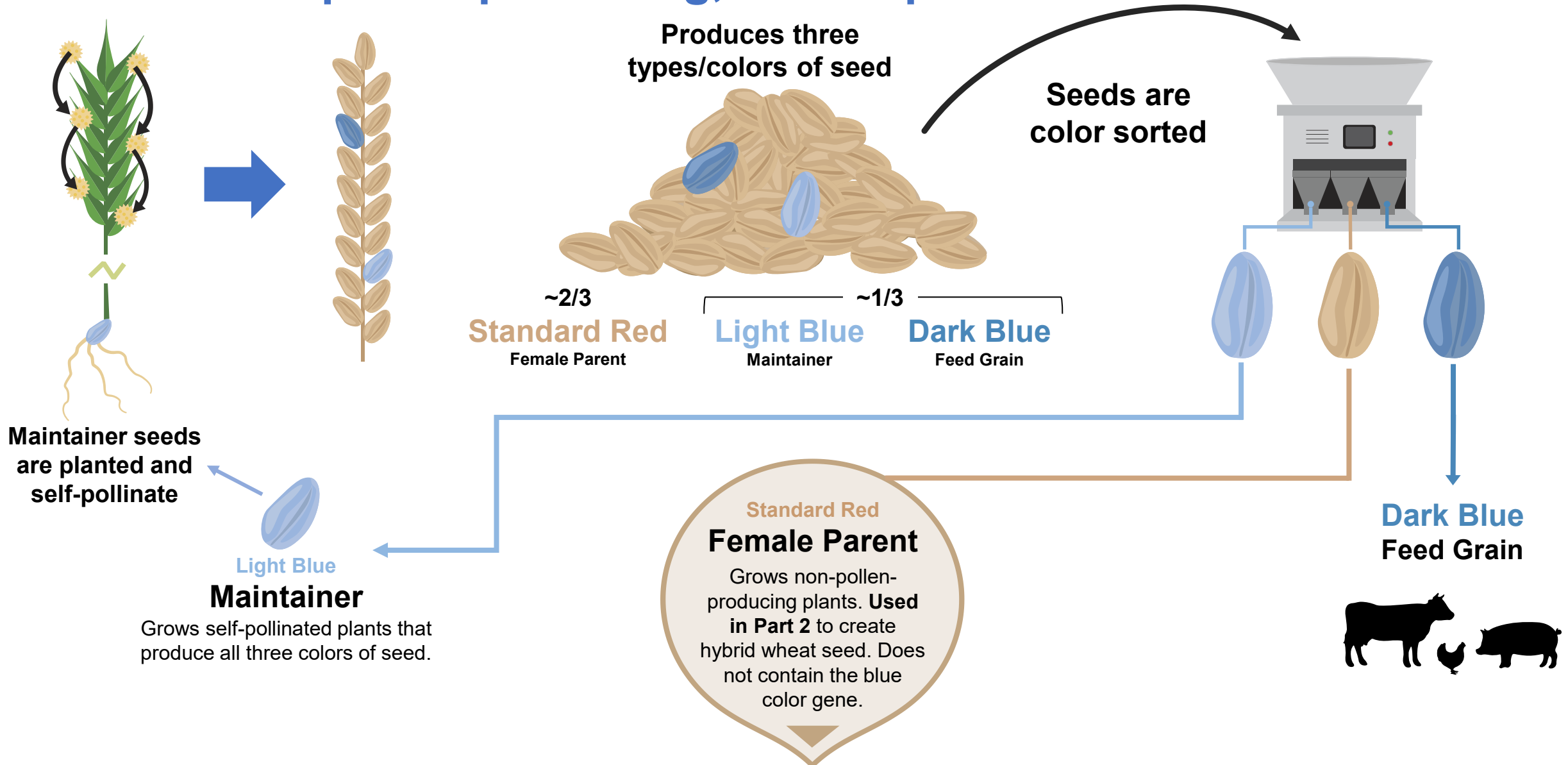
System advantages

- ½ the land needed for female production
- Works in all genetics tested
- Environment independent

Results

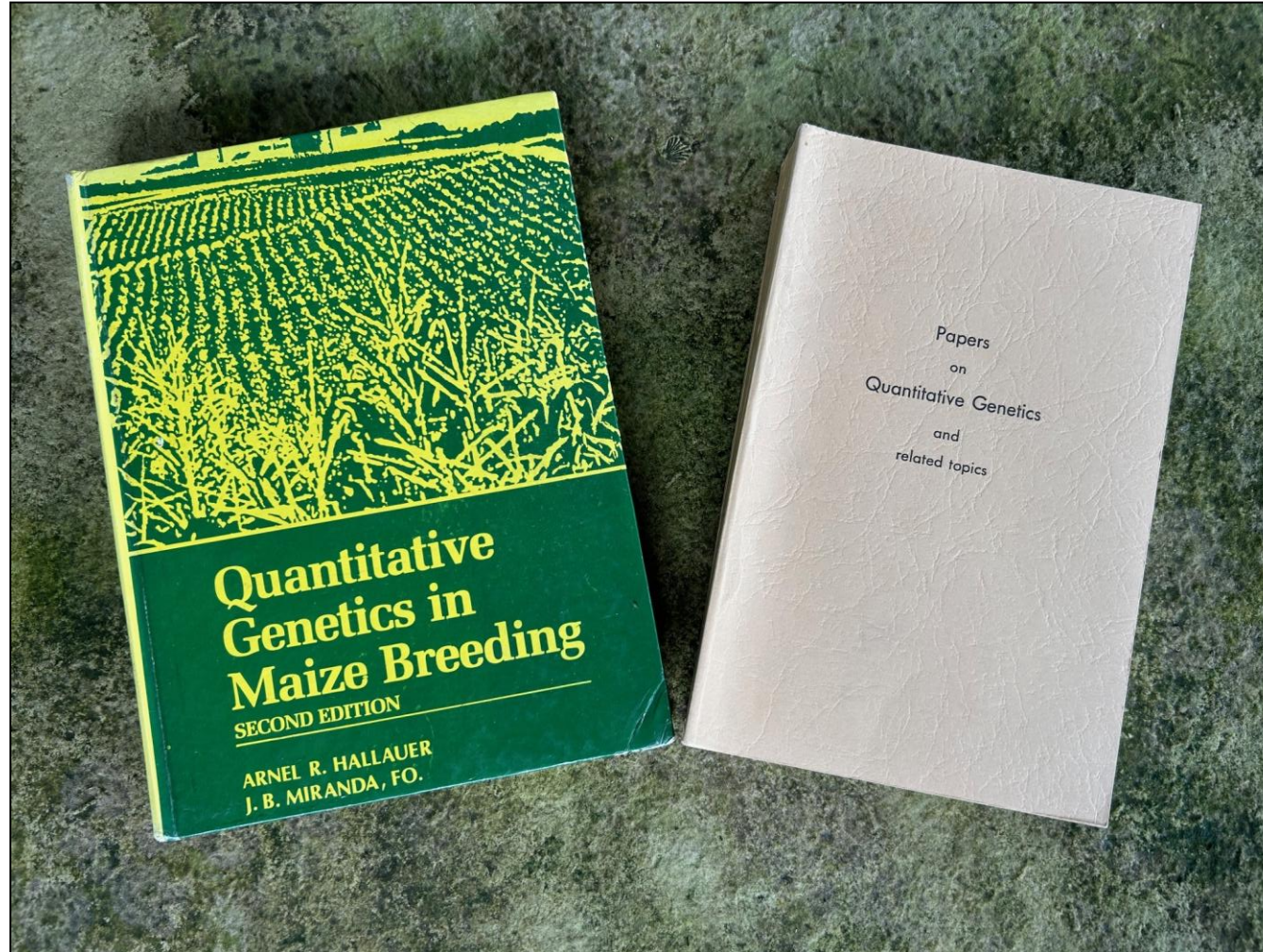
- Efficient cost of goods
- All germplasm tested available for genetic gain
- Production can be grown locally

Create a non-pollen-producing, female parent



Heterotic group set up & separation

“You get what you select for” Jay Patel

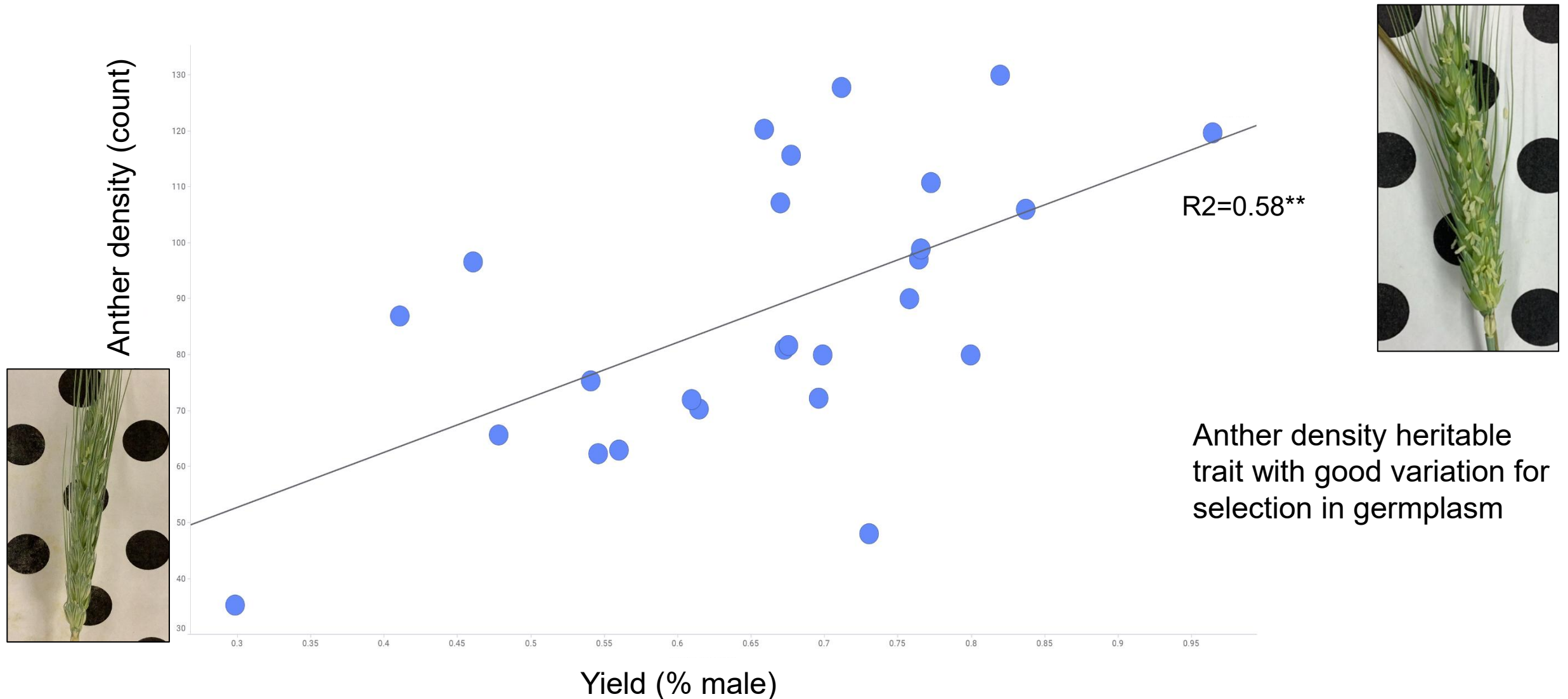


Estimation sets & system integration

Genomic selection at scale

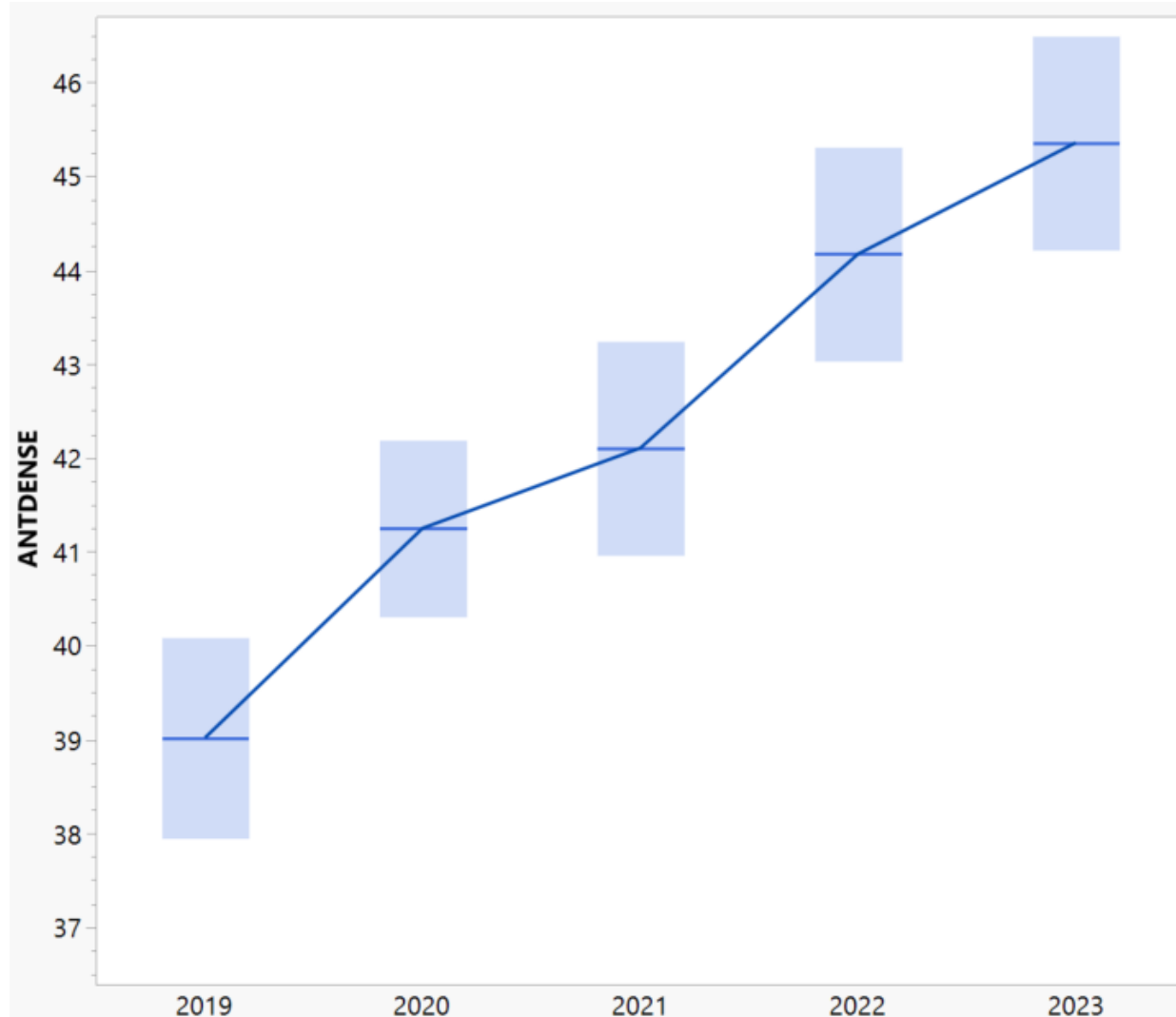


Hybrid seed yield correlated w/ anther density



Example of male heterotic pool improvement

No increase in spikelet count or spike length; true gains in anther density





The challenge to solve

Discussion