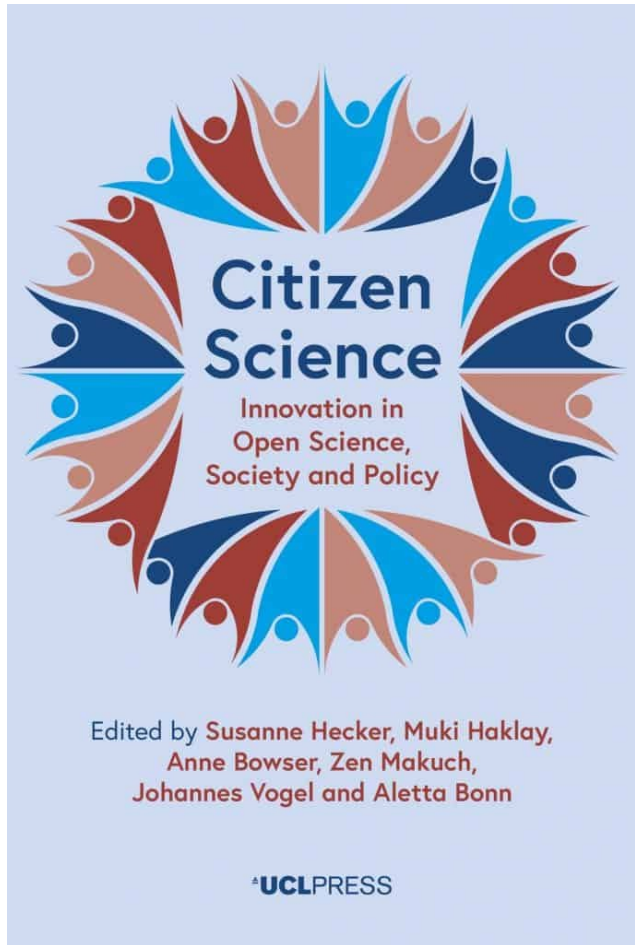
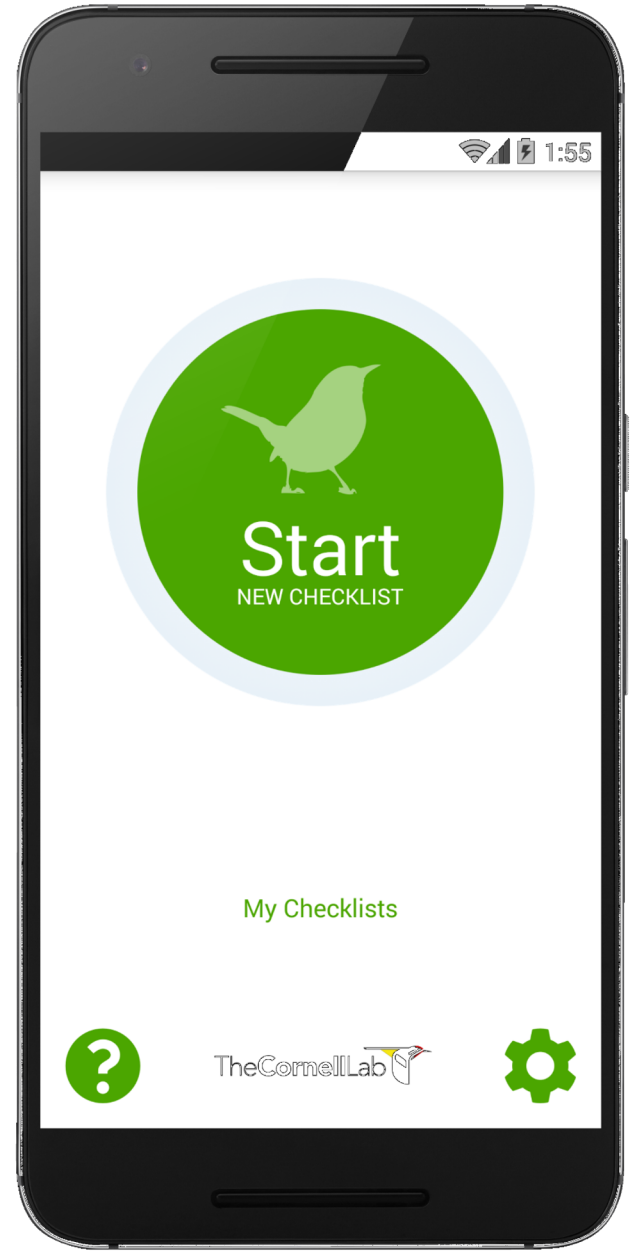
Crowdsourcing performance data of genebank accessions

Jacob van Etten

j.vanetten@cgiar.org

Alliance of Bioversity Int'l and CIAT


Citizen Science
Innovation in Open Science, Society and Policy
Edited by Susanne Hecker, Muki Haklay, Anne Bowser, Zen Makuch, Johannes Vogel and Aletta Bonn
UCLPRESS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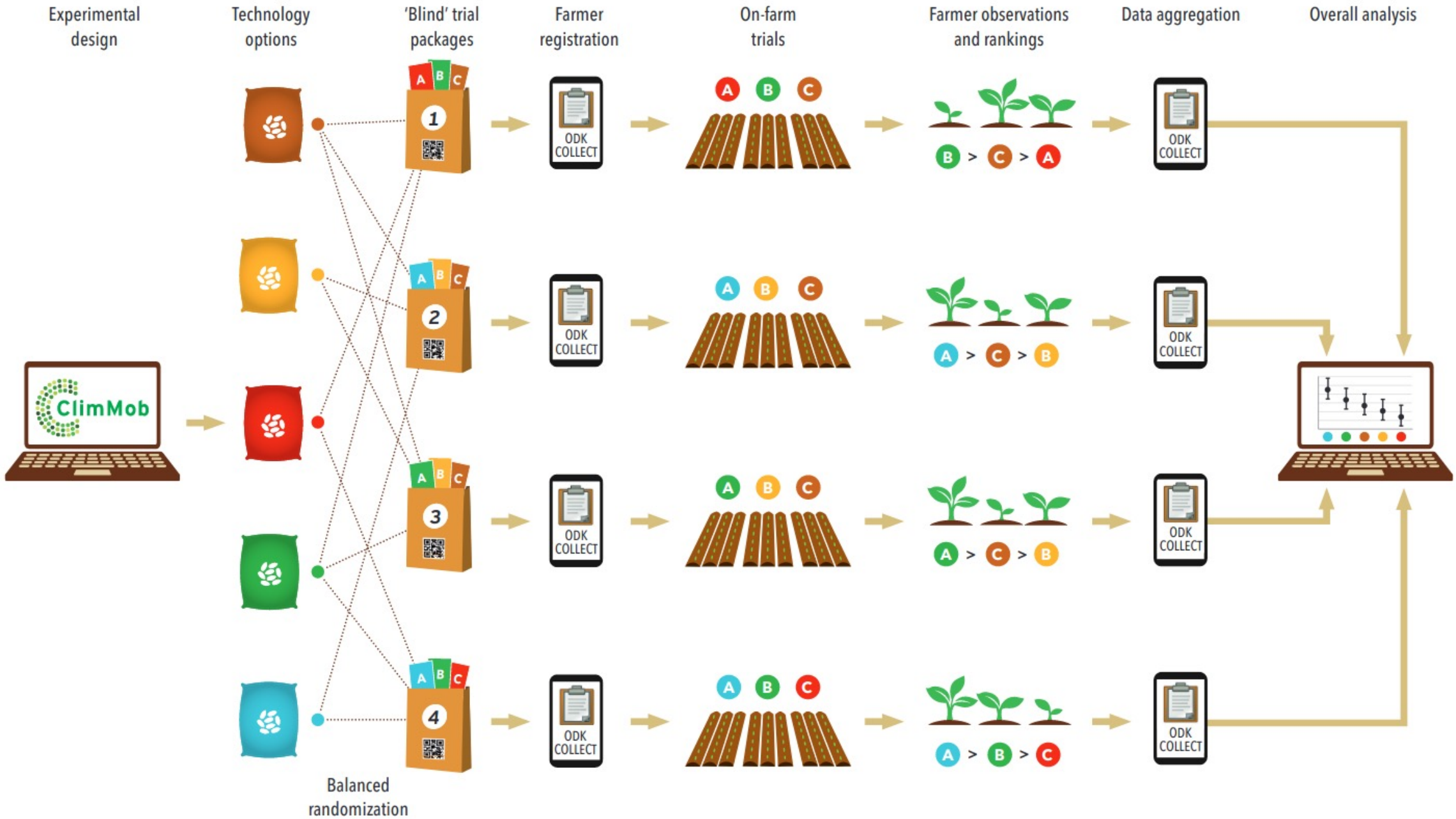
NEW CHECKLIST
My Checklists
TheCornellLab


Experimental design
Technology options
'Blind' trial packages
Farmer registration
On-farm trials
Farmer observations and rankings
Data aggregation
Overall analysis
ClimMob
A B C
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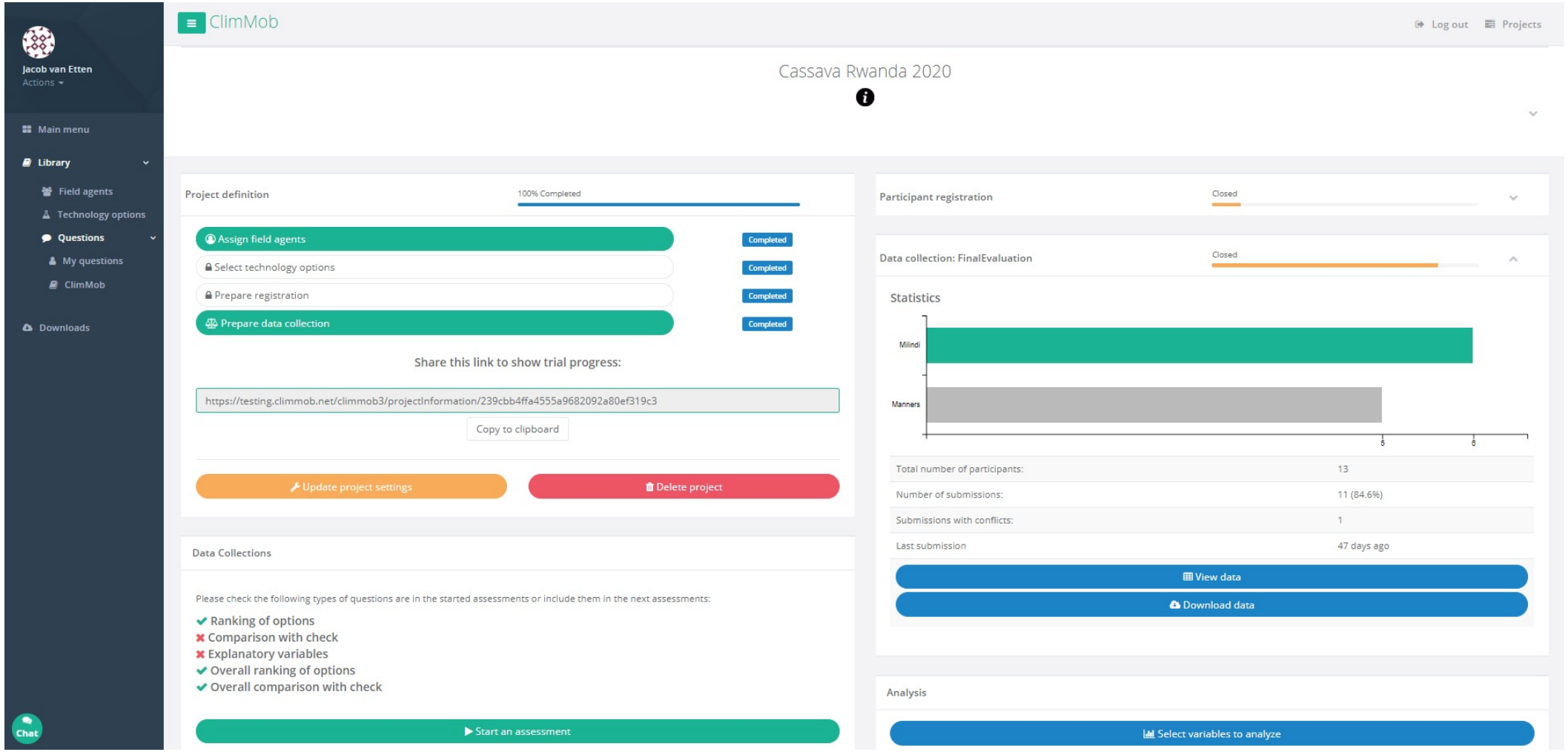
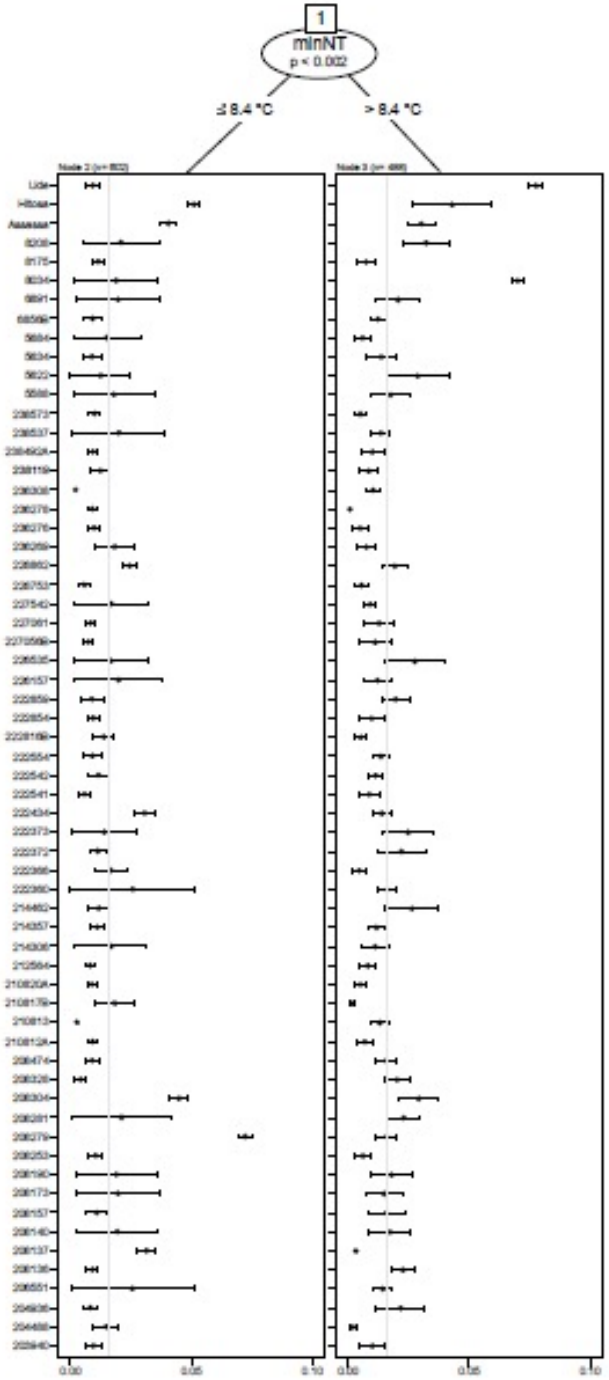
ODK COLLECT
B > C > A
A > C > B
A > C > B
A > B > C
Balanced randomization

ClimMob platform

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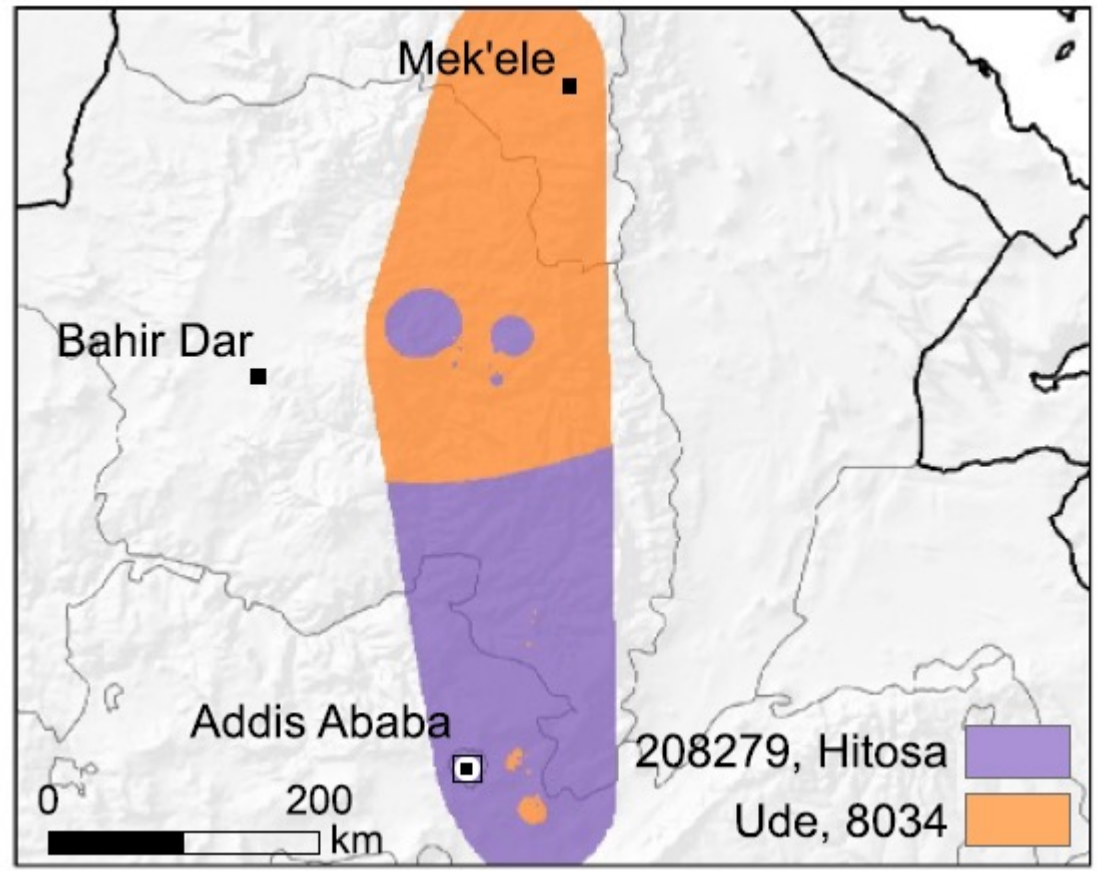
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Data-driven decentralized breeding increases prediction accuracy in a challenging crop production environment

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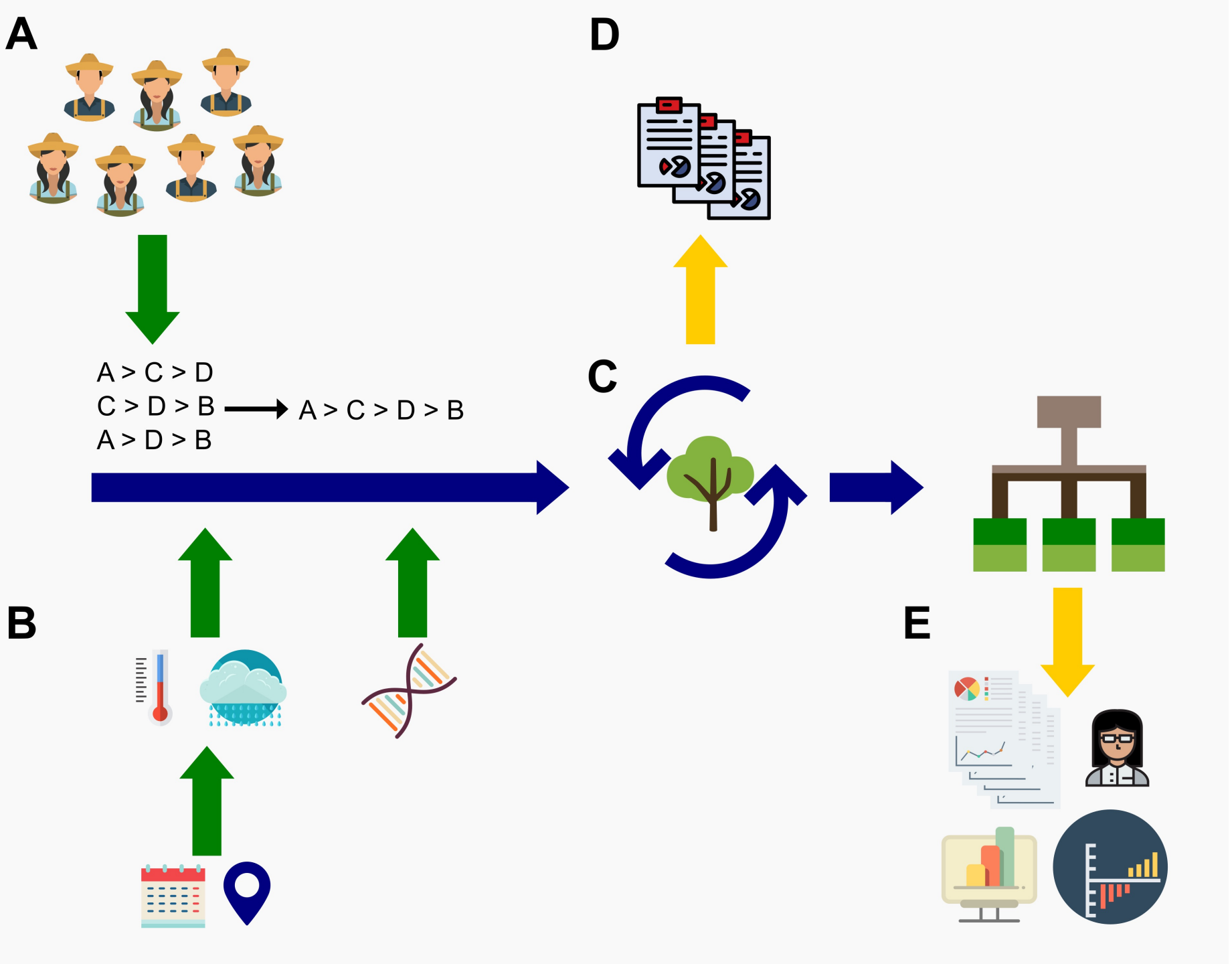
**Crop breeding must embrace the broad diversity of smallholder agricultural systems to ensure food security to the hundreds of millions of people living in challenging production environments. This challenge can be addressed by combining genomics, farmers' knowledge, and environmental analysis into a data-driven decentralized approach (3D-breeding). We tested this idea as a proof-of-concept by comparing a durum wheat (*Triticum*


A
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A > C > D
C > D > B
A > D > B
A > C > D > B
C
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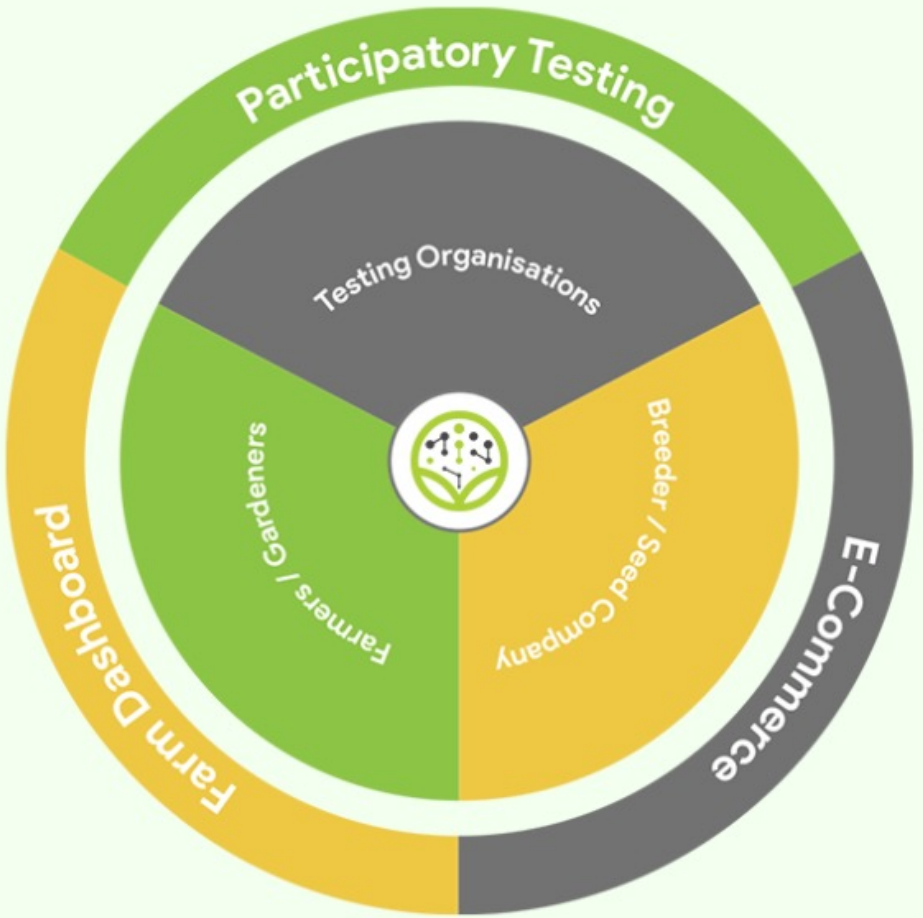
E

SeedLinked

Search for Seed

The Seed Collective Intelligence Platform: Disrupt, Empower, Grow

We apply crowndsourcing approach to revolutionize variety testing, by providing valid alternatives to the highly centralized, capital-dependent model currently in place. The benefits of low capital requirements and highly granular data, coupled with a decentralized, flexible, and evolutive testing approach would ultimately contribute to more diversity in agricultural and food systems. Increased availability and use of diverse seed would create more diversity in agricultural landscapes, contributing to "breeding ecosystems" that could evolve much quicker in face of climate change, boost local adaptation and performance, and bring resiliency and food sovereignty to local economies in an era of globalizing fragility. Farmers would be able to predict more accurately the outcomes of their actions, react quicker in the face of nature's reoccurring challenges as patterns and changes will be captured, analyzed and communicated. And, ultimately, the end user (shopper, baker, chef, etc.), farmer and plant breeder will be directly connected as never before, creating a more democratic seed economy



Seedlinked Offers

- Find seed to fit your needs
- Buy / Sell seed
- Connect, Share, Collaborate
- Test new varieties

You Collaborate

Growers provide

- Local Knowledge
- Observations
- Land
- Networks

- Seeds
- Information
- Breeding

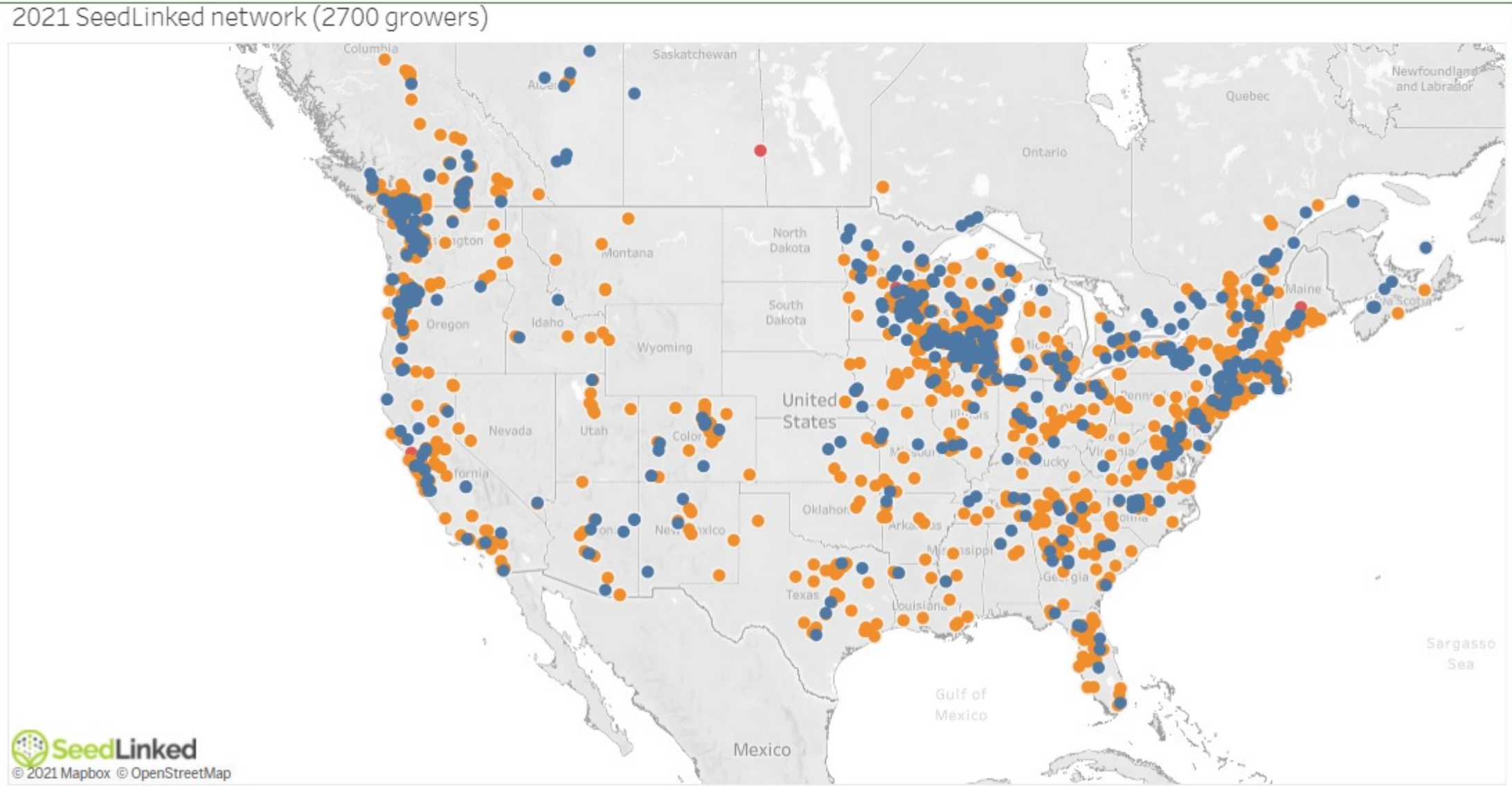
Plant breeders provide

Everyone Benefits

SeedLinked

Search for Seed

2021 SeedLinked network (2700 growers)



INCREASE – Intelligent Collections of Food Legumes Genetic Resources for European Agrofood Systems

INCREASE

Share the Bean: A Citizen Science Experiment

Registration has now closed. New round will open at the end of 2021.

Science is not limited to scientists. Everyone can get involved.
Public participation in scientific research is becoming more and more crucial in increasing everyone's understanding of science and its benefit to society. Most importantly, it advances scientific research itself. ...and it equally plays a crucial part in INCREASE. Here, we are all about beans! The Citizen Science Experiment, conducted as part of the project, calls on all interested citizens to voluntarily contribute to and test an innovative decentralised approach to seed conservation, multiplication and sharing in order to conserve agro-biodiversity.

All you will need is access to a field, garden, terrace or balcony.

Pod formation

Using the INCREASE CSA App, you can provide valuable data on the time of the first visible appearance of a bean pod in your plot and take a picture as suggested in the video tutorial:

Tutorial: Pod Formation

Thank you

Jacob van Etten
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climmob.net