



UNIVERSITY OF
HOHENHEIM

CONVENTIONAL AND YET MODERN BREEDING

VOLKER HAHN

STATE PLANT BREEDING INSTITUTE



Long distance run

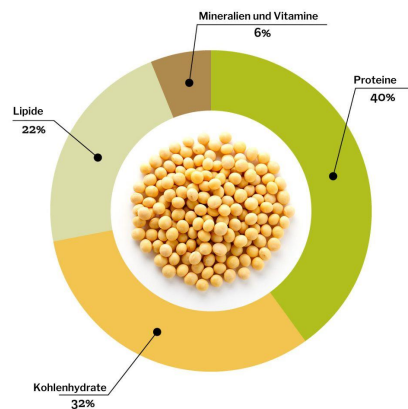


never ending long distance run

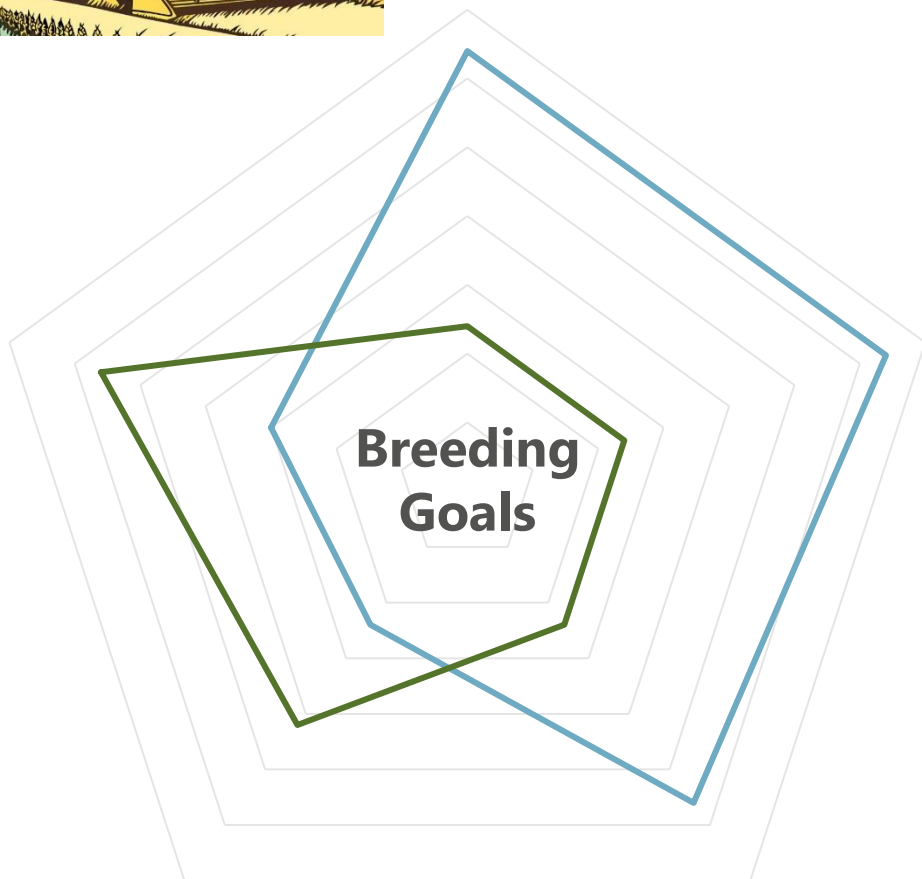




Yield



Quality



Agronomy

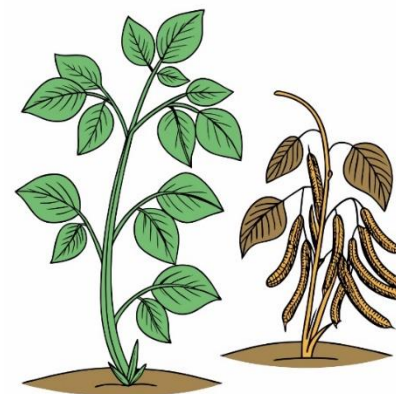


No lodging



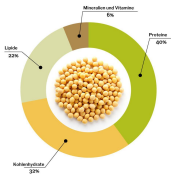
Resistances

Maturity





Yield



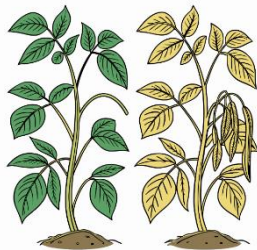
Quality

Breeding Goals

Agronomy

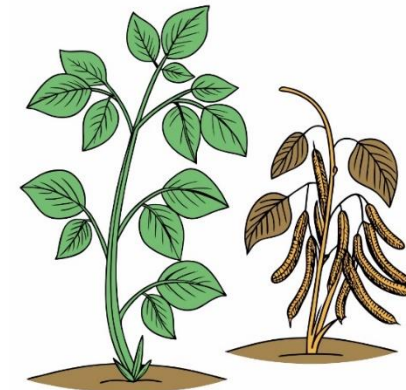


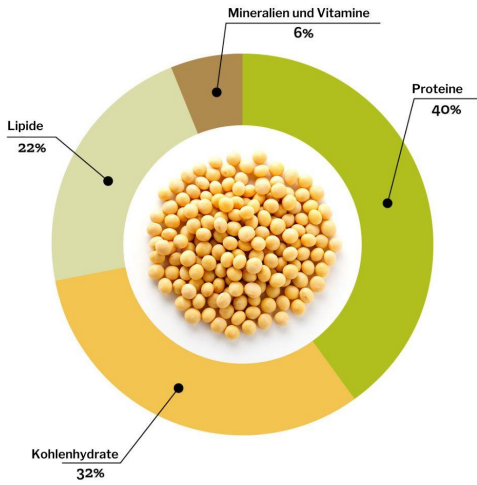
No lodging



Resistances

Maturity





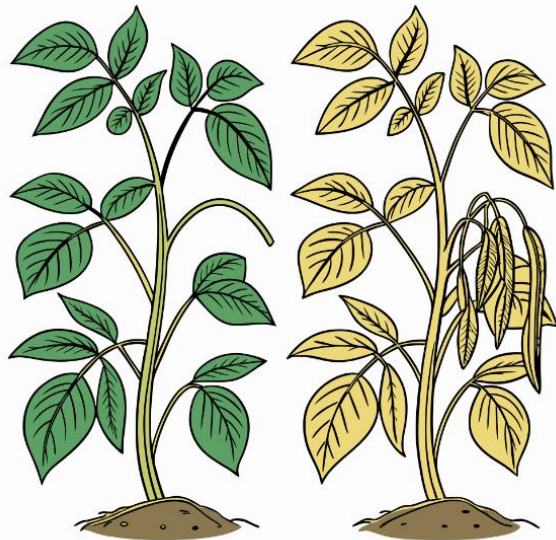
Yield

Quality

Agronomy

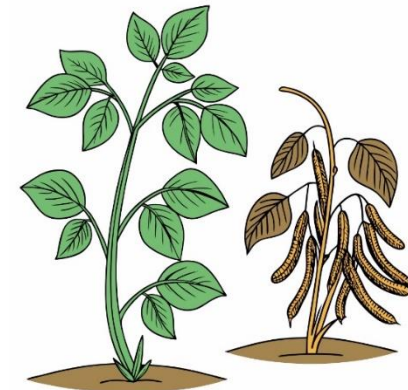


No lodging



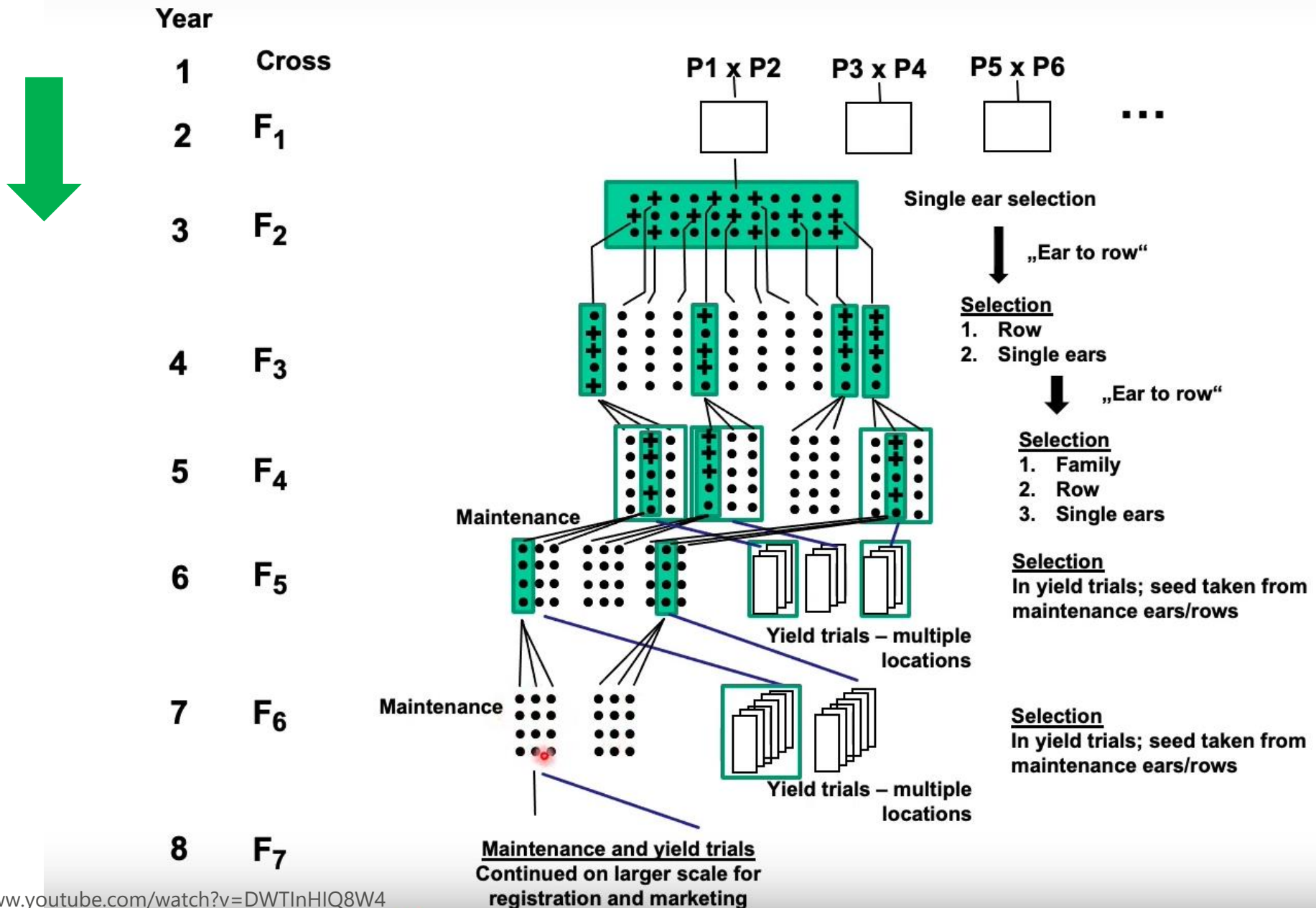
Resistances

Maturity

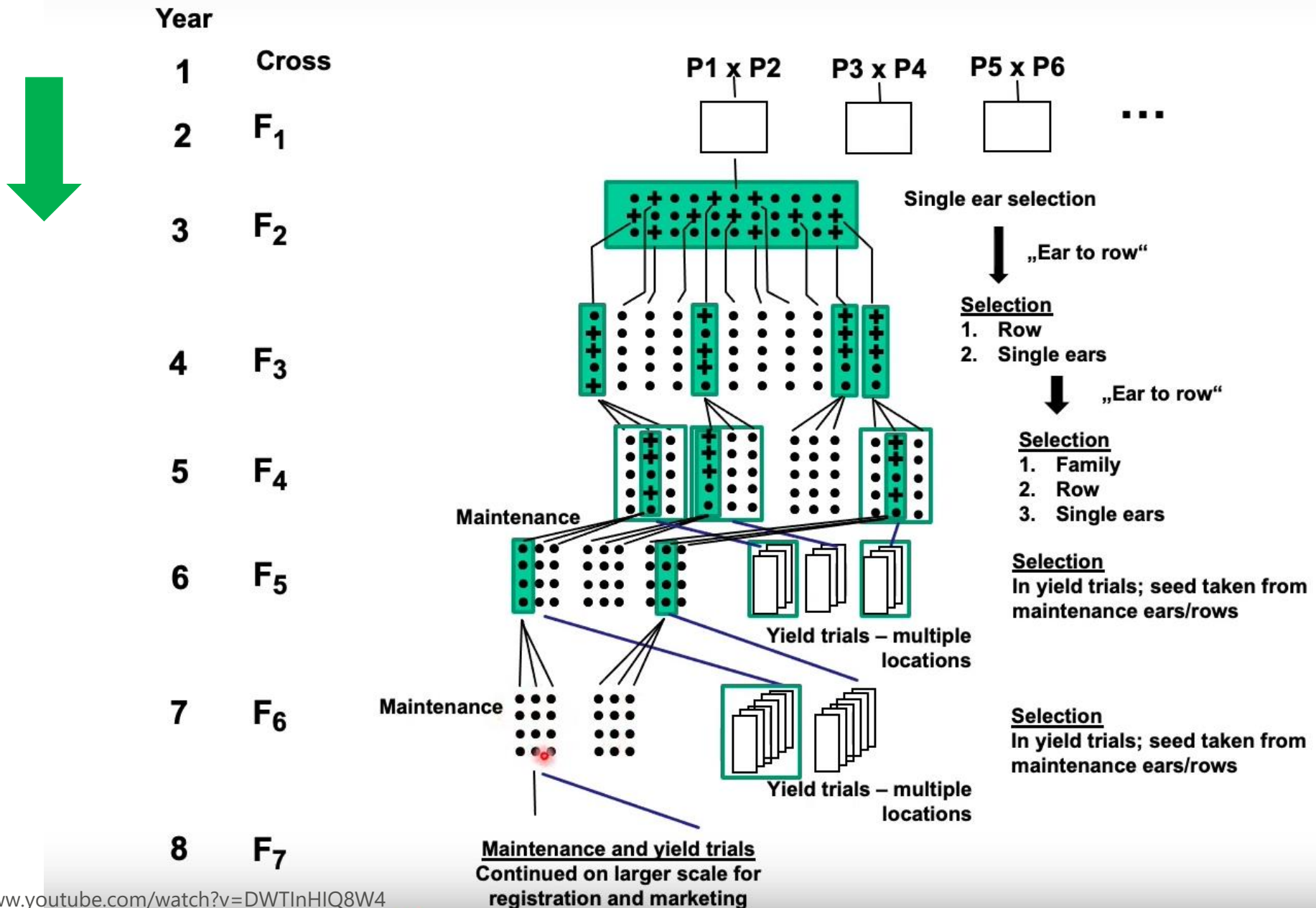


**Breeding
Goals**

Scheme for pedigree selection



Scheme for pedigree selection



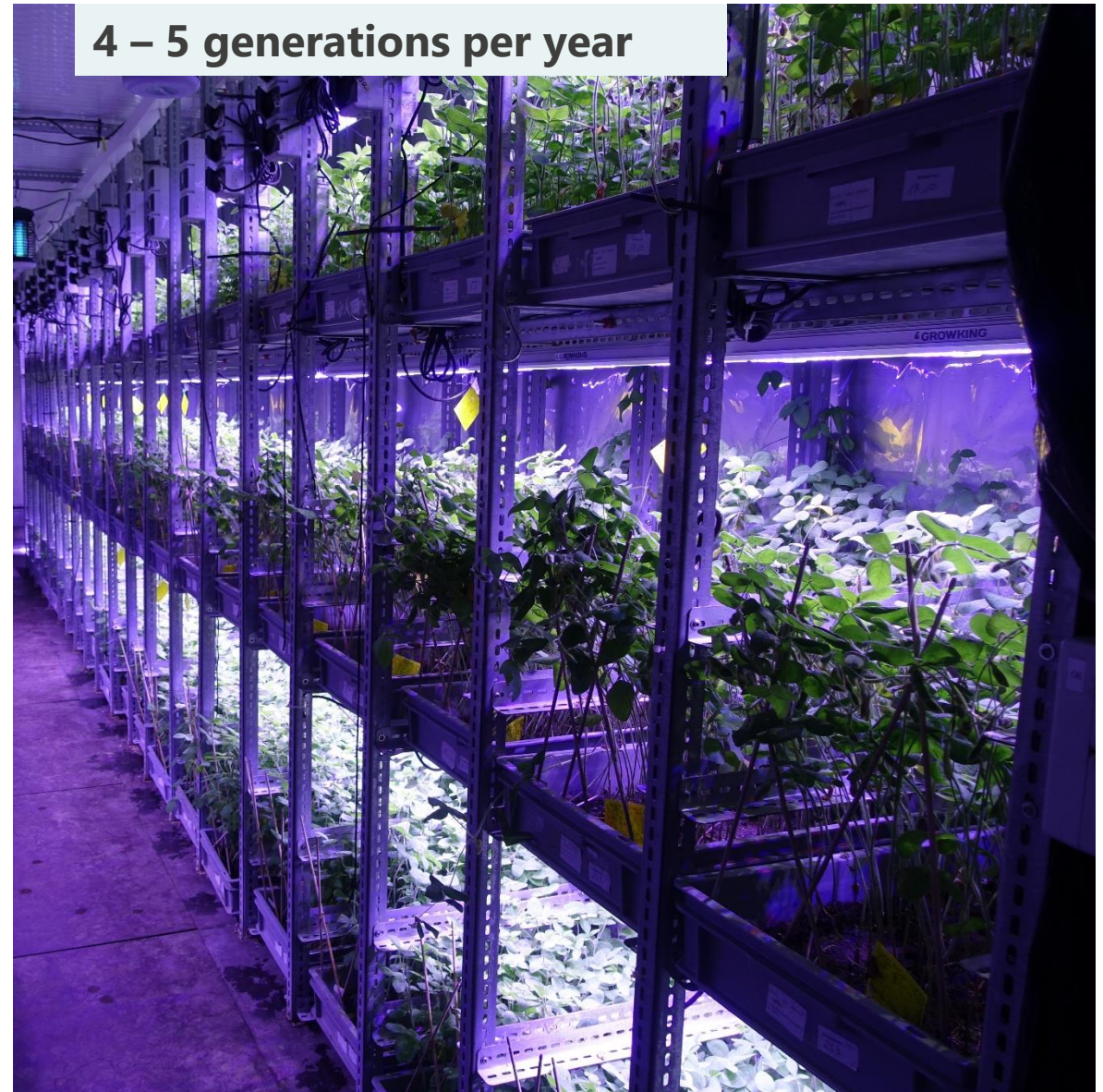
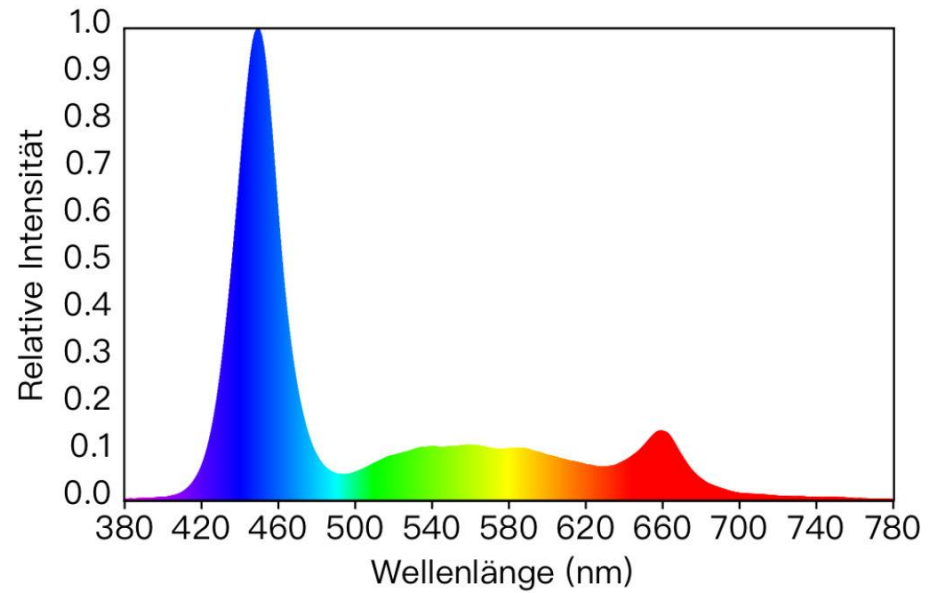
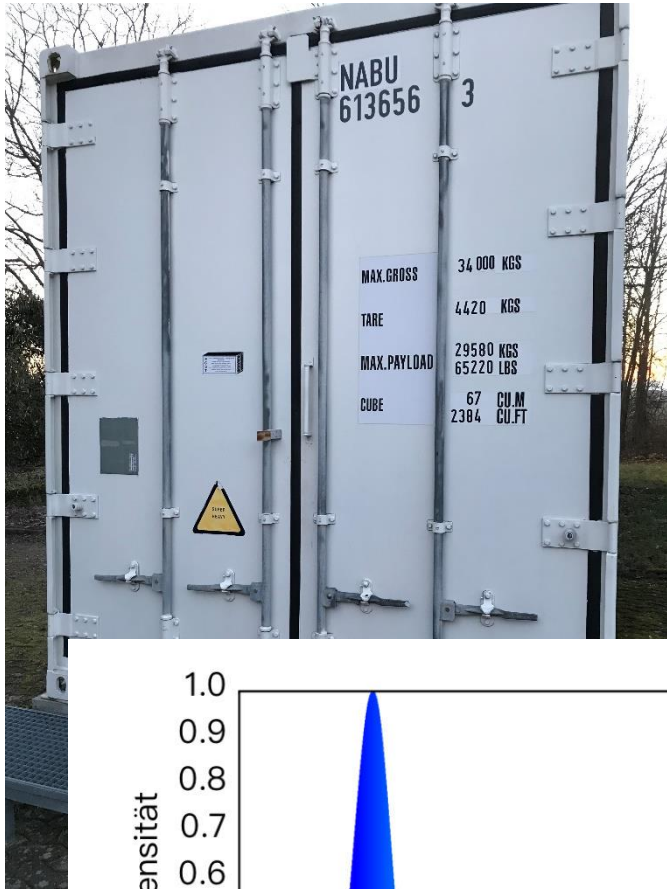


October



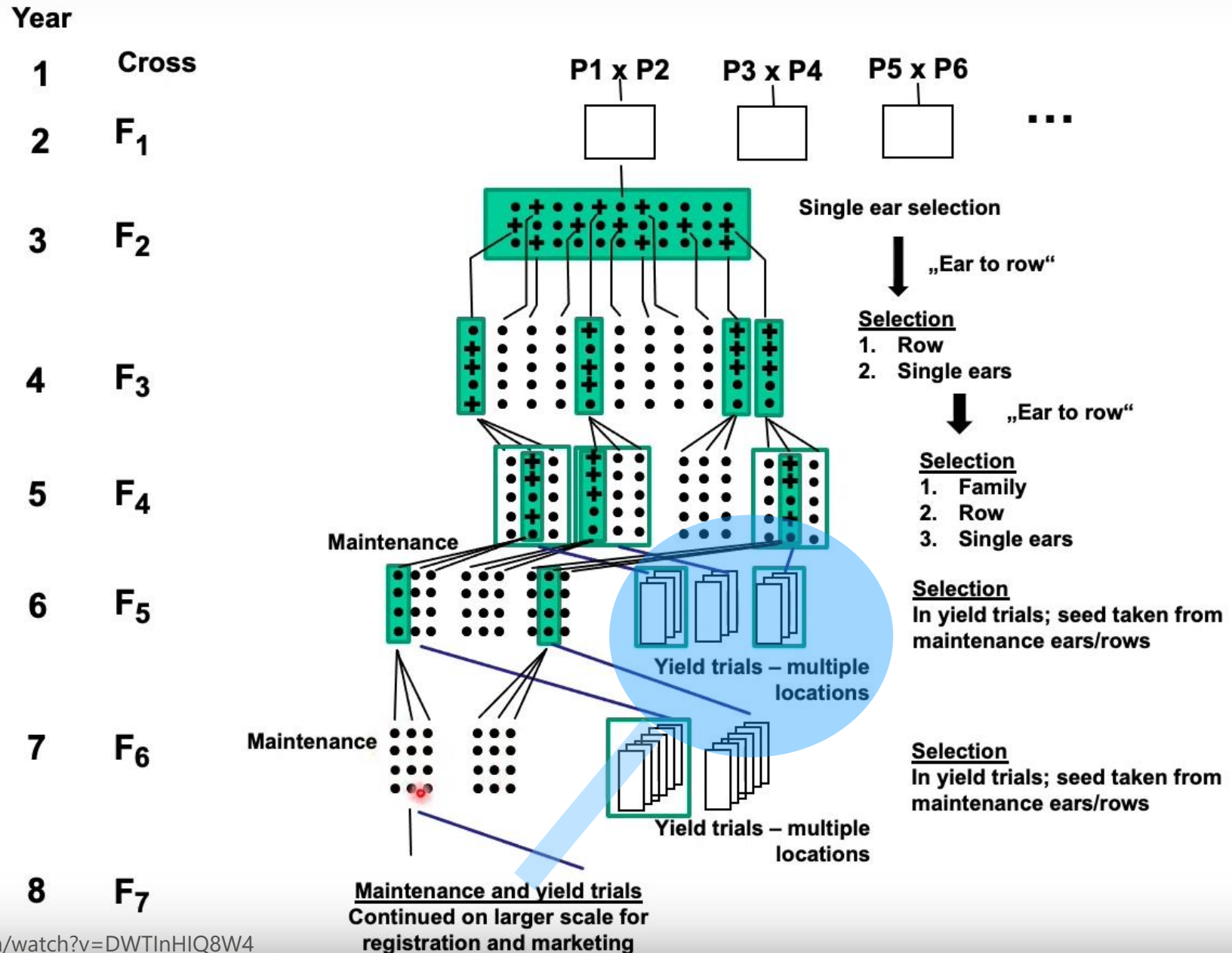
March

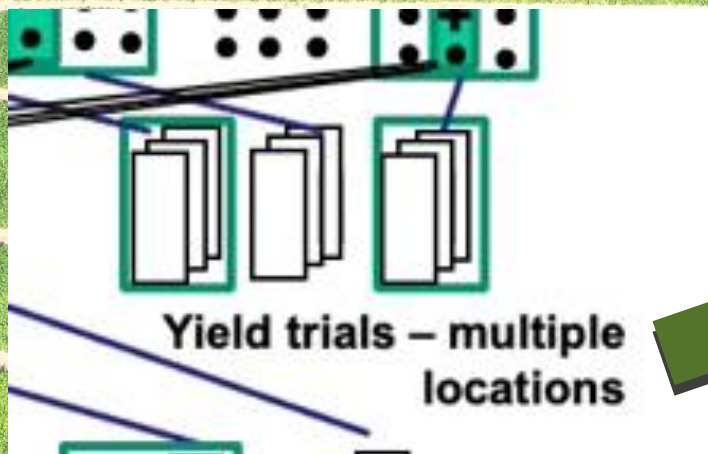
Speed Breeding Container



Scheme for pedigree selection

We need to adapt the scheme





Legume
Generation





June 12
17% Plant



June 12
21% Plant



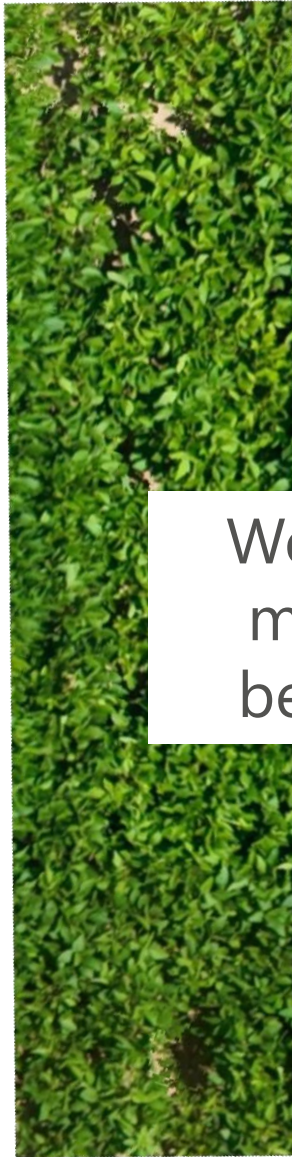
24.5.



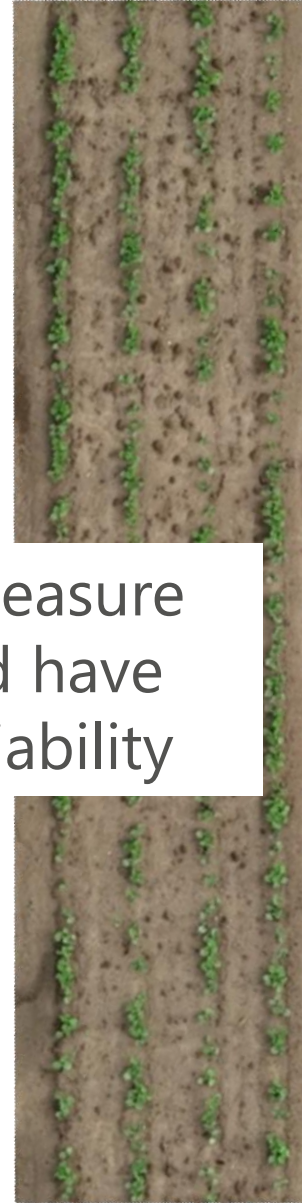
12.6.



19.7.



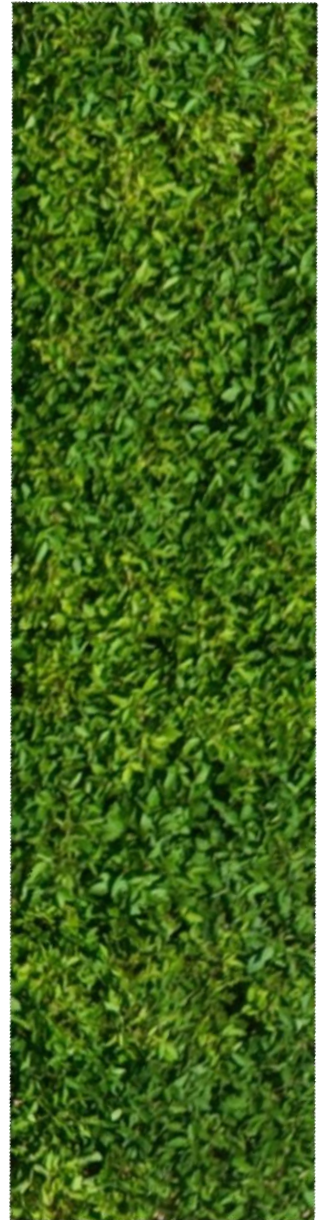
24.5.



12.6.



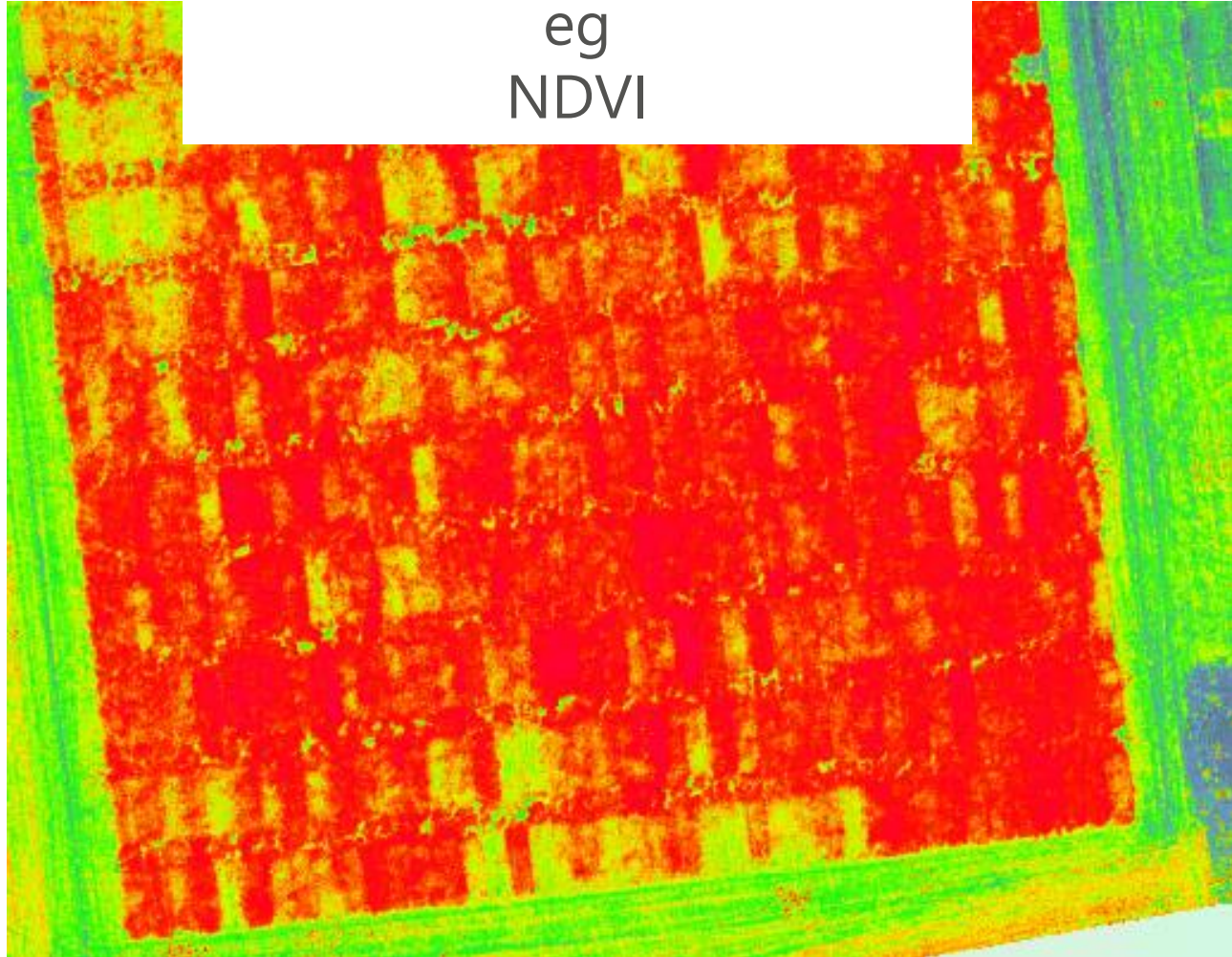
19.7.



We can measure
more and have
better reliability

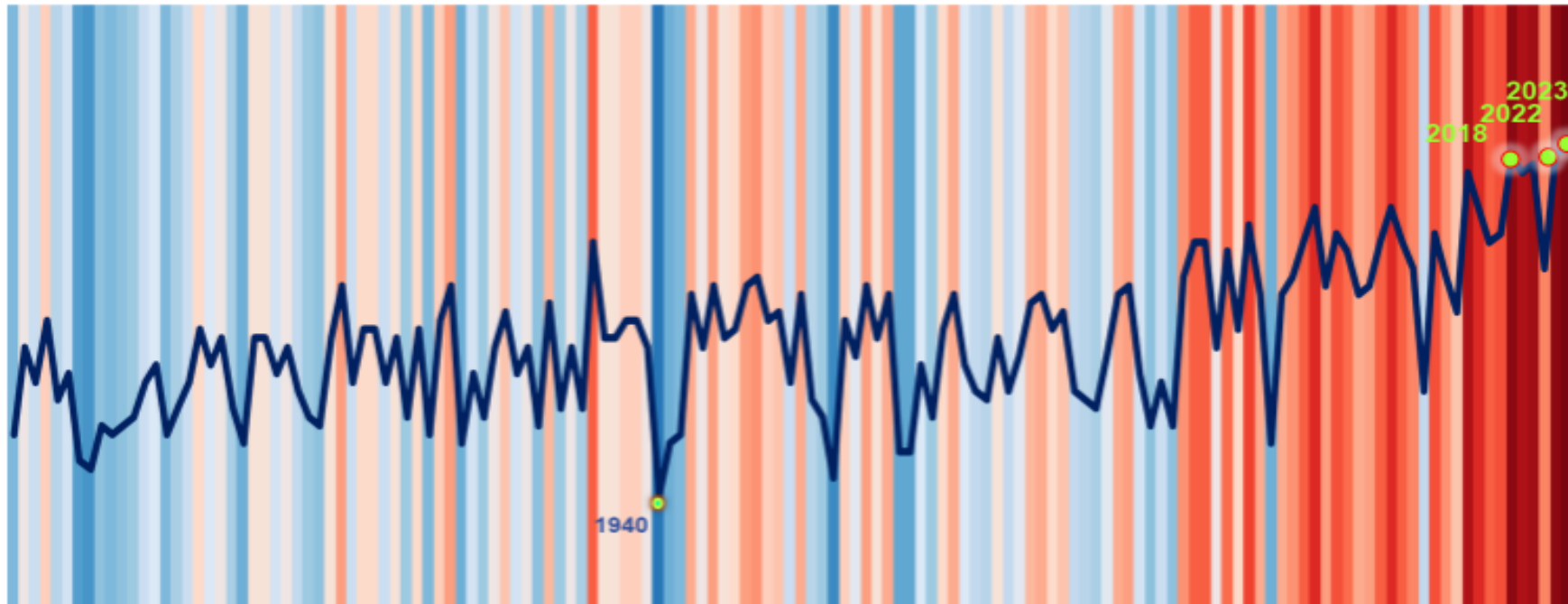
New possibilities with
multispectral cameras

eg
NDVI



Growing challenges

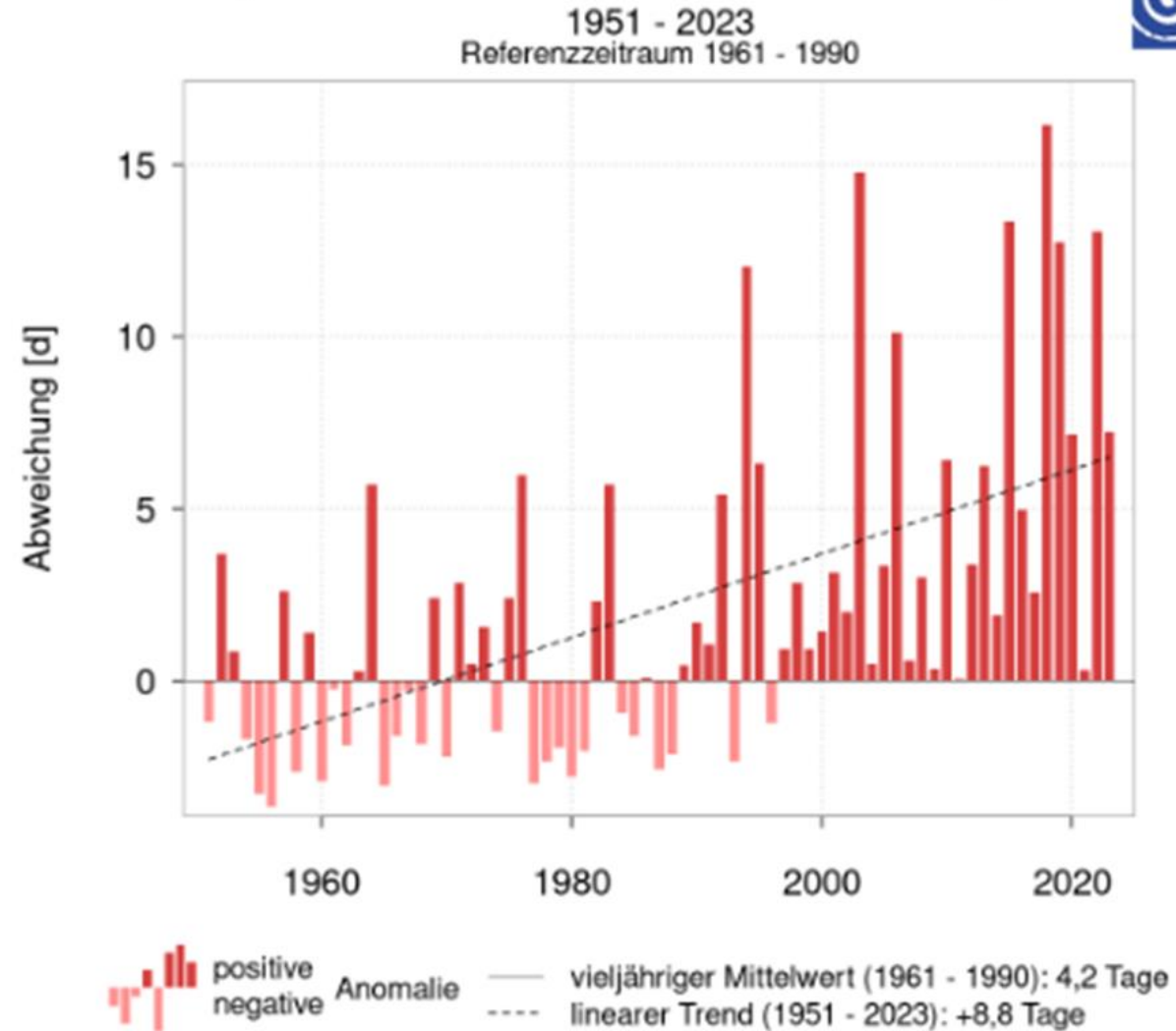
Climate change



herausgegeben von:

Deutscher Wetterdienst und Extremwetterkongress Hamburg

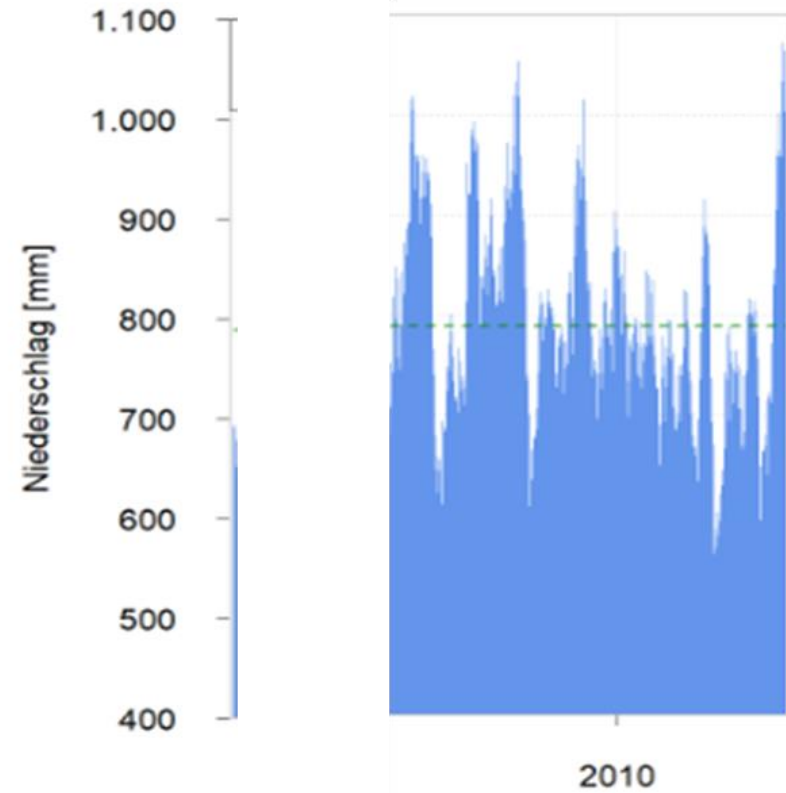
Anomaly in the number of hot days



herausgegeben von:

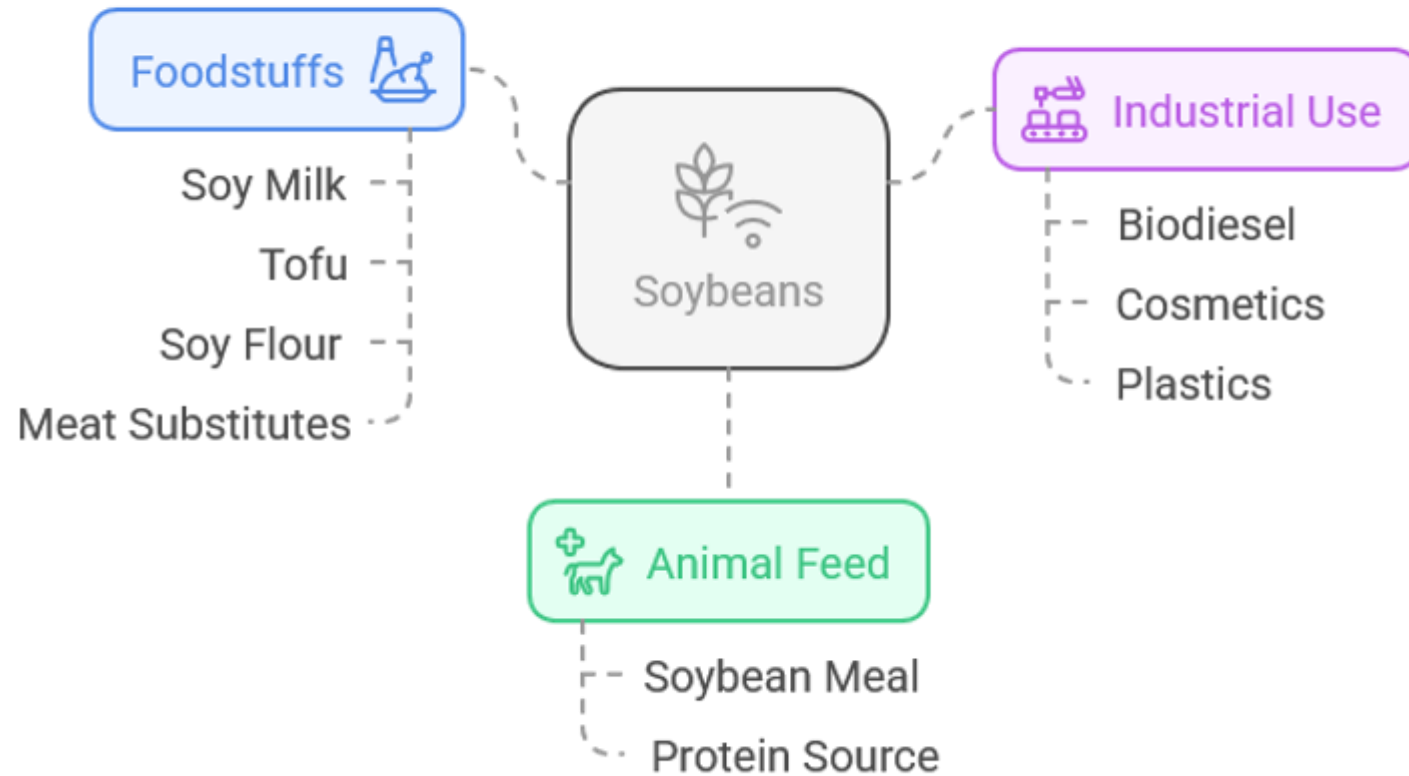
Deutscher Wetterdienst und Extremwetterkongress Hamburg

Precipitation



Growing challenges

Diverse Applications of Soybeans



Foodstuffs

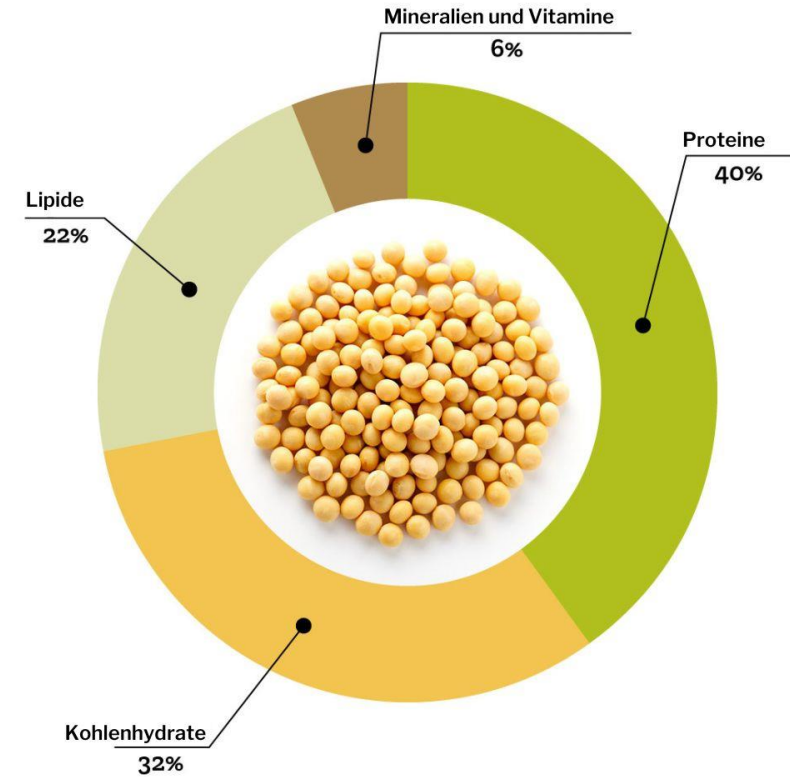


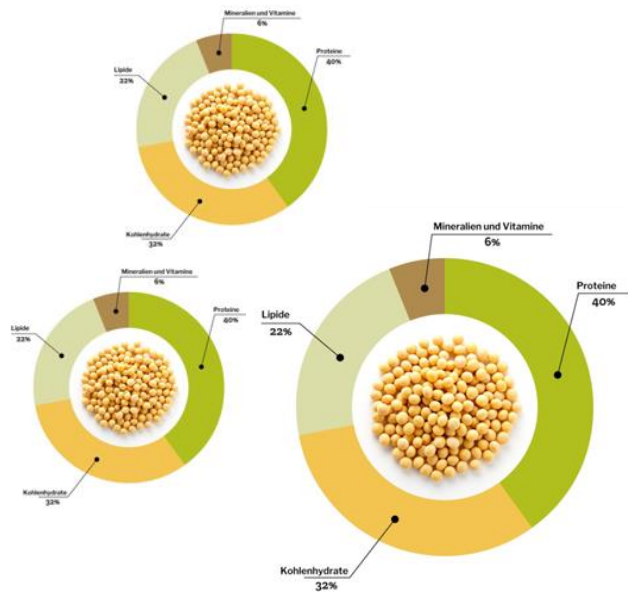
Soy Milk

Tofu

Soy Flour

Meat Substitutes

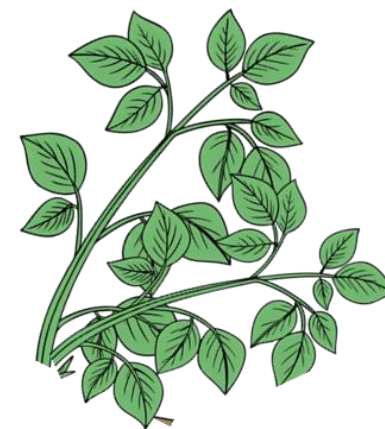




Yield

Quality

Agronomy

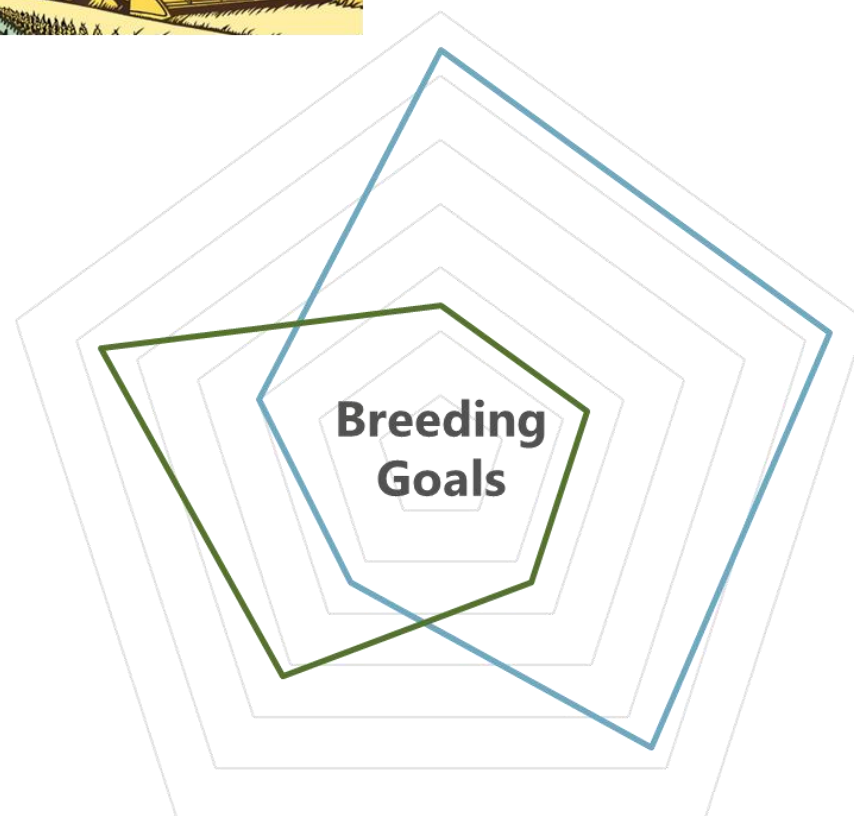
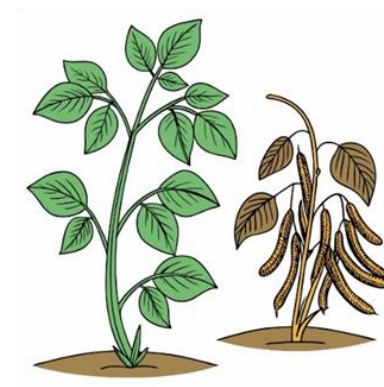


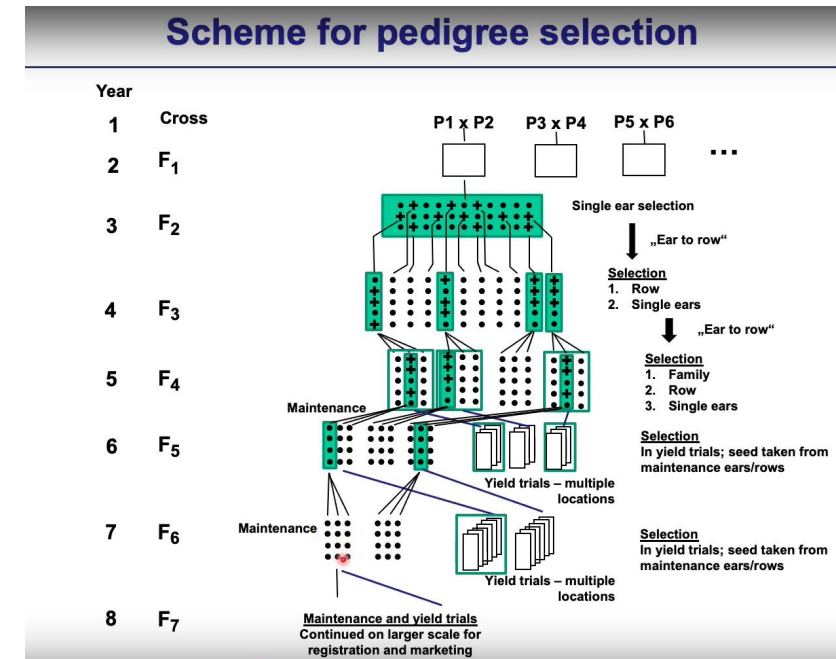
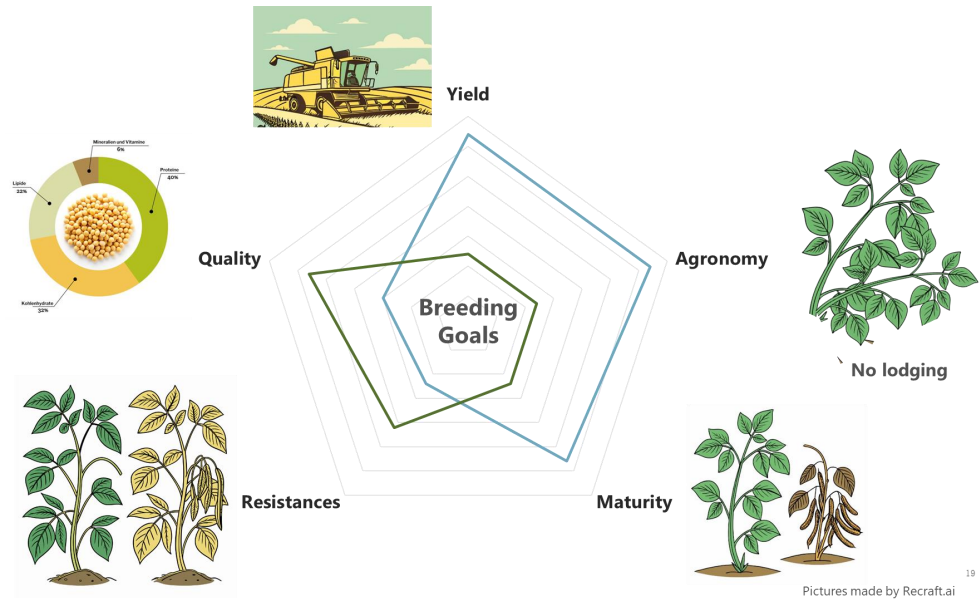
No lodging



Resistances

Maturity





We need to adapt the breeding goals and the breeding scheme

High-yielding, well-adapted soybeans
for multiple uses

Good news

with new technologies like

Drones

Speed Breeding

Genomic selection

Phenomic selection

Artificial intelligence

•
•
•

we will also in future be
able to breed





UNIVERSITY OF
HOHENHEIM

THANKS

VOLKER HAHN

STATE PLANT BREEDING INSTITUTE

