

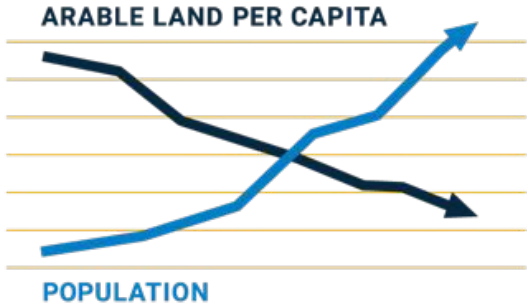
Potato potential unleashed through tiny seeds

Pim Lindhout
Solynta

GFIA, Utrecht,
May 9th, 2017



Potato is crucial global crop

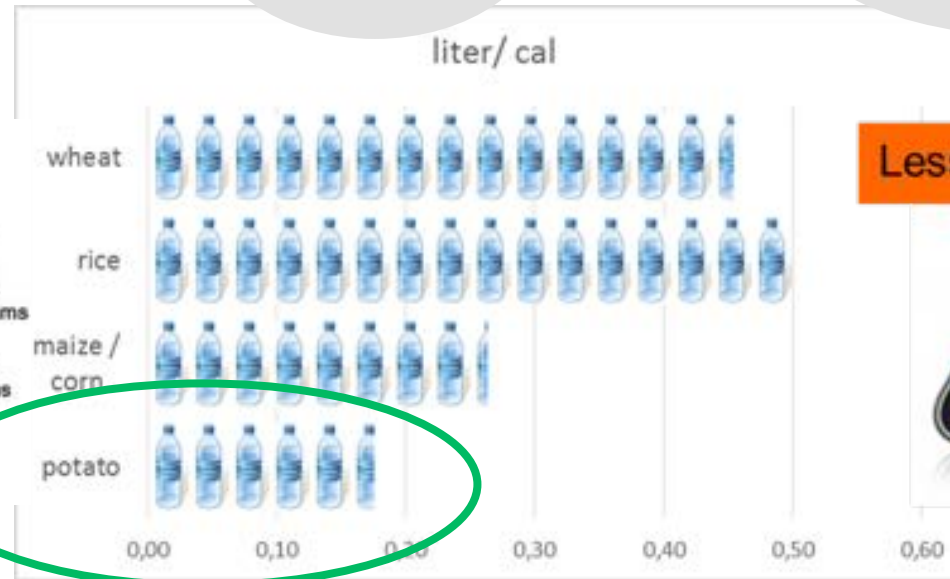
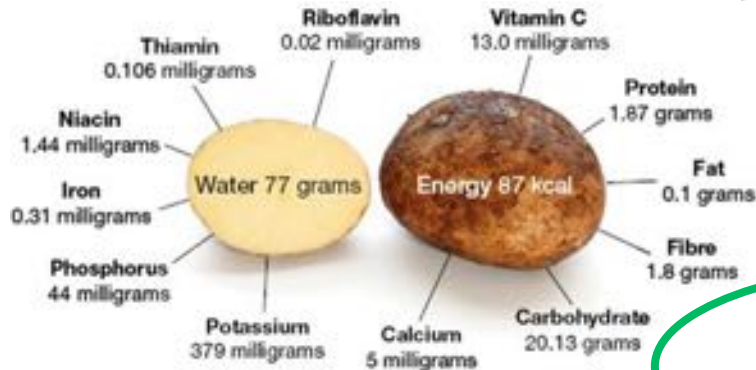


MORE FOOD

BETTER FOOD

LESS WATER

LESS ENVIRONMENTAL IMPACT



Less PESTICIDES



Present potato breeding has two drawbacks:

1. No healthy planting material
2. No genetic gain by breeding

Solynta overcame these drawbacks

Tiny potato seed



- 400.000 plants = 10 ha commercial potato field
- ~ 200 gram seeds = envelope
- ~ 25 ton seed tubers = big sea container

Favorable logistics of true potato seed

Seed tubers



Huge volumes (2,500 kg of tubers per hectare)



quantities



Increasing disease contamination with each generation



Very high transportation and storage costs



High perishability, low storability



Inefficiencies and losses due to forecasting errors

True seeds



Only 25g of seeds needed per hectare



Two years to bulk-up commercial quantities



Nearly no seed-borne diseases



Simple, low-cost transportation and storage



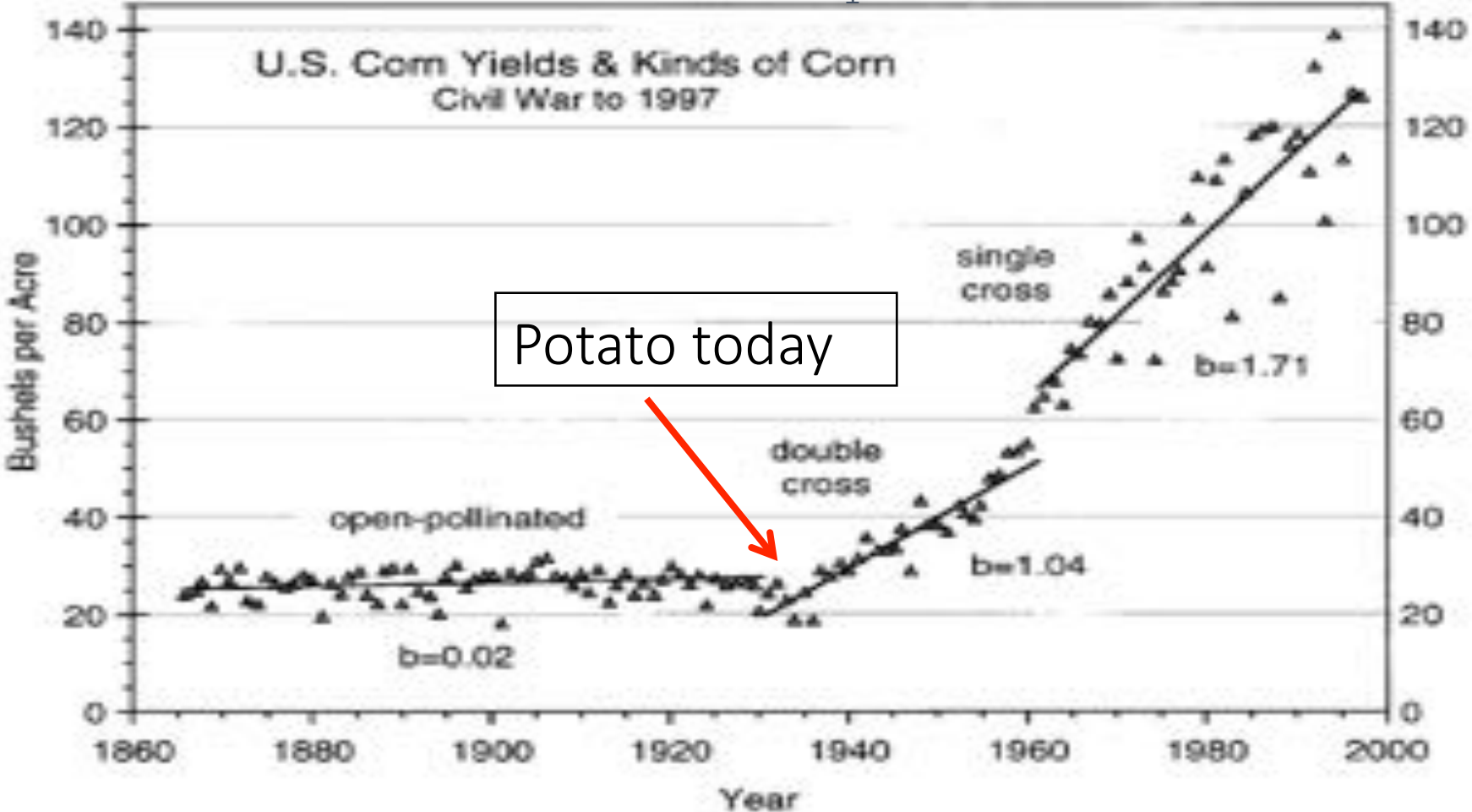
Low perishability, high storability



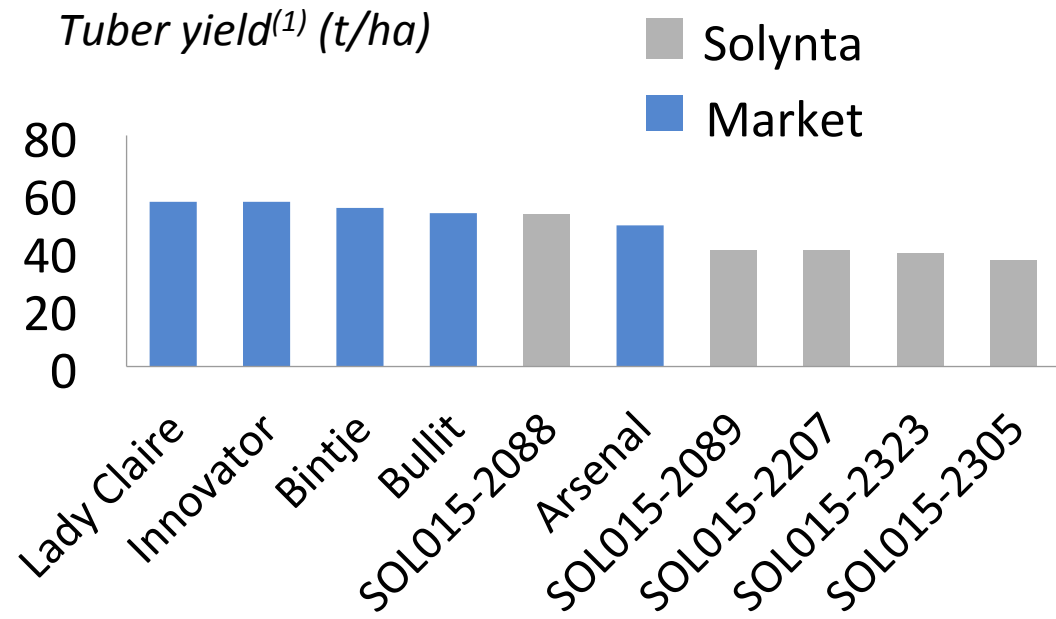
Effective planning across the supply chain

Hybrids boost yield

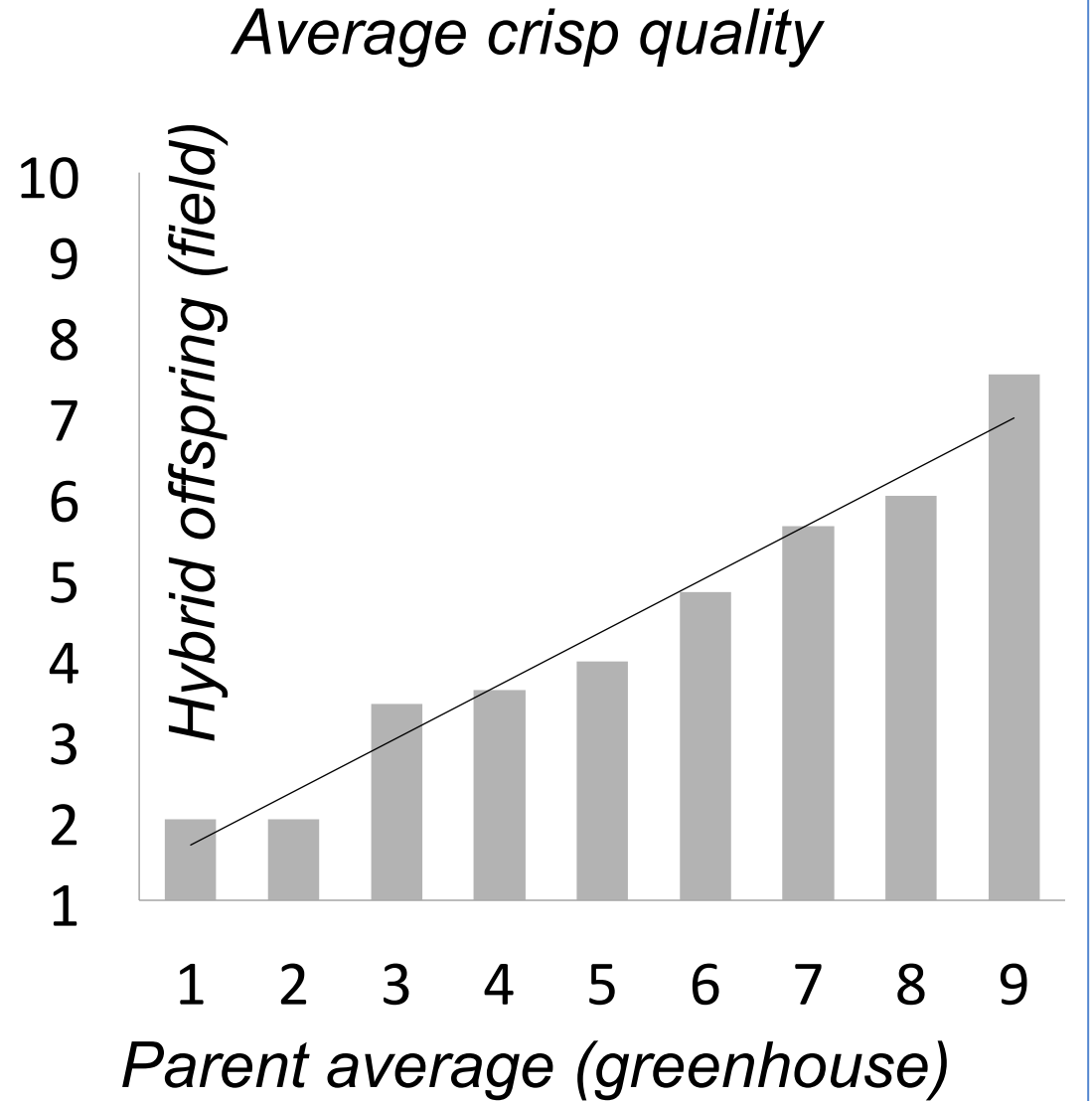
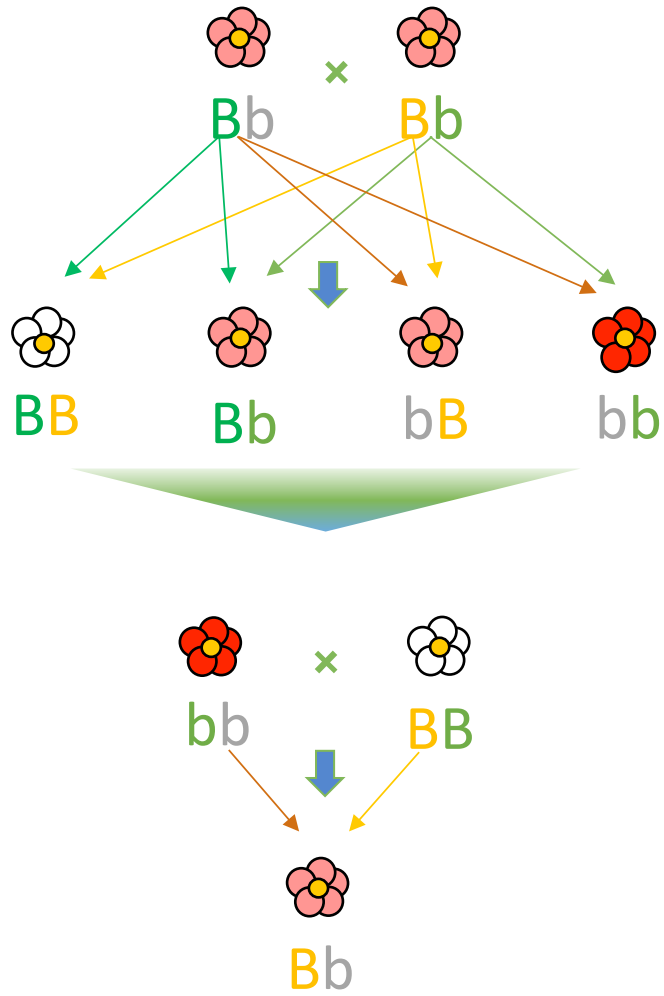
Corn as example for F₁ hybrid breeding



Diploids hybrids match commercial controls



Hybrids are predictable

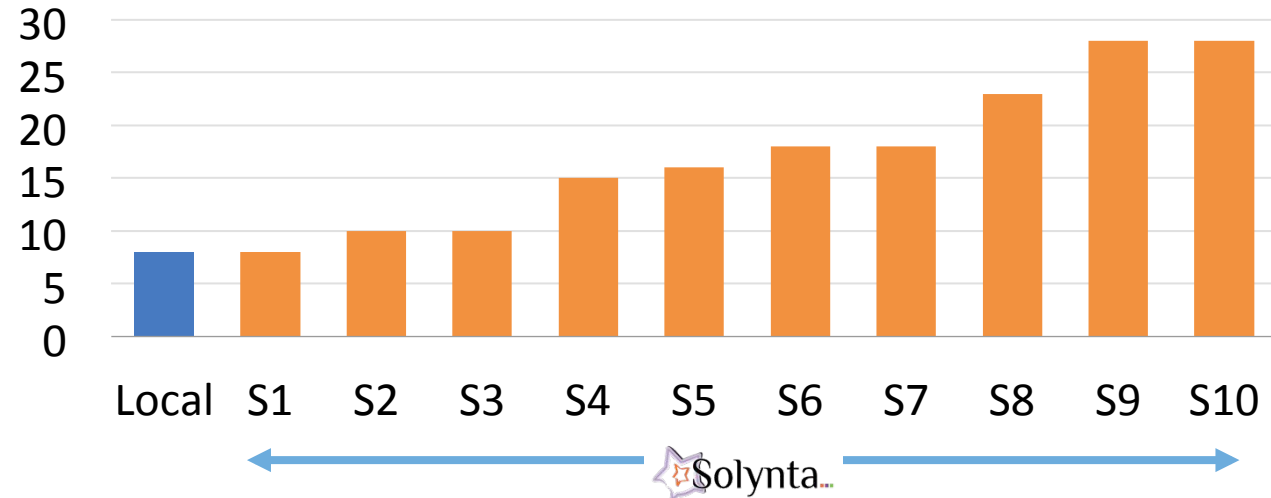


Potato hybrids in Africa

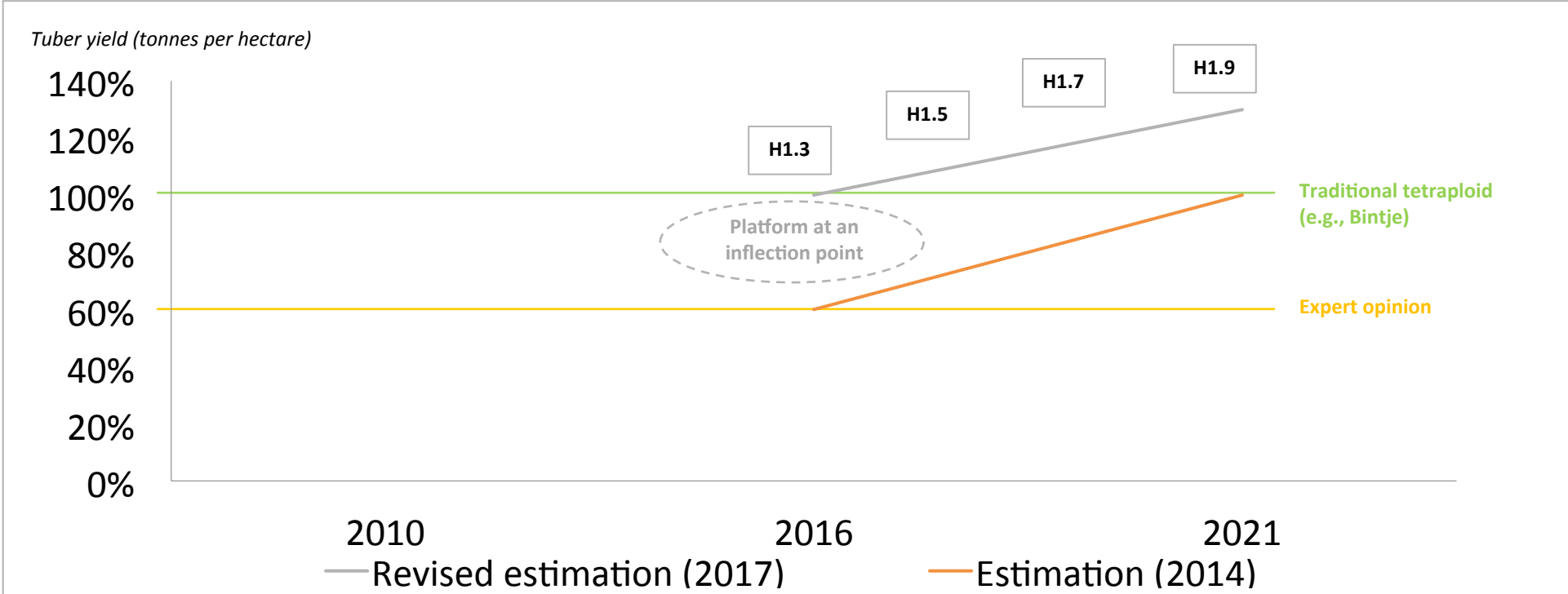
Field trials in Congo

**Plants raised
from seedlings**



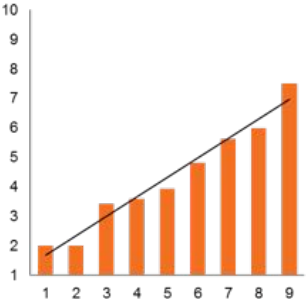

(Tonnes / hectare)



Strong progress in hybrid development



H1.3
H1.5
H1.7
H1.9

Tuber yield	Seedling yield	Better predictions	New series of inbreds
			

Conclusion

Hybrid breeding will strengthen potato as major crop in global food security