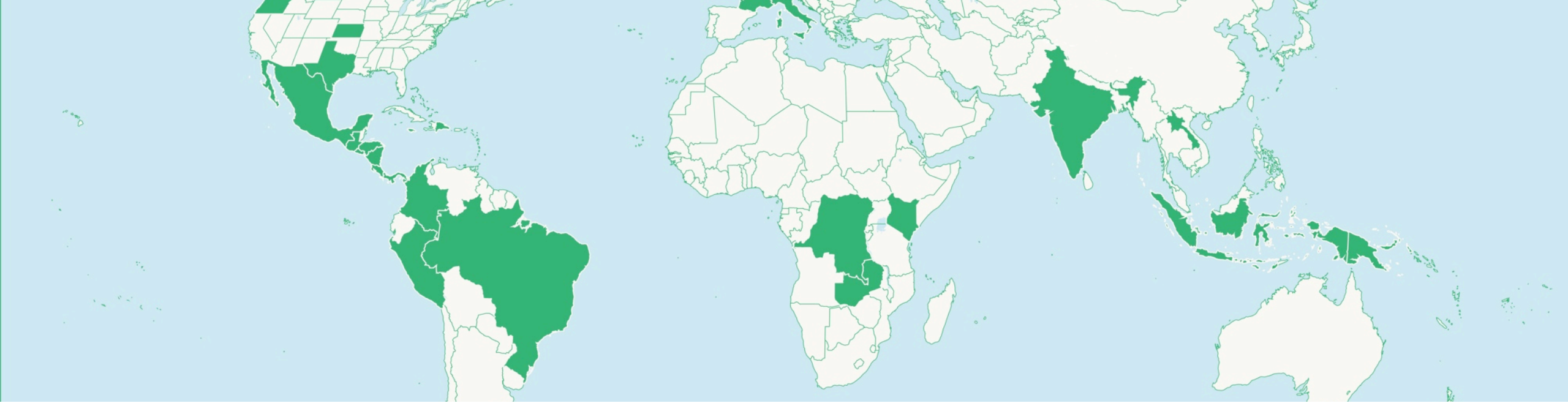


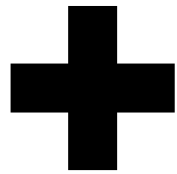
Will there be any coffee left in 100 years?

Ensuring the future of coffee through innovation

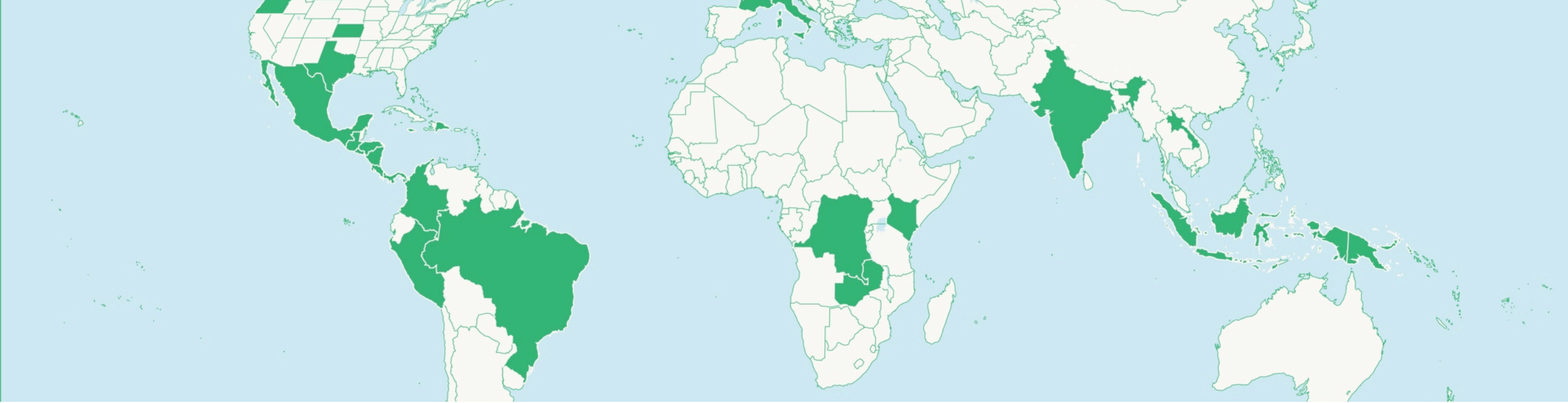
Tim Schilling, CEO, World Coffee Research



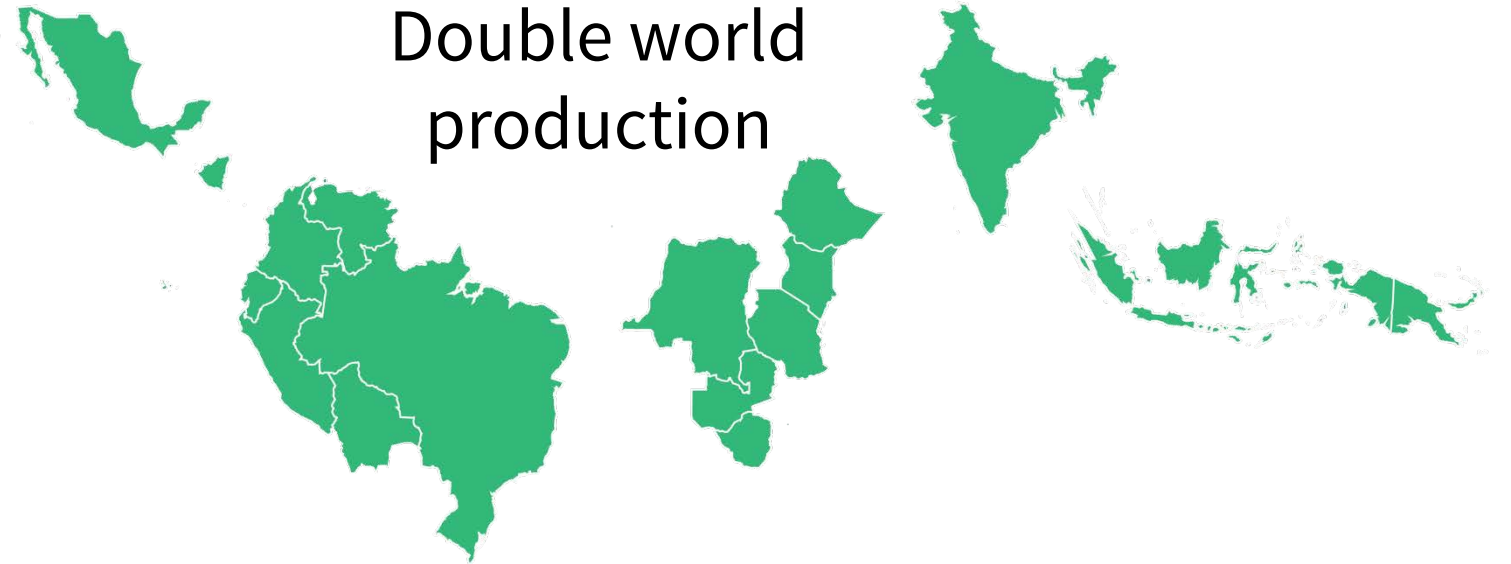
2020



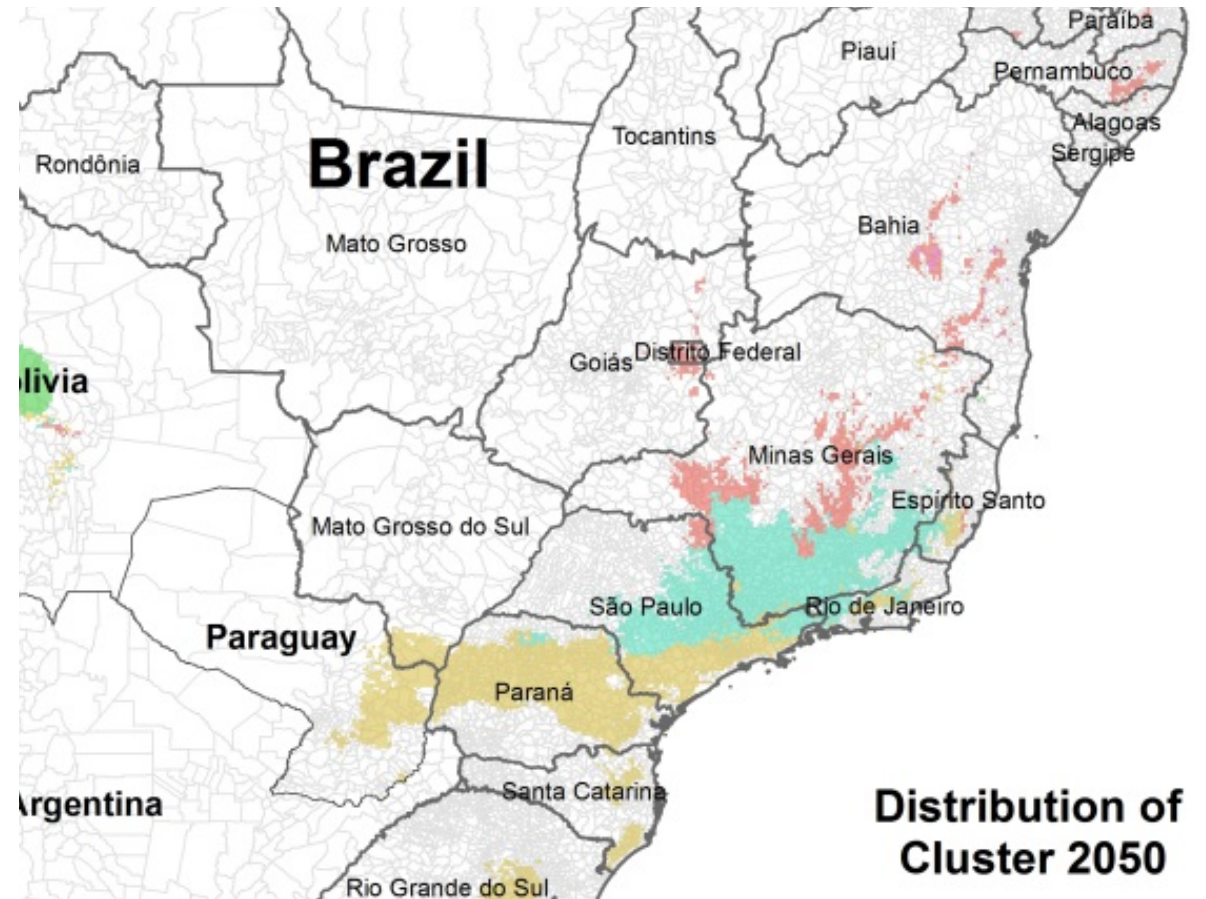
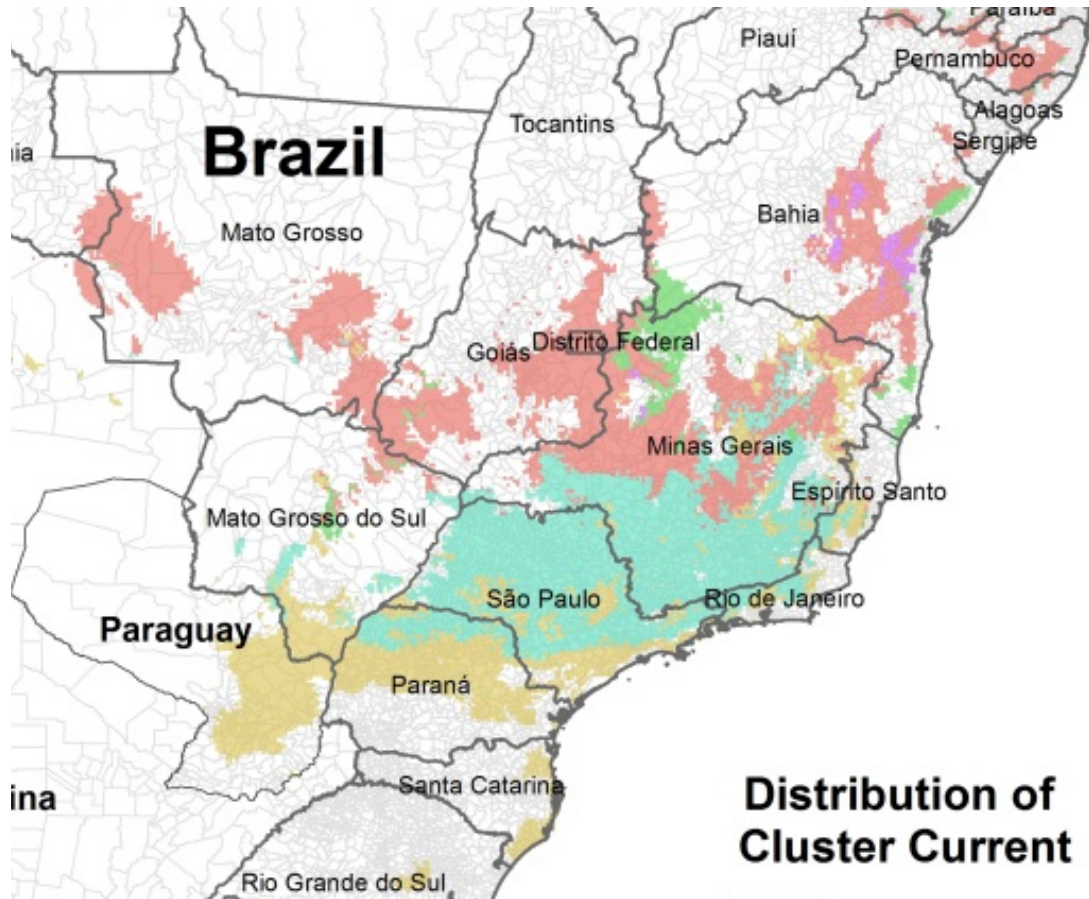
15-20%



2050



Only half the current coffee lands will be suitable by 2050



Where will the coffee come from?



Where will the coffee come from?

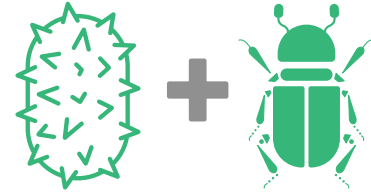
- Expanding coffee area in current coffee producing countries
 - Central America = NO. Malls, apartments, etc.
 - Asia = Maybe but not sure with competition from rubber, palm and cocoa
 - South America = Unlikely given severe threat of CC damage
 - Africa = YES but today they are producing the lowest yields on the planet
- New origins
 - Asia = YES with China, Laos, Philippines, Vietnam we expect something but not huge. Consuming their own production.
- Good Agricultural Practices
 - YES maybe a 25% increase if concerted extension efforts can be organized and implemented. Big IF.
- New and better technologies that produce greater yields with good quality despite
 - That's the subject of this talk. The answer is yes...

World Coffee Research

exists to address
these risks and
transform the future
of coffee.



**Adapting To
Climate Change**



**Controlling
Diseases & Pests**



**Protecting
Quality**



**Supporting
Farmer's Profitability**

Good Agricultural Practices





35

RESEARCH PROJECTS

SPAN THE SUPPLY CHAIN, BUT FOCUS ON THE PLANT



Short term
3-10 years

- Get best varieties into hands of farmers
- Create new Arabica F1 hybrids

Medium term
10-20 years

- Get new Arabica F1 hybrids to farmers
- Create high quality, climate-resilient “Arabusta” varieties

Long term
20+ years

- Get new Arabusta varieties to farmers
- Re-create Arabica species

Short term
3-10 years

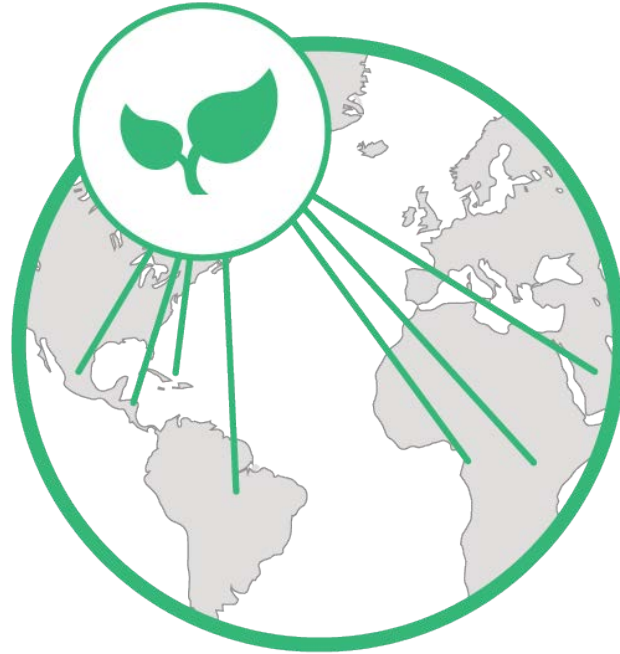
Improved varieties exist



Get them into the farmer's fields and demonstrate their 'profitability' potential

Short term
3-10 years

Global exchange of
world's top varieties
to **19** countries
representing **82 %**
of arabica coffee
production

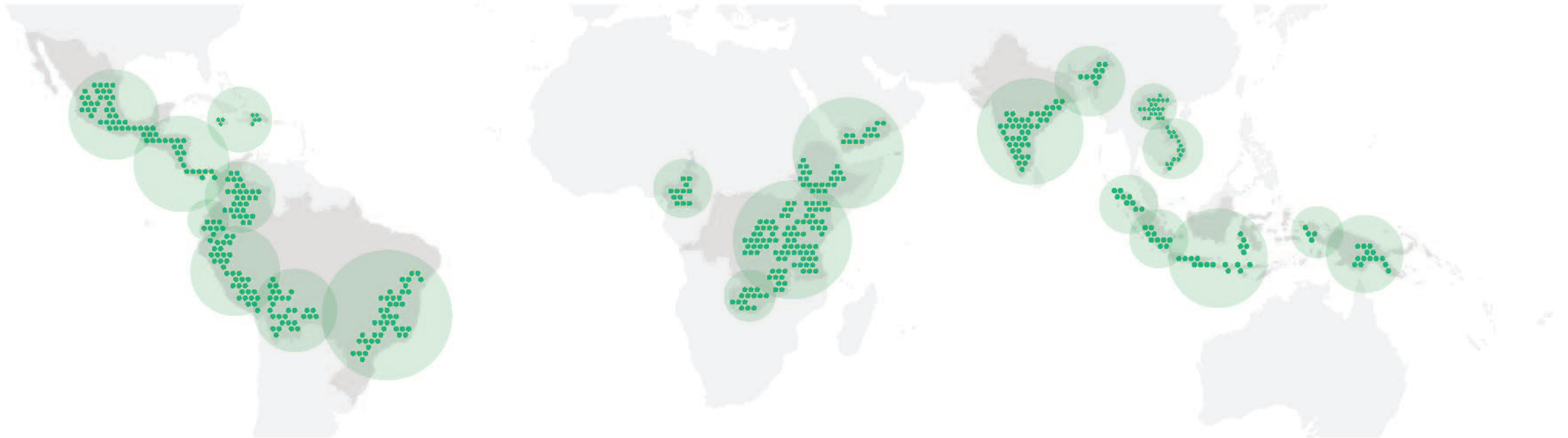


IMLVT

INTERNATIONAL
MULTI
LOCATION
VARIETY
TRIAL

A Global Coffee Monitoring System

Knowledge is money



Short term
3-10 years

On Farm Demonstration Trials

800 trials in 20 countries



Improved varieties tested in farmer fields
2 new varieties on each farm **x**
2 new soil treatments

Demonstrate profitability

Medium
Term
10-20 years

New F1 Hybrid Varieties

Quality • Productivity • Resilience • No GMOs



Medium-Long
term
15-20 years



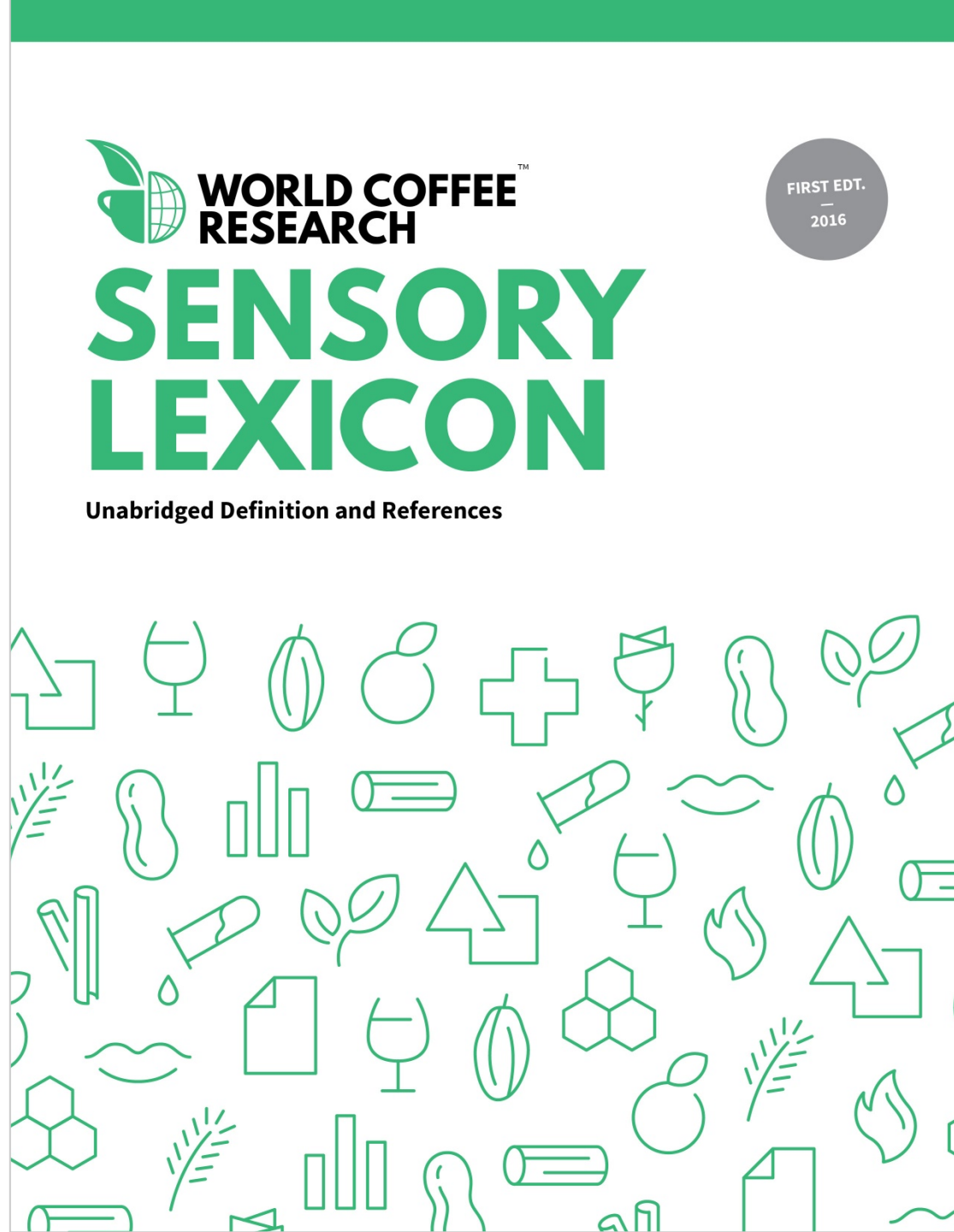
New “Arabusta” Varieties

the Holy Grail of 21st century coffee breeding

Medium term
10-20 years

Sensory Lexicon

A tool to keep
quality at the center



Short term
3-10 years

Variety Catalog

Information for farmers



CENTROAMERICA H1

1

Very high yielding variety if planted in healthy soil, with very good quality at elevations above 1300 meters. Well-adapted to agroforestry conditions.

QUALITY POTENTIAL AT HIGH ALTITUDES

Very Good



YIELD POTENTIAL

Very High



STATURE

Dwarf



COFFEE LEAF RUST

Resistant



NEMATODES (MELOIDOGYNE, PRATYLENCHUS)

Tolerant



COFFEE BERRY DISEASE (CBD)

Tolerant



OPTIMAL ALTITUDE

800–1500 meters

YEAR OF FIRST PRODUCTION

Early

NUTRITION REQUIREMENT

High

BEAN SIZE

Large



LEAF TIP COLOR

Green



Short-Medium
3-20 years

Verified Program

Healthy, genetically pure plants



Nursery Standards

The nursery follows best practices for raising healthy, disease-free plants.



Genetic Purity

The coffee variety has been identified using World Coffee Resources DNA fingerprinting so farmers can be certain they are buying the correct variety.



Education

The nursery makes information about the agronomic performance of different varieties available to farmers so they can make an informed choice.



Breeder's Rights

The nursery gives credit to breeders and their rights are respected.

Long term
20+ years

Coffee Genetic Resources



Preserving coffee, forever



Extreme lack of R&D

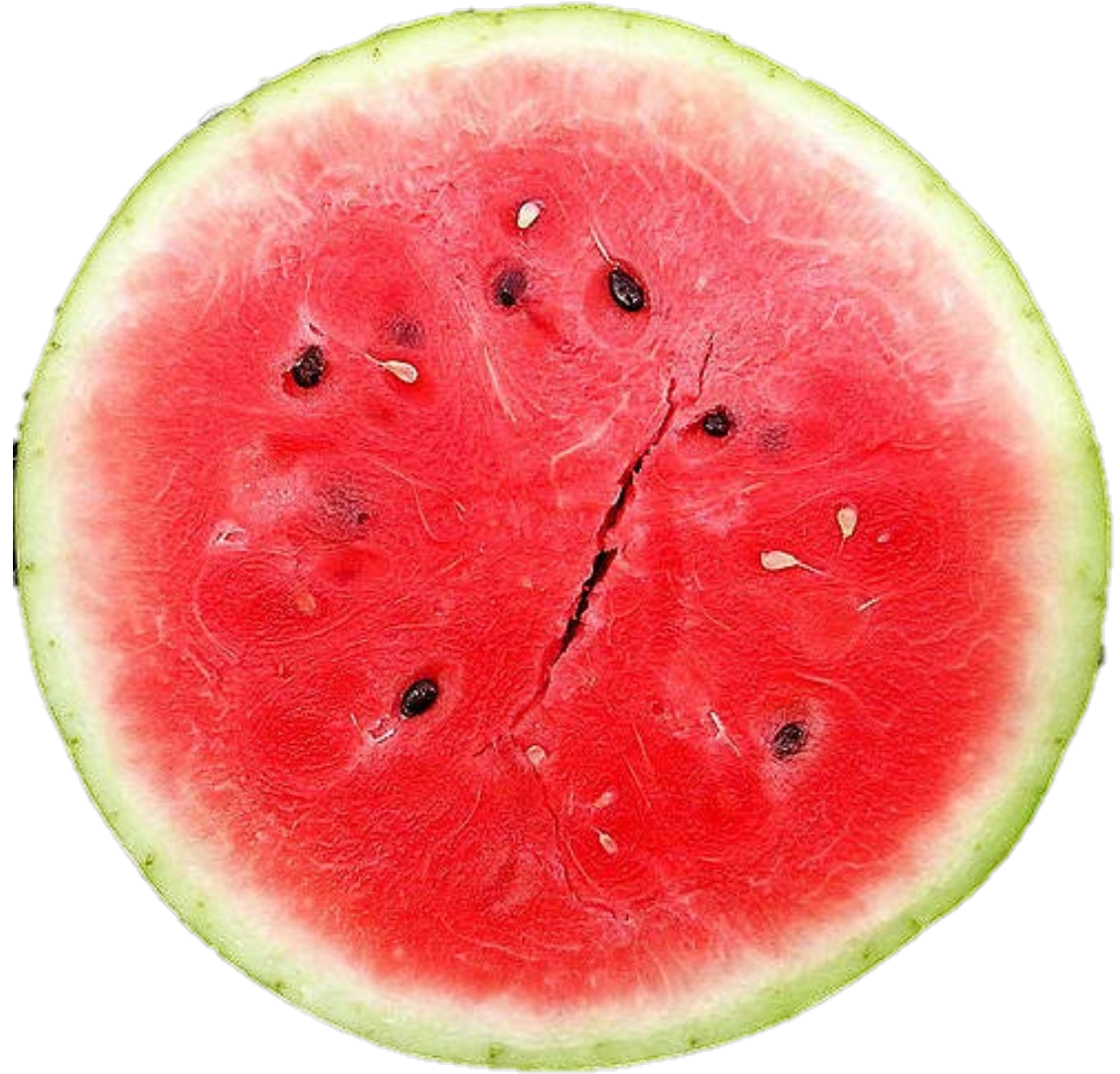


\$74b

 **\$521m**

2,690 varieties

36
Varieties



Comparison of R&D investments in maize vs coffee

	Maize in U.S.	Coffee in world
Total market value	49,000,000,000	100,000,000,000
Total R&D	200,000,000	20,000,000
Percent R&D %	0.4	0.0001

**Will there be any coffee
left in 100 years?**



MARVEL THE AVENGERS

MARVEL STUDIOS PRESENTS IN ASSOCIATION WITH PARAMOUNT PICTURES A MARVEL STUDIOS PRODUCTION A JOSS WHEDON FILM ROBERT DOWNEY JR. "MARVEL'S THE AVENGERS" CHRIS EVANS
MARK RUFFALO CHRIS HEAVSWORTH SCARLETT JOHANSSON JEREMY RENNER DON CHEADLE CLARK GREGG CUBA GOODING JR. WITH STELLAN SKARSGÅRD AND SANNIYI JACKSON AS WAX FLY



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