

Seeds in Common: Genebanks, Breeding Innovation, and the Future of Democratic Seed Systems

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Let's Liberate Diversity | Florence, Italy | May 24, 2026

Structure of this morning's session

Time	Activity
20 minutes	Welcome + Introductions
20 minutes	Opening framing Short presentations from Laura, Bill, and Cat
20 minutes	Small groups in dialogue + Report backs
35 minutes	Strategic recommendations
10 minutes	Synthesis + Closing

Welcome + Introductions

Introductions

What is your name?

Where do you live?

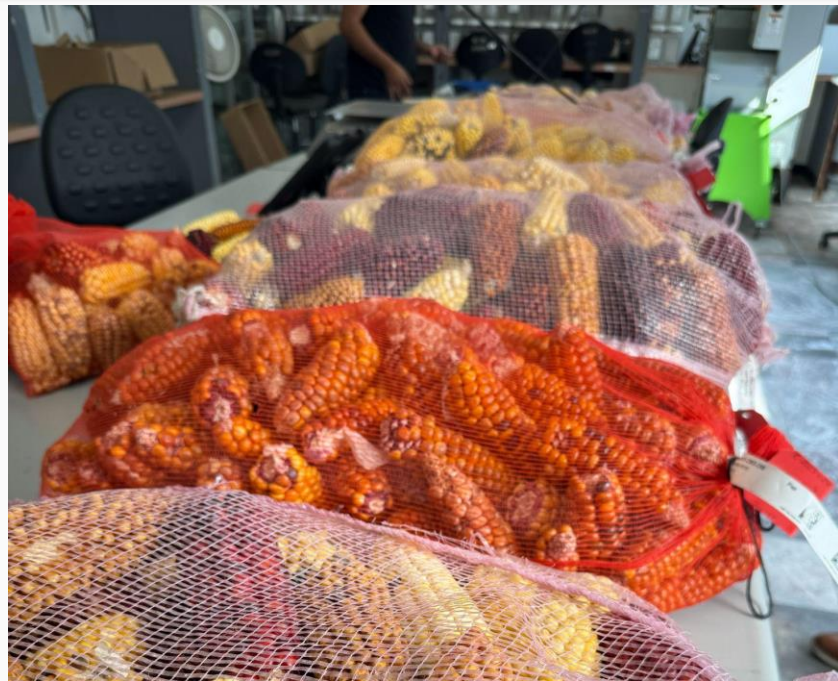
What drew you to this session?



CIMMYT's Genetic Resources Program

CIMMYT manages humanity's most diverse maize and wheat collections. CIMMYT's germplasm bank is at the center of CIMMYT's genetic resources program. This remarkable, living catalog of genetic diversity contains over 28,000 unique seed collections of maize and 124,000 samples of wheat.

CIMMYT sends half a million seed packages to 800 partners in over 100 countries every year.



CIMMYT's permanent collections cannot be privatized or licensed because they are governed under Article 15 of the Plant Treaty, however, derived breeding products may exist under different arrangements.

44%

Global exchange of Article 15 germplasm held by international centers that is WHEAT - the most exchanged and distributed germplasm collection. Maize makes up 11% of global distribution. From 2007 to 2025, approximately 2.6 million accessions were exchanged (over 7 million requests)



Approximately **86% of distributed materials** under the Plant Treaty framework originated from CGIAR genebanks and breeding programs

ITPGRFA Article 15 collections are:



- held “in trust for humanity”
- distributed under the Standard Material Transfer Agreement (SMTA)
- intended for research, breeding, and training for food and agriculture

This is important because it distinguishes CIMMYT collections from:

- proprietary germplasm systems
- bilateral access-and-benefit-sharing frameworks
- purely nationalized genetic resource systems

Most of CIMMYT's major collecting missions were completed by the early 2000s, after which emphasis shifted toward regeneration, characterization, data integration, phytosanitary stewardship, and facilitated international access under the Plant Treaty.

Focus of the past 20 years:

- maintain viability,
- regenerate safely,
- characterize diversity,
- ensure equitable access,
- support rematriation and community stewardship,
- and keep germplasm actively used in breeding and food systems.



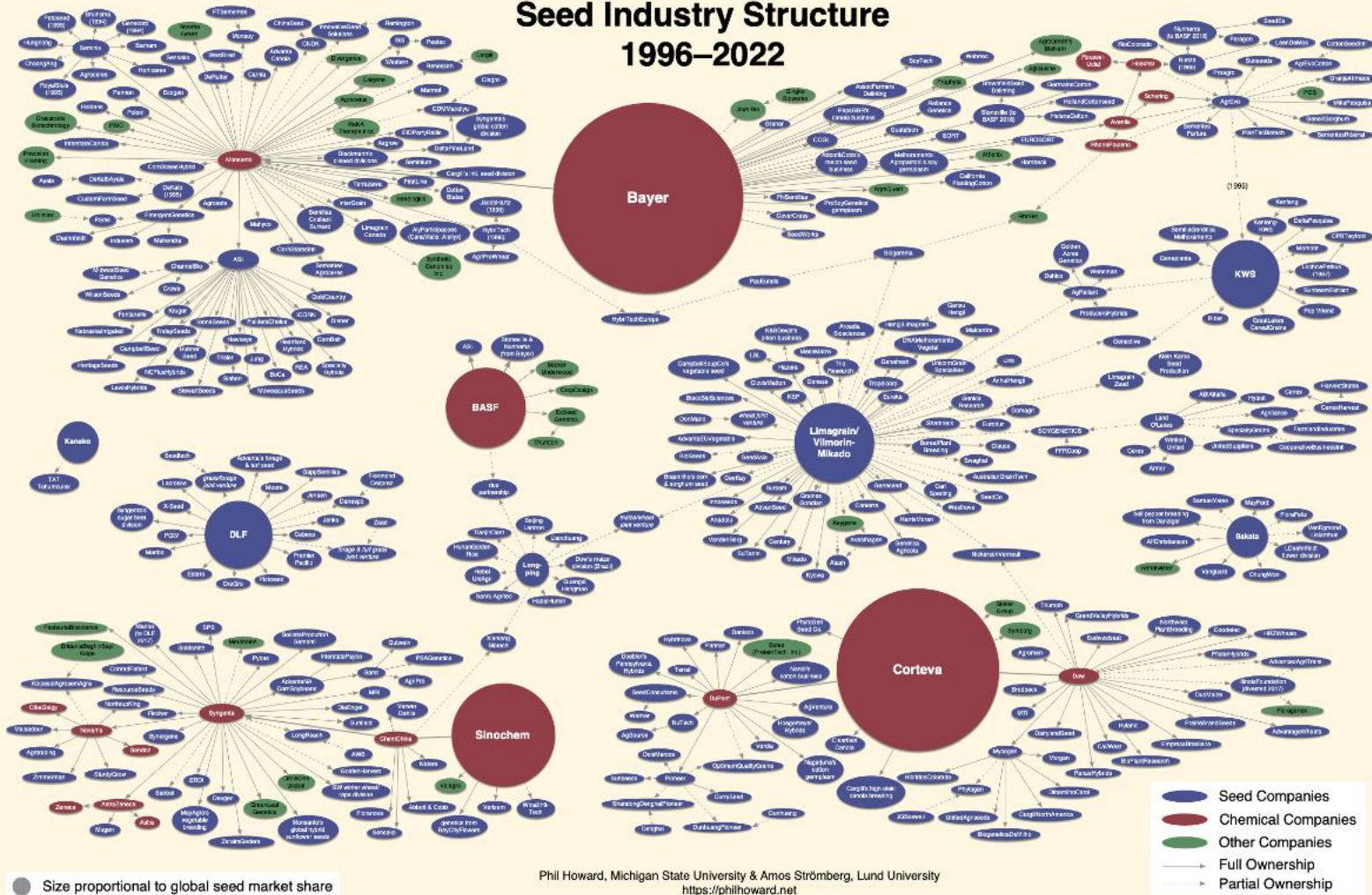
Data blanks by design: Diffusion of U.S. industrial maize model in Mexico

Cathleen A. McCluskey, PhD^{1,2} & William F. Tracy, PhD¹

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Seed Industry Structure 1996–2022



Data blanks by design

- No monitoring since 1990s (Smith et al., 2007)
- 'Data blanks' designed through IP (McCluskey & Tracy, 2024)
- National security risk
- Farmers at risk of crop failure
- Public at risk of food insecurity
- Limiting access to germplasm



Liberalization of North American maize markets



- Green Revolution and high-input agricultural technology modernizations in Mexico
- Establishment of CIMMYT and CGIAR
- Intellectual property and liberalization of Mexico's maize markets



Research: Defining the data blanks

Question 1: What are maize genetic diversity experts' perceptions and analyses of on-farm genetic diversity in the Upper Midwest?

Question 2: In what ways does IP and licenses used on US maize restrict public research and what are the implications?





GE maize, patents, and diversity in Mexico

01

“What GMOs does is that those processes of centralization and lack of control of the evolution in partners’ hands is they become even more...controlled by the companies...I think they continue to create more homogeneity in the system.”

University researcher, P01



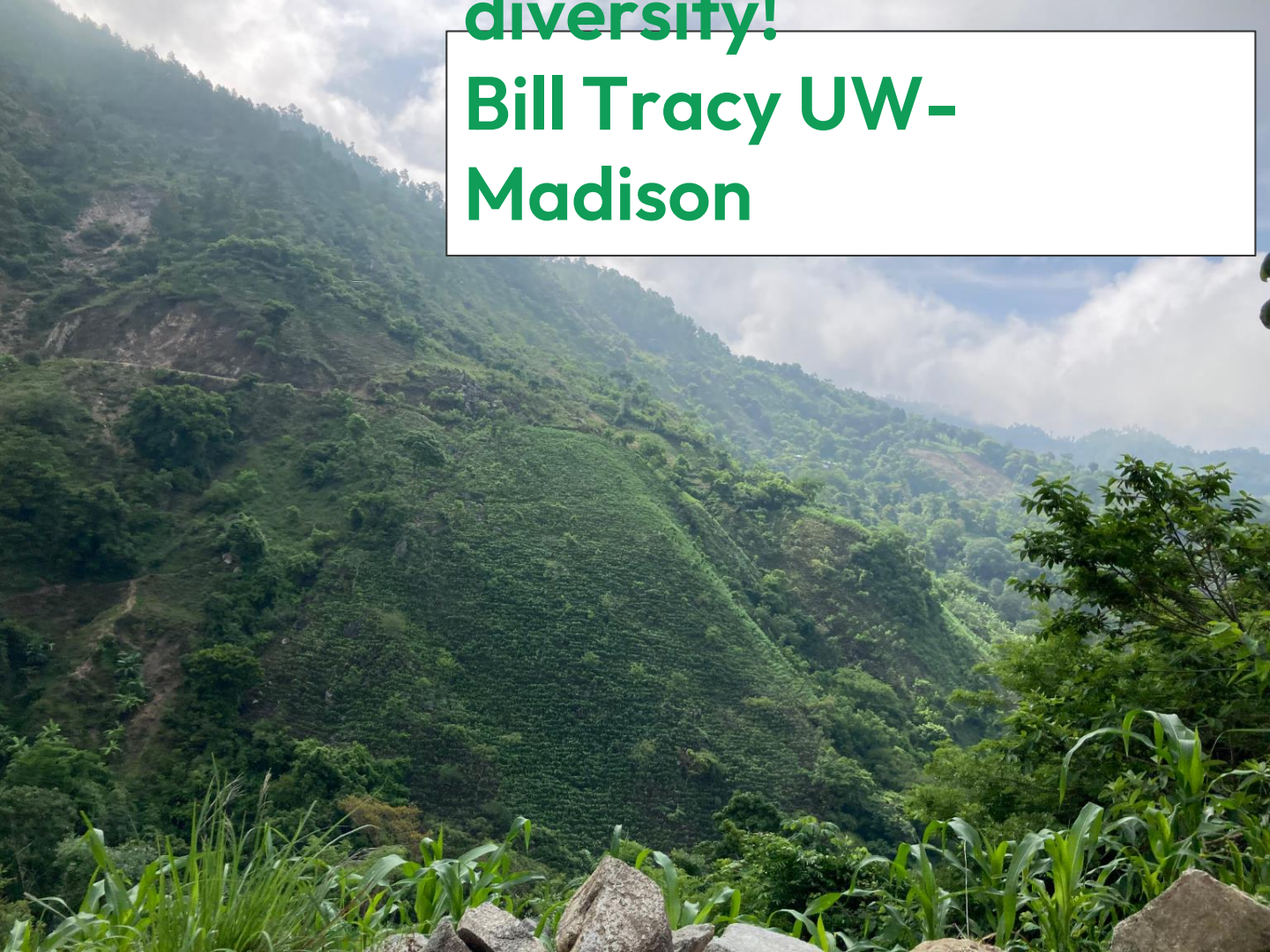
“That kind of [GE] branding of germplasm has some issues for seed sovereignty [and] seed laws across the world because...because to have access to GMO technology they've had to change their seed laws...They [GE seed companies] want to have full IP control and that seems like to me honestly the most concerning part of the expansion of GMO technology.”

University researcher, P42





Artist: A Better Hell



diversity! Bill Tracy UW- Madison

For more than
10,000 years

Seeds were free

- To evolve
- To hold
- To share
- To barter
- To improve
- To be part of us

Today depending on the crop almost completely



Channel.



Severe efforts began in the 50s- 70s

Why?

In US maize professional breeders
loss of traditional varieties

1. why did this matter?

“Loss of genetic diversity means
loss of potential resistance sources”

At the root of this process was the
goal of increasing industrial ag, and
reduce/eliminate traditional ag



Today we are
spending millions of
dollars on ex situ
collections

Nearly zero on *in
situ*



**“Seed banks: The living libraries that
hold answers to disease, pest and
climate problems” ABC NEWS**

Nearly zero dollars
on in situ

Natural Selection

- This is where
evolution occurs

Not in a jar

Oneida elder

“Corn does not belong in
a jar.”

Another elder

‘We are not seed savers’



Grazie!

ORGANIC
seed
ALLIANCE