

Webinar Our Seeds, Our Future: Protecting Biodiversity and Farmers' Rights









Our Speakers



Daniel Wanjama Seed Saver Kenya, INOFO



Edwin Nuijten Chairperson ECO-PB



Laura Lewis Executive Director Organic Seed Alliance



Nicolas Enjalbert CEO SeedLinked



Nurfitri Amir Muhanmmad

Malaysian Food Security and Sovereignty Forum

Moderated by



David Gould General Secretary IFOAM Seed Forum



Seed Sovereignty Now, Everywhere



International Day of Seeds Webinar April 2025

Our mission



> More and better genetic resources

- > Protect value chains from pollution by all kinds of GMOs
- > Engage the mainstream to assure and grow our space

Our Strategy

Global Coordination, Thought Leadership



Global Network – regardless of one's official status or position with regard to the term "organic." The main criterion is a commitment to organic principles.

- exchange ideas
- unify messages
- collaboration using common communications platforms

Policy Advocacy – broad-scale messaging and sector mobilization to:

- regulate and control the use of GMOs
- protect and facilitate the thriving of the organic sector
- enable the development/breeding and market availability of a greater diversity and quantity of high-quality organic seeds.

Research, Learning & Succession – connect researchers, experienced breeders, and new and aspiring breeders and entrepreneurs

- Mentorship programs to assure that the current and next generation can grow and thrive
- Internships
- Training for certification bodies, businesses, and governments in risk assessment, segregation and traceability, and detection methods.
- Global coordination on key research agenda topics
- Enriched standard for organic breeding

Market Platforms

For breeders, seed producers, seed exchange networks, seed companies, farmers, farmers organizations, food processors, traders, brands, and retailers to work interdependently to improve the diversity, quality, and quantity of organically compatible varieties.

Catalyst & Coordinator of the <u>NETWORK</u>

A focus on useful outputs

Roles



Role	Activities
Secretariat	 Facilitate the Seeds Platform Steering Committee, and oversee the execution of its directives; Coordinate and build our network of participants, donors, and other stakeholders; Moderate Working Groups Coordinate/lead development of written materials; Provide accountability and reporting to the Seeds Platform participants and donors Maintain our mailing lists, website and related digital communications Coordination of meetings of the Platform and related events
IFOAM Head Office	Receive and disburse funds, related record-keeping
Infrastructure	

Sites	Functions
Website – <u>www.seeds.ifoam.bio</u> LinkedIn - <u>https://www.linkedin.com/company/ifoam-seeds-platform/</u>	 Basic information about the Platform Links to key documents & resources Digital Directory
Email Listserv	Whole PlatformWorking Groups



https://seeds.ifoam.bio/

The IFOAM Seeds Platform is a global network of individuals and organizations advancing seed and plant breeding for organic systems. Join Us! The Seeds Platform and our Working Groups benefit the whole value chain – breeders, seed companies, farmers, processors, traders, brands, retailers, and consumers.

For more information and to join our mailing list, contact David Gould, General Secretary – seeds@ifoam.bio

Our Objectives

- Increase the use of organically multiplied seeds in organic and agroecological farming globally
- •Select and improve breeding practices for organic agriculture that have environmental and societal benefit
- Widen options and revitalize breeding methods underutilized in conventional agriculture
- •Assure access and create a model for intellectual property rights in organic agriculture
- •Safeguard integrity of plant varieties against genetic contamination (GMOs, NGTs)
- Create market opport unities to make organic seed and its value chains economically competitive
- •Foster a succession plan to enable the next generation of breeders and seed enterprises

Our Central Secretariat Coordinates a Global Network and Focused Working Groups.

Global Positions to Unite the Organic Movement





Global Safety & Risk Assessment Protocol

for New Genomic Technologies Version 1.0, June 2023¹

I. Truly Responsible Use

The environmental release and widespread production and consumption of genetically modified organisms (30(4)) action them id-39(b) on task test environs collocations and the concerns. Note recently, the advect, wide accessibility, and relative speed of new genomic techniques of genetic concerns. The second second

This brief document proposes guidance for a globally adoptable risk assessment protocol and associated code of ethics for safer development and environmental release of organisms created through all types of genetic engineering. All governments are encouraged to adopt the components of this Protocol into the protocol into the second second





Thank you.



David Gould, General Secretary

www.seeds.iloom.bic



A holistic concept on organic plant breeding; the perspective of ECO-PB for the future Edwin Nuijten

Criteria for Organic Plant Breeding



Position paper of Eurpean Consortium for Organic Plant Breeding (ECO-PB) 2012

- Genome and cell is respected as indivisible entity, no technical/physical intervention (e.g. isolated DNA) → no technical/physical intervention (e.g. cell fusion)
- Maintain reproducibility in species specific manner
- No legal or technical barriers to restrict breeders' privilege
- Natural crossing barriers are respected
- Promotion of open pollinated varieties as alternative to F1 hybrids to enable farm saved seed
- Transparency
- https://www.eco-pb.org/fileadmin/eco-pb/documents/discussion_paper/ECO-
 - PB_Postition_paper_2012_Translated2019_French_Version.pdf

IFOAM International: Position Paper on New Breeding Techniques 2017 Draft February 2017, consultation and final approval on General Assembly of IFOAM in November 2017 <u>https://www.ifoam.bio/compatibility-breeding-techniques-organic-systems</u>

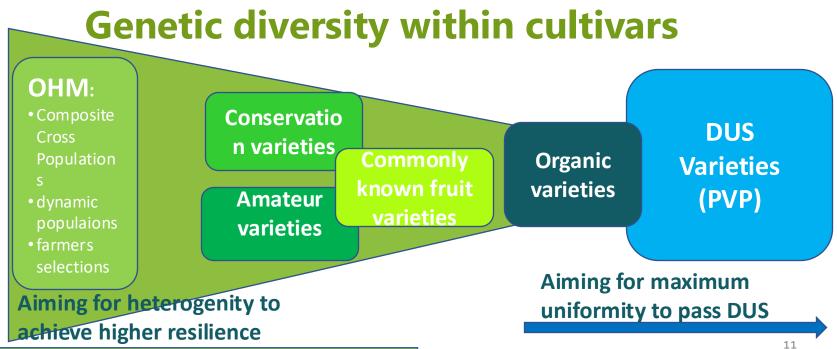
Transparency & traceability to allow freedom of choice for farmers & consumers



ORGANIC PLANT BREEDING & SUSTAINABILITY

TODAY

Different types of NGT / GMO-free cultivars are needed to fulfil the diverse needs of the organic farming and food sector

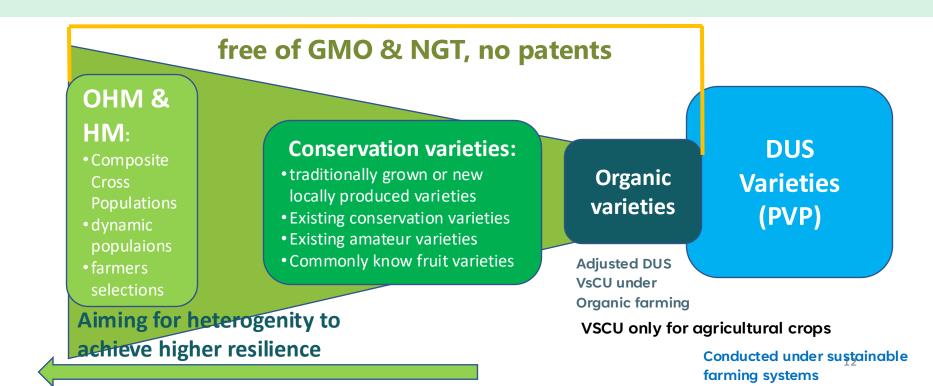


ORGANIC PLANT BREEDING & SUSTAINABILITY

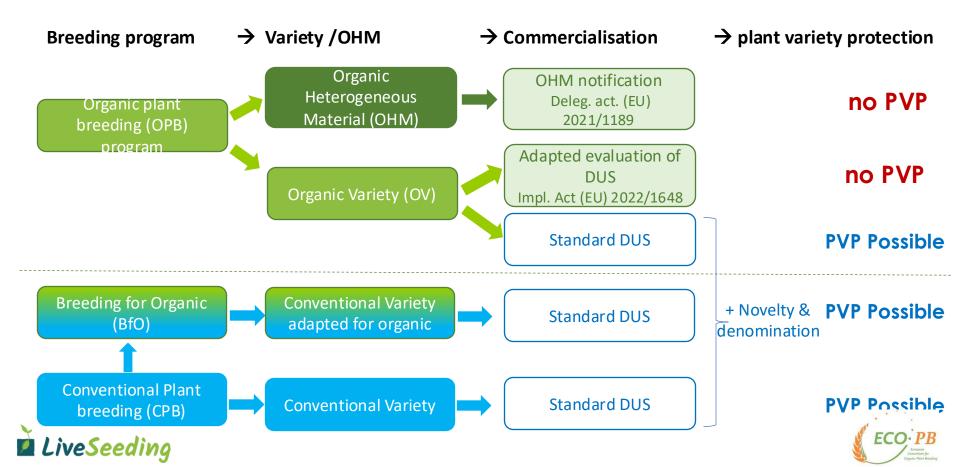
Future

New PRM law: options for different cultivar types need to be maintained to promote organic and other sustainable farming systems

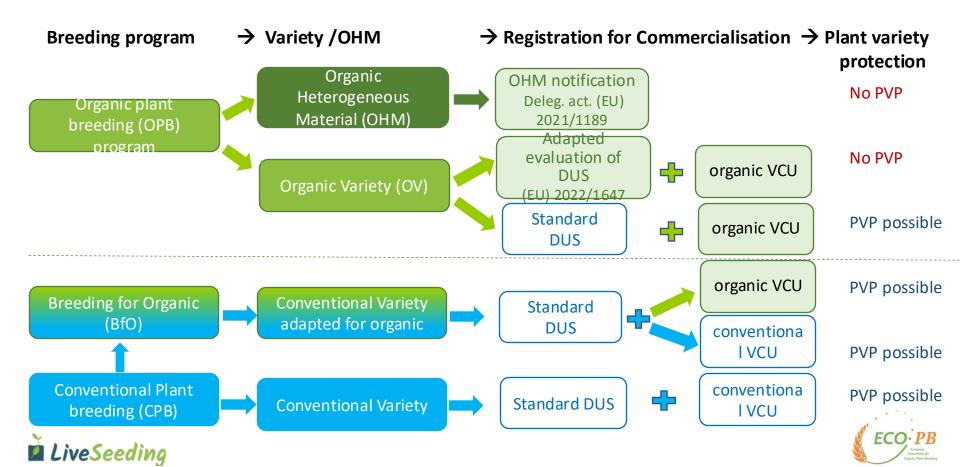




Variety registration for vegetable crops

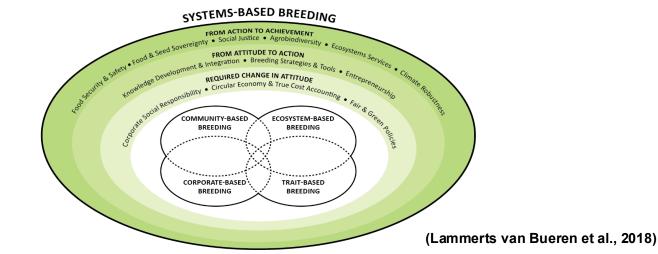


Variety registration for agricultural crops

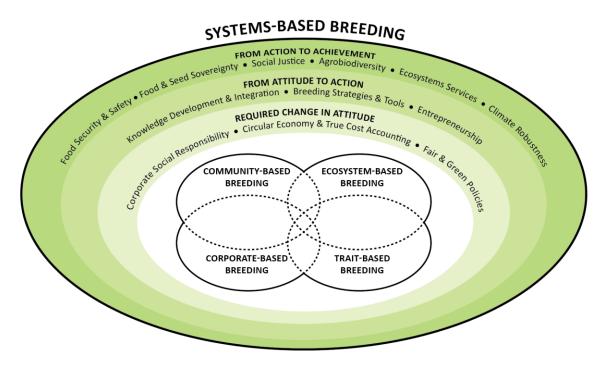


- More varieties and populations adapted to organic and diverse local contexts
- Maintaining accesses to a broad genetic basis for future breeding
- Diversified breeding strategies needed
 - Adaptation to a wide range of soil and climatic conditions
 - Resilience through disease resistance and enhanced plant-soil-microbiome interaction
 - Culinary breeding aiming at improving nutritional and sensory quality of food
- Opportunities:
 - Growing interest in agroecology and organic farming
 - European Organic Farming Regulation (EU 2018/848): OHM and OV
 - Phasing out of non-organic certified untreated seed by 2036
- Threats:
 - Potential deregulation of New Genomic Techniques (NGTs) in 2026
 - Lack of clarity which plants can still be used for further breeding could hinder the crucial work of plant breeders

- Hence: developing positive alternatives is a priority
- These alternatives must integrate multiple dimensions, including agronomy, market dynamics, financing, taste, and nutritional quality
- Fostering a broad range of breeding strategies, from farmer-led initiatives to scientific breeding, strengthens both ecological and societal resilience
- To ensure coherence, the systems-based breeding approach to be adopted as a framework: provides a structured perspective on the different alternatives, highlighting their respective advantages and limitations



systems-based breeding approach:



Six key-elements (goals):

- 1. Social justice
- 2. Food quality security and safety
- 3. Food and seed sovereignty
- 4. Agro-biodiversity
- 5. Ecosystem services
- 6. Climate robustness

- To strengthen the capacities of ECO-PB's members and breeders, the following key activities must be actively pursued through the working groups established in 2024:
- 1) Policy support
 - on plant reproductive material
 - GMO / NGTs
 - other issues relevant to organic breeding and organic agriculture
- 2) Education in organic plant breeding at various levels, from farmers to scientists
 - Young breeders network
 - Other forms of exchange to be developed
- 3) Development and improvement of tools, methods, and approaches
 - suited to organic breeding
 - ensuring maintenance of and access to genetic diversity at different scales
 - from farmer-led initiatives to scientific breeding
- 4) Exploration of innovative financing approaches for organic breeding and the preservation of genetic diversity

European Consortium for Organic Plant Breeding Upcoming plans

- Thank you for your attention!
- Any questions?

Strengthening Farmers' Rights via Community Seed Reserve Initiative Against UPOV91 and Seed Laws

Nurfitri Amir Muhammad Project Leader, IRBK Head Coordinator, FKMM



Our Seeds, Our Future: Protecting Biodiversity and Farmers' Rights 23 April 2025 | 3 pm CEST







The Forum Kedaulatan Makanan Malaysia (FKMM) - Malaysian Food Sovereignty Forum is a discussion and action platform to strengthen food sovereignty in Malaysia. FKMM advocates for farmers' rights and policy changes toward agrobiodiversity and agroecology. FKMM was established in 2019 on the issue of the proposed enactment of the Seed Act and amendments to the Malaysian New Plant Variety Protection Law to be in line with the UPOV 1991 Act, which will prevent farmers from freely saving, sharing, and selling seeds. Together with other partners, FKMM has established the Community Seed Reserved Initiative, which is a center to gather all seed savers in Malaysia and a record or inventory of the variety of seeds saved by the seed savers.



The Community Seed Reserve Inventory Initiative (IRBK) is a joint effort between agricultural NGOs and garden enthusiasts to encourage the traditional practice of saving, sharing and sell seeds freely and ethically

What are farmers' rights regarding seeds?

The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) was adopted by the 31st Session of the Conference of the Food and Agriculture Organization of the United Nations (FAO, UN) on 3 November 2001 and entered into force on 29 June 2004. Its objectives are the conservation and sustainable use of plant genetic resources for food and agriculture, and the fair and equitable sharing of benefits arising from their use, for sustainable agriculture and food security.

Article 9.1 provides that Contracting Parties recognize the enormous contribution that local and indigenous communities and farmers in all regions of the world have made and will continue to make to the conservation and development of plant genetic resources.

What are farmers' rights regarding seeds?

Article 9.2 each Party also agrees to take measures to "protect and promote Farmers' Rights" including:

The right to the protection of traditional knowledge relevant to PGRFA;

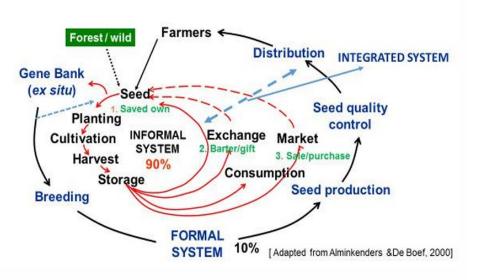
The right to equitably participate in sharing benefits arising from the utilization of PGRFA;

The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA. Article 9.3 clarifies that nothing in Article 9 "shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material".

Besides ITPGRFA, farmers' rights are also mentioned in other international agreements and declarations such as CBD, UNDROP, UNDRIP, and CEDAW.

What is a Seed System

"A seed system is the network of stakeholders involved in providing, managing, replacing, and distributing the seed of a particular crop in a certain area. In a formal seed system, these components are regulated by the public sector, e.g., standards are set by the government; in an informal seed system, the farmers themselves manage these components "



Types of Seed Systems

FORMAL VS INFORMAL SEED SYSTEM

FORMAL

- Uniform certified seeds
- Mostly protected by PVP law and seed law
- Predominantly used in commercial agriculture
- Governed by strict regulations and quality control mechanisms

INFORMAL

- Mostly not uniform uncertified seeds
- Locally adapted seeds
- Predominantly used in local and small-scale farming
- Governed by local customs, traditions and practices

What is the UPOV 1991 Convention?



UPOV stands for the International Union for the Protection of New Varieties of Plants. UPOV is based in Geneva, Switzerland. It was established in 1961 by European seed companies and is not part of the UN or WTO. Countries wishing to join the UPOV Convention must amend their national PVP laws to align with the UPOV 1991 Act.

Key Features Of The UPOV 1991 Act

	Extensive monopoly rights (20-25 years) granted to breeders of new plant varieties characterized by NDUS (Novelty,
	Distinctness, Uniformity, Stability). Focus is placed on the uniformity characteristic of the variety.

Farmers' Rights are very limited, especially the right to save, use, sell, and exchange farm-saved seed/propagating material of protected varieties.

The right to save seed is restricted to specific crops and may be subject to royalty payments. (Note: UPOV 1991 makes farmer's privilege optional for member states).

Exchange and sale of farm-saved seed/propagating material is NOT allowed, even among small farmers.

Does not allow any provisions to protect public interest and to ensure national laws are mutually supportive.

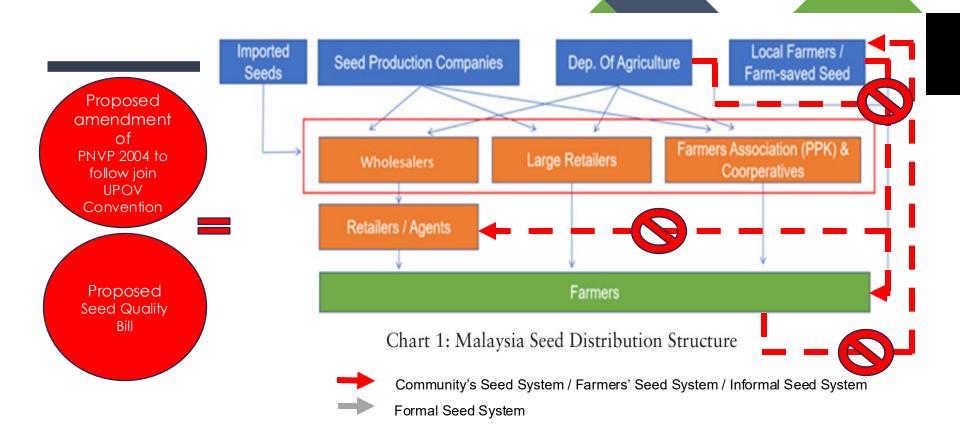
Does not allow mechanisms that prevent biopiracy of local genetic resources. For example, using local varieties for further breeding without obtaining consent from local communities and paying fair and equitable benefit sharing.

What is Seed Law?

Seed Law is a set of national laws and regulations that govern the quality, production, certification, testing, labeling, distribution, and sale of seeds used for planting, primarily in agriculture.

Aspect of control: Quality Assurance Labeling Marketing Plant Disease

Sometimes linked to Plant Variety Protection. While often covered by separate legislation (like Plant Breeders' Rights or Plant Variety Protection Acts), seed laws can interact with intellectual property rights for new plant varieties



While proponents argue UPOV 91 and modern seed laws stimulate breeding investment and provide quality assurance, critics highlight a fundamental tension: the push towards privatization, uniformity, and control clashes directly with the principles of common heritage, diversity, and farmers' autonomy that underpin traditional seed systems and agrobiodiversity.

Community's Seed System / Farmer's Seed System Is Not Informal

Farmers' Seed Systems should be seen as a formalization of informal seed systems. They play a critical role in contributing to household seed security for resource-constrained households, and in supporting the use of diverse crop species.

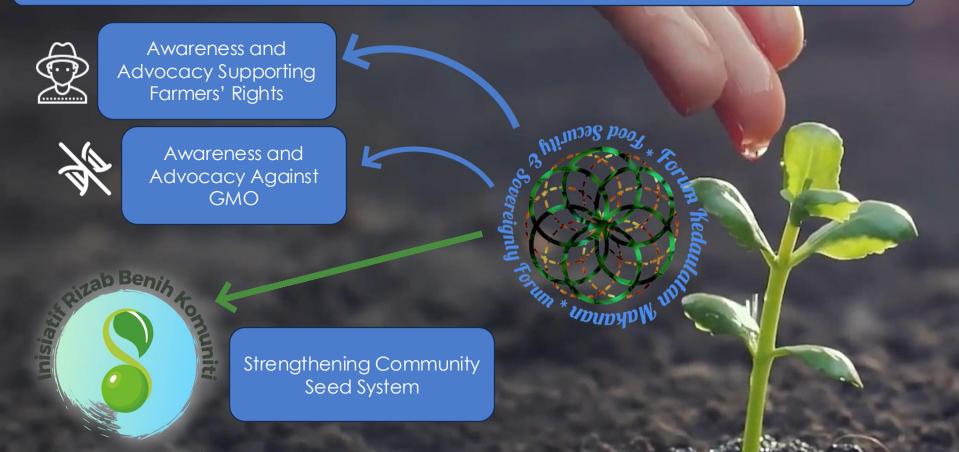
However, such systems have not been fully drawn upon by government and development agencies in seed security endeavors. The community itself must plan strategies and elevate their practices until they are recognized.



Inisiatif Rizab Benih Komuniti (IRBK)

formalizing the community's seed system in Malaysia

Full recognition of the Community Seed System as the formal seed system by the government is important to support FKMM's farmers' rights and anti-GMO campaigns



Objectives & Mission

Empowering Agricultural Rights

To strengthen agricultural rights, ensure access to seeds and protect common ownership so that it is not exploited for personal gain or commercial gain

Practicing Agrobiodiversity Together

To jointly care for and conserve agrobiodiversity or agricultural biodiversity, especially heritage or local seeds Promoting Seed Sharing Culture Among Farmers and Gardening Enthusiasts

To foster the spirit and practice of saving, caring for, sharing and exchanging seeds among farmers and gardening enthusiasts

Awareness of the Legislation of Common Seed Rights

To give awareness about the existence of legislation and agreements that can affect the common right to seeds or ownership over the use of seeds



Seed Guardians

Listen to the story of the **IRBK Seed Guardian** from various backgrounds in the mission of conserving agrobiodiversity and agricultural biodiversity

90 documented seed savers 51 in process

14 states

59 Individuals

31 organizations

23 Urban 67 Rural / Suburban



You can find the seed you want by entering the Local Names of Plants, Botanical Name, Variety, Uses of Plants, Special

Features, Year of Seed Produced or Seed Type in the search box below



2519 inventory of plant collections	8 categories of propagation materials	9 categories of plant use	8 categories of plant
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Banana Collections In IRBK Database





Thank you

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CULTIVATING SEED JUSTICE IN KENYA



CONTEXT

- Kenya's Agricultural Landscape FMSS provide over 80% of seeds used in Kenya
- Over 80% of farmers are small scale
- Farmers Seeds are not recognised in policies base on UPOV 91



CHALLENGES

- Illegal to share exchange and sell farmers seeds
- Organic seeds are illegal
- Biopiracy
- Biased research from public institutions for FMSS
- Push for GMO
- Limited seed access

Public litigation

NATIONAL | PEASANTS' STRUGGLES

Kenyan Farmers Challenge the Constitutionality of Seed Law

By Jack Kloppenburg - Open Source Seed Initiative • July 7, 2024

In 2022, fifteen farmers from different regions of Kenya filled a lawsuit against the Seeds and Plant Varieties Act. This law prohibits and even criminalizes the sale and exchange of peasants seeds by the farmers that have developed them. The claim of the fifteen farmers is based on the Constitution of Kenya. As you will read in this article, this Act is in direct contradiction with the farmers rights enshrined in the Kenyan Constitution and an obstacle to the development of their activities and livelihood. It is also a direct violation of UNDROP article 19 on the right to seeds. The first paragraph of the article states that peasants have : " (d) The right to save, use, exchange and sell their farm-saved seed or propagating material". Any law saying otherwise is then in contradiction with UNDROP and must be changed.

On July 24th, 2024, the case will be heard by the Court, it could be a precedent making case that deserve attention and support. This action is a very good example of how a legal strategy can be rooted in peasant struggle and led directly by them.

- 15 farmers from SSN filed a case in Machakos challenging the Seed and Plant Varieties Act.
- Farmers from Kitui, Nakuru, Machakos,





Press Release

For Immediate Release,

Seed Savers Network Calls for Reconsideration of Bt Maize Trials in Kenya

06th January 2025; Seed Savers Network (SSN) remains committed to protecting agrobiodiversity and strengthening farmer-managed seed systems in Kenya. As a network of 88,600 farmers and 4,820 organizations, SSN is deeply concerned about the proposed environmental release and commercialization of genetically modified Bt maize (MON 89034). In this regard, SSN, on 6th January 2025, submitted these concerns as comments to the National Biosafety Authority (NBA) on behalf of its network, demanding a reconsideration of the application due to the significant threats it poses to local maize varieties, farmers' rights, and food sovereignty.

Key Concerns

- Contamination of Local Varieties: Bt maize introduces the risk of cross-pollination with local, openly pollinated maize varieties (OPVs), endangering over 1,100 maize accessions preserved in 106 community seed banks across the country. This contamination undermines farmers' ability to save and share seeds, which are essential for food security and biodiversity.
- Impact on Food Sovereignty: Approval of Bt maize creates long-term dependency on foreign seed corporations, marginalizes smallholder farmers, and compromises Kenya's food sovereignty.
- Socio-Economic Implications: The financial burden of adopting Bt maize, including higher seed costs and dependency on pesticides, directly harms smallholder farmers, threatening traditional seed-saving practices and destabilizing rural economies.

Legal and Policy Framework

The **Biosafety Act of 2009** requires that any decision regarding the release of genetically modified organisms (GMOs) be made with a thorough consideration of the socio-economic impacts, including risks to biodiversity and the livelihoods of local communities. This legal framework emphasizes the need for caution and thorough assessment before the adoption of such technologies.

Additionally, the **Cartagena Protocol on Biosafety**, to which Kenya is a signatory, emphasizes the precautionary principle, requiring that the introduction of GMOs must prioritize the protection of biodiversity and human health. The **International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)** further reinforces Kenya's commitment to conserving plant genetic resources and safeguarding farmers' rights to save, use, exchange, and sell farm-saved seed. These frameworks collectively highlight the importance of protecting Kenya's rich agrobiodiversity and ensuring that any biotechnological interventions do not compromise the rights and livelihoods of smallholder farmers.

Recommendations

SSN demands that the NBA:

- Upholds the precautionary principle in accordance with the Cartagena Protocol on Biosafety and the Biosafety Act of 2009
- 2. Invests in agroecological practices that protect biodiversity and enhance farmers' resilience.
- Conducts thorough, independent socio-economic and environmental impact assessments with stakeholder participation.
- Safeguards local seed systems by rejecting technologies that cause genetic contamination and erode farmers' rights.

For more information, contact: info@seedsaverskenva.org

GMO Court Battles Intensify



🛔 Idara 🛛 🛛 March 8, 2025 🛛 🗁 Bio, Counties, Courts, Nairobi

00

Controversy surrounding the promotion of Genetically Modified Organism (GMO) last Friday took a full circle after the Court of Appeal overturned earlier rulings lifting the ban imposed on the technology.

In the latest twist the Kenyan Peasants League secured a conservatory order stopping the government from takina any further action to allow or permit the importation of GMO crops and food into the country pending determination of their appeal.

"We are persuaded that, in the circumstances of this case and given what is at stake, the precautionary principle militates in favor of granting conservatory orders during the pendency of the appeal," the ruling read in part

The Petitioners argued that the earlier decision to lift the GMO ban was done without due consideration of scientific evidence highlighting potential health and environmental risks.

Spearheading review of SPVA and ABS regulations for the realisation of Farmers' Rights





Grassroot movement building for advocacy



Public engagement through the media



Citizen TV Live



State urged to promote indigenous foods production

by Charles Mwangi @PeopleDailyKe

The national government has been urged to come up with laws and policies geared towards promoting production of indigenous crops and access to their seeds.

Central Rift farmers have emphasised the importance of growing indigenous crops as a way of enhancing food security in the wake of harsh effects of climate change.

The farmers under Makongo Agriculturalists Network (MAN) have petitioned the government to address shortage of indigenous seeds and food, organic farm inputs and ensure access to markets.

"Conservation and use of traditional crop varieties provides a wealth of crop genetic diversity and should be recognised as critical to climate change adaptation. We need systems to identify and document all Kenyan seed varieties to protect their sovereignty, history and boost food security," said Francis Ngiri, their spokesman.

Ngiri spoke during an Indigenous Seed Networking and Exhibition Symposium organised by Seed Savers Network in collaboration with the County Government of Nakuru at Makongo Trading Centre in Gilgil.

Small holder farmers

The exhibition brought together smallholder farmers, crop and weather experts among other professionals with the farmers regretting the ban on the sale of uncerti-



fied seeds, including traditional seeds.

Kenya Plant Health Inspectorate Service (KEPHIS) reports indicate that the informal seed sector in Kenya accounts for between 60-70 per cent seeds planted by farmers across the country.

"Most farmers in Kenya rely on the traditional seed sector, yet the country's seed laws and regulations do not recognise the informal seed sector. This should be reviewed," said Ngiri.

As a way of navigating through this, Seed Savers Network has urged farmers to join groups and have their seeds coded in community seed banks to lock out bio-piracy and stealing of their indigenous seeds. "Legislators should come up with laws that will allow farmers to produce these crops as they are safer and healthier using the readily available seeds," he said.

Under the network, the farmers are encouraged to embrace organic farming as a way of enhancing their safety and reducing cost of production with the end goal being boosting their incomes.

POLICY ADVOCACY AT INTERNATIONAL FORUMS

CBD & ITPGRFA

- Expansion of multilateral system
- Access and benefit sharing of Farmers varieties





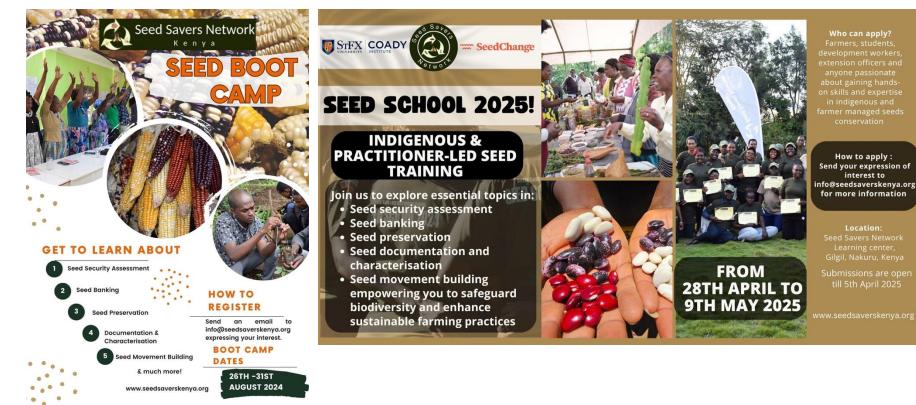
DOCUMENTATION & PROTECTION OF TRADITIONAL KNOWLEDGE IN SEED PRESERVATION



CHARACTERISATION AND PROTECTION OF FARMERS VARIETIES



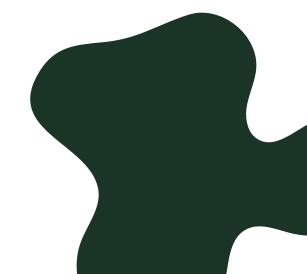
CAPACITY BUILDING ON SEED ADVOCACY



THANK YOU!

CONTACT US:

WWW.SEEDSAVERSKENYA.ORG

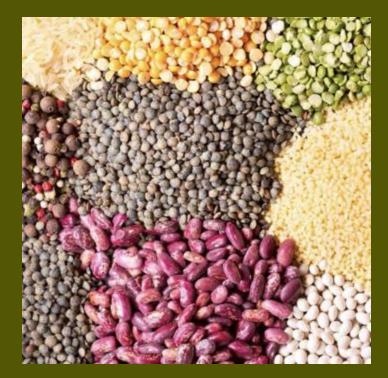


Our Seeds, Our Power

Protecting Farmers' Rights and Defending Biodiversity IFOAM Seeds Day 2025 Laura Lewis, Organic Seed Alliance

Why Seeds Matter

- Seeds are the foundation of agriculture
- Control over seed = control over food systems
- Biodiversity and climate resilience start with seeds



Who We Are – Organic Seed Alliance

- **Mission:** Organic Seed Alliance puts the power of seed into the hands of growers. Our work promotes an abundant and diverse supply of organic seed, tended in perpetuity by skilled, diverse, and interconnected communities of seed stewards.
- Based in the U.S., working nationally with global partnerships
- Founded in 2003

What We Do

- Research: Seed production and participatory plant breeding
- Education: Online, on-farm trainings, summits, and conferences
- Advocacy: Policy support for organic and farmercentered seed systems
- Outreach: Seed stories, networks, publications, resources



Impact Highlights

- 25+ educational courses and seed guides
- Over 5,000 farmers trained
- Policy victories at state and federal levels
- National leadership in organic seed policy

State of Organic Seed

- Only 31% of U.S. organic growers consistently use organic seed
- Widespread use of nonorganic seed persists
- Enforcement of organic seed rules remains weak



Key Challenges Identified

Lack of availability of organic seed varieties
Insufficient quantity and trait diversity
Buyer/processor constraints
Inconsistent certifier enforcement

Opportunities for Change



- \$39.8M in new investment in organic plant breeding (2017– 2022)
- 40% of organic producers are interested in producing seed
- Regional seed systems and networks growing stronger

Strategies for Seed Sovereignty

- Strengthen organic seed sourcing policies
- Invest in farmer-led plant breeding
- Build robust education, training, and research infrastructure



Resisting Corporate Control

- Corporate consolidation limits choice and increases dependence
- Utility patents restrict access to seed
- Farmer seed rights must be upheld and expanded



Call to Action

- Support policies that protect farmers' rights
- Fund organic seed research and education
- Join regional seed networks and advocacy efforts





Email: laurajean@seedalliance.org Facebook: Organic.Seed.Alliance Instagram: Organic_Seed_Alliance



Harnessing Collective Intelligence: How Digital Tools May Transform Local Breeding

Empowering growers, researcchers, and communities through participatory, data-driven innovation



Nicolas Enjalbert





A system change solution to diversity

Today

Tomorrow





Diverse

Homogenous



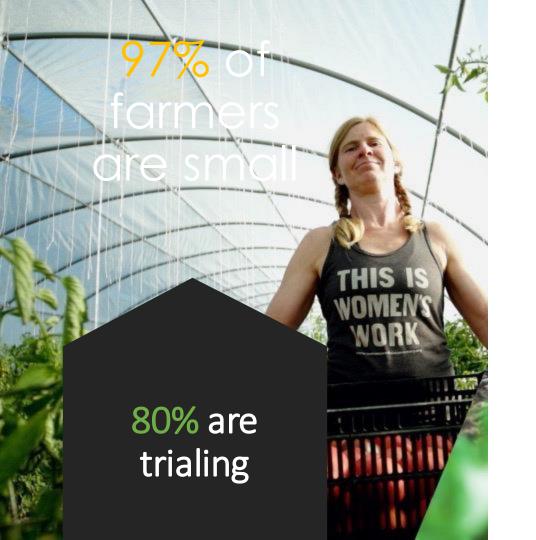
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Assuring livelihoods for ind. breeders

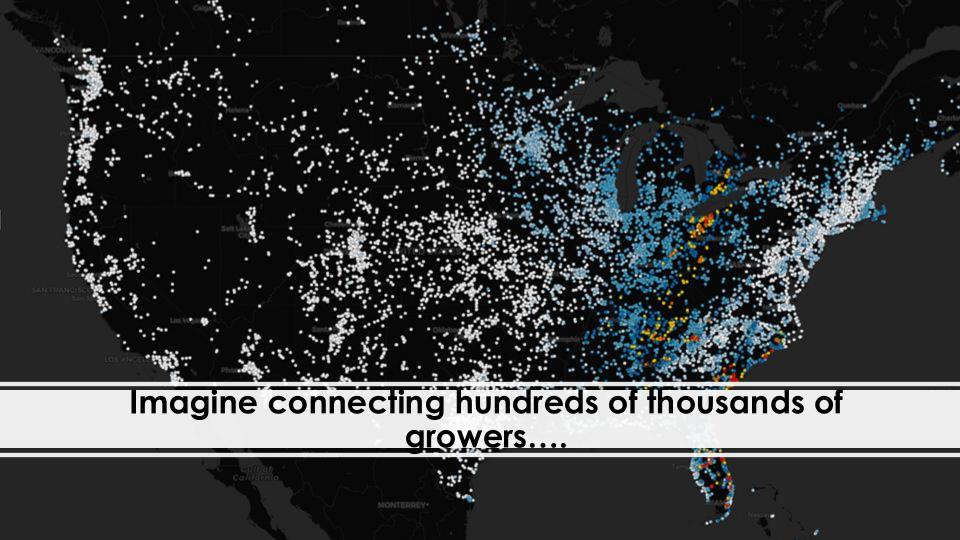
How digitization transformed us?

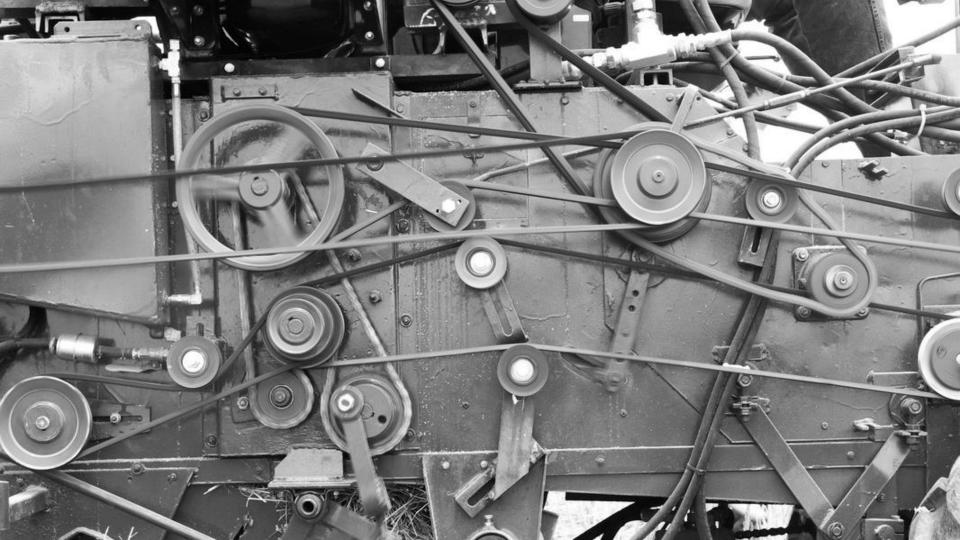




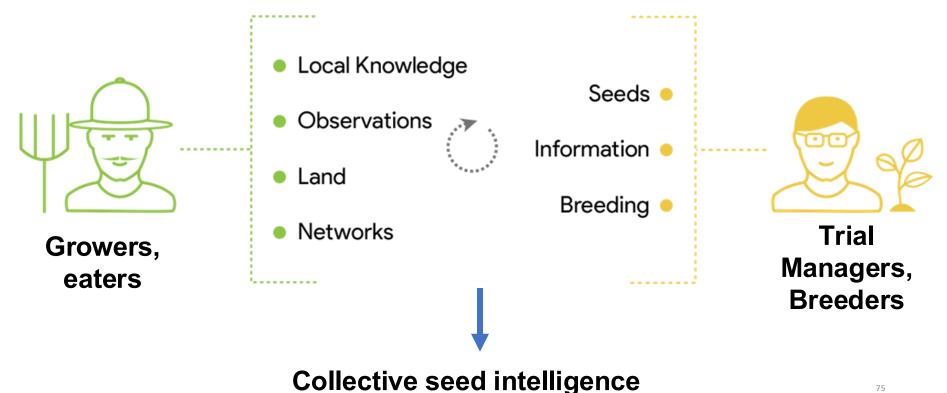
500 million

70% of the food...





A Two-Sided Digital Platform



75

SeedLinked Q Explore * Track < Share Variety Track All Rating 4 Maturity Seller Bronze Torch Frogsleap Farm Victory Seeds 65 MJ Compare Track Amish Paste 70 Nature and Nurture Compare Nature and Nurture Seeds Coode Red Torch 60 A.P. Whaley Compare Track A P Whaley Lucky Agi 64 Seed Savers Compare Artisan Seeds Rainbow Cherry Mix FEDCO Seeds I Compare Track otally Tomatoes Green Zebra High Mowing Organic Compare Track 64 High Mowing Organic Seeds Seeds

600,000 varieties 10,000 growers

Seed Bank characterization, the ingredients of tomorrow varieties



Breeding the variety of the future with growers at 5X cheaper

Flavor Score 4.8

COMPARE BY TRAIT



Growers: Finding the right seed powered with grower's insights



Collaborative Platform



TRACK Innovate together

FEED

Connect & Interact

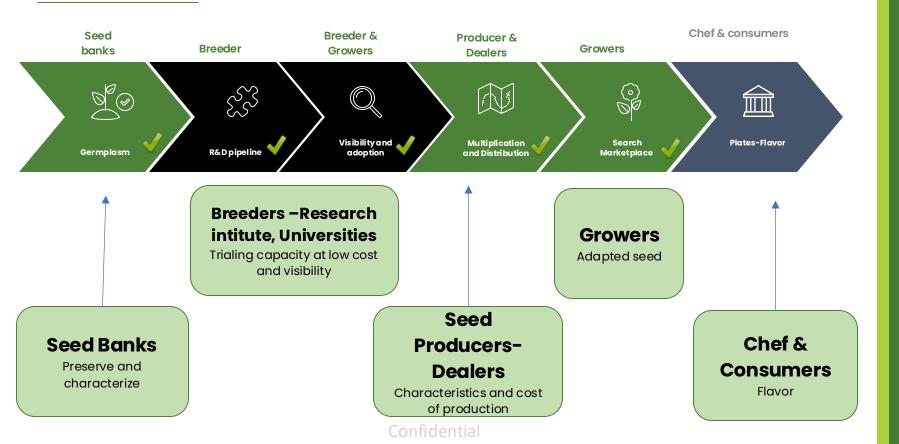
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SEARCH

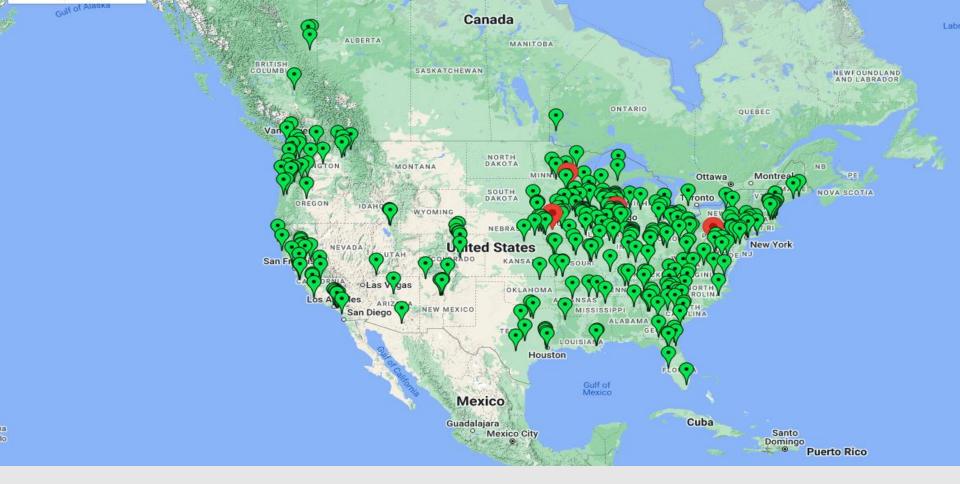
Explore and find

Seed Supply Chain

Building a Digital Ecosystem: From Germplasm Selection to the Consumer's Plate



Parent screening: 30 lines

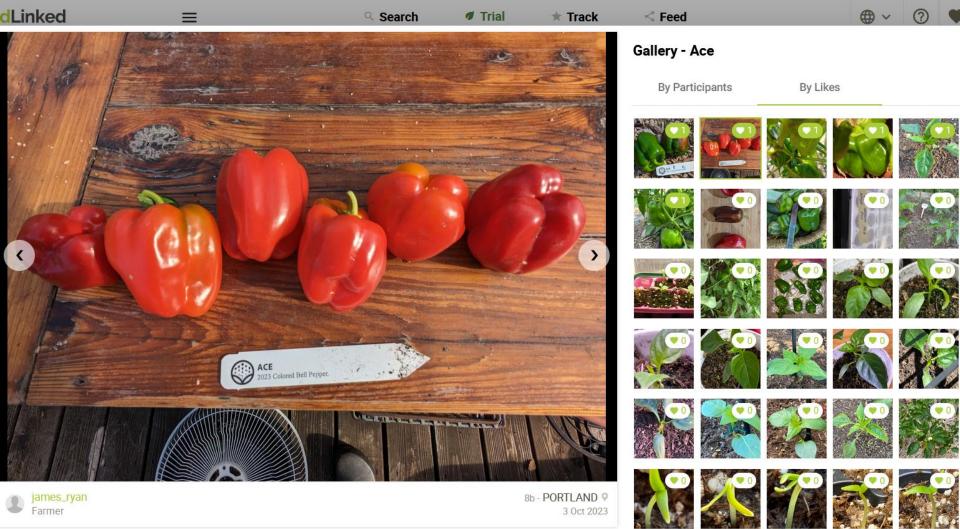


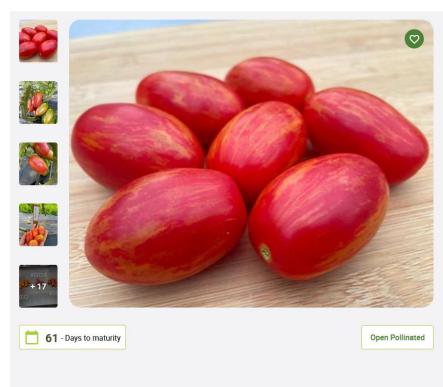
growers invited from network



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🖬 🛛 U.S. Cellular 奈	10:02 AM	• 🗖 🦉
\leftarrow 2022 Seed	Linked Slicer Tom	ato Trial
	Earliness 🗸	0
Blushingstar		
EWS-TOM-5		•
Sunshine Day		:
Go to Tr	ial Community F	eed
Complete Trial		







Cocktail Tomato

Jada

Bred By - Nature and Nuture

***** 3.4

Jada is an open-pollinated, cherry-sized tomato with variable sizes and colors ranging from yellow to red, with and without stripes. Developed as a collaboration between Erica's tomato breeding program, the Midwest Plant Breeding Network, and Seed to Kitchen Collaborative, it's an early-ripening and highly productive variety intended for fresh consumption. The stripes may fade if the fruit is shaded by foliage. It's considered an improvement over Pink Tiger, combining desirable traits from Juliet and Blush tomatoes.

() Find Retailers

	* Assistant Generated (Beta
Strength	~
Weakness	~
Growth and Yield	~
Flavor and Appearance	~
Disease Resistance	~
Maturity	~
Growing Conditions	~





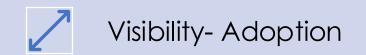
Low-cost R&D possible!



Collaboration made easy



5X to 20X cheaper







Challenges

- Adoption Behavior change.
 - New models
 - Digital = bugs!
- Structure: Social enterprise: B Corp
- Initial Funding:
 - Grants
 - VC
- Business model Innovation:
 - SaaS: trialing and visibility
 - Marketplace
 - Data as a service
- Governance: lets users have a voice; ethics
 - Speed vs complexity
- Simplicity vs flexibility: UX
 - Diversity: crops, regions, people, market needs
- Ag: iteration at the speed of seasons: SLOW

Innovation journey

- Adoption Behavior change.
 - New models
 - Digital = bugs!
- Simplicity vs flexibility: UX
 - Diversity: crops, regions, people, market needs
- Ag: iteration at the speed of seasons: SLOW

A constant juggling exercise

• Learning how to navigate into this "chaos and uncertainty of building a business based" on system change



"All the forces in the world are not so powerful as an idea whose time has come." - Victor Hugo "If you want to make small changes, change the way you do things. If you want to make big changes, change the way you see things." - Don Campbell



Don't miss out on our next webinar



📺 15 May | 4 PM CEST via Zoom

Regulatory shifts and trade challenges in North America: Organic Turns Challenges into Growth Opportunities



Tia Loftsgard Executive Director Canada Organic Trade Association



Tom Chapman Co-CEO Organic Trade Association



Amber Sciligo Senior Director

Senior Director The Organic Center



Register now!



Thanks for joining!





