

Uniting Native Seed Users

NNS Conference, Washington, D.C.
February 14th, 2017

***A bottom-up
approach to seed
quality and
certification:***

***A survey of the
native seed
community***

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PhD Candidate**



Socio-ecological approach to develop certification for native seeds

Certification



People



Results



Historical **certification** and it's influence on the seed trade today



Fraudulent

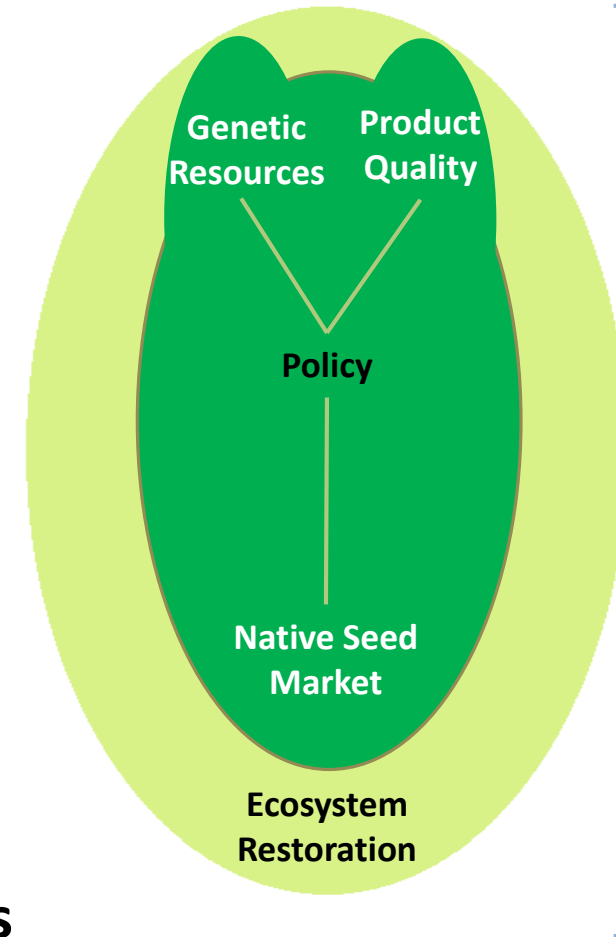
Federal Seed Act 1939

Truth in Labeling
**-Ensure quality
through labeling**

National seed policy should reflect the economic, political and technological factors of a country, but it can also be seen as response to deficiencies in information (Louwaars 2002)

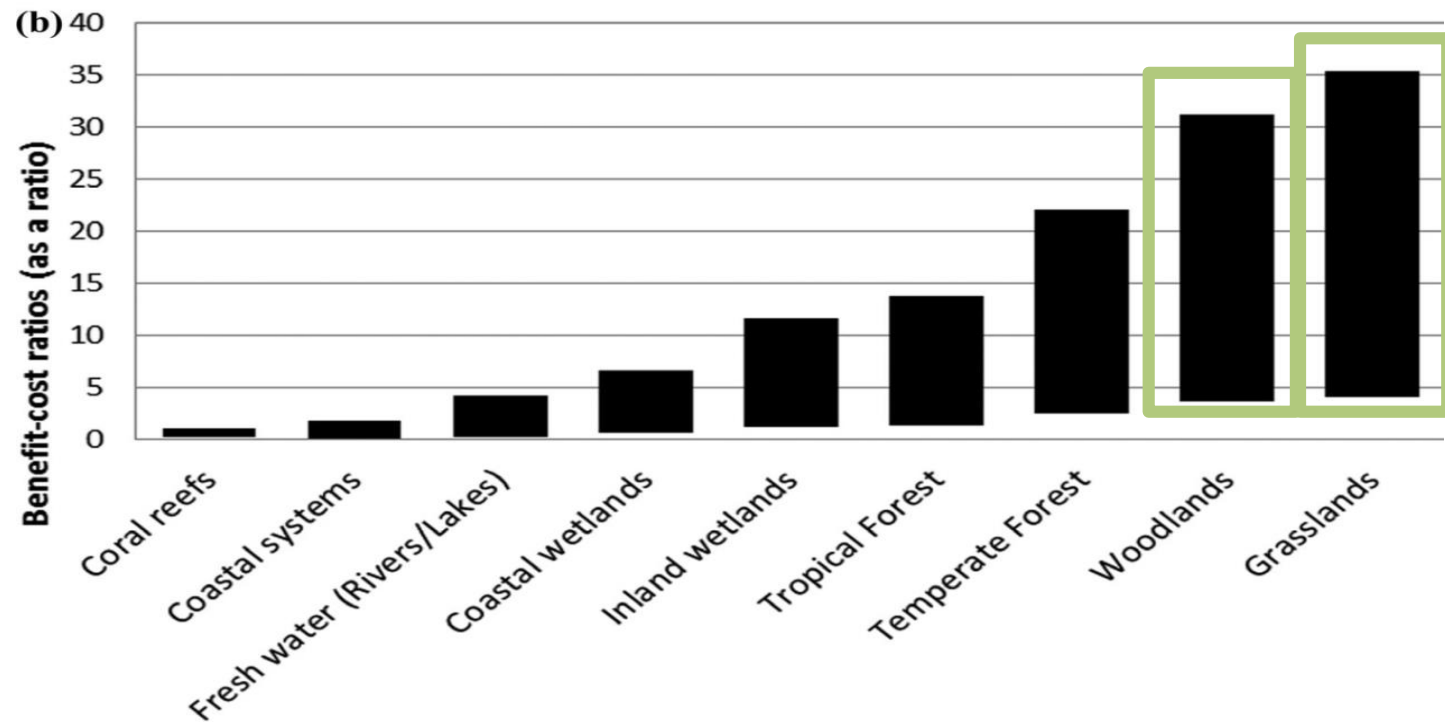
Seed legislation is complemented by strong research, certification and extension programs

- Mixture of regulations and regulators



Unregulated native seeds = risk negative externalities

The **benefits** of investing in ecosystem restoration



35:1 investment returns in grasslands and woodlands

Conservation Biology

Contributed Paper

Benefits of Investing in Ecosystem Restoration

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THOMAS ELMQVIST,** AND JOSHUA FARLEY † †

Current **certification** model: food and plants are commodities



Product
- Distinctness

Standardized
- Uniformity
- Stability



What about the native seed industry?

Product



Standardized



**Preserve genetic
diversity**

New niche for diverse product model!

Industry

Sustainable

Innovative

Dynamic

Research

Unexplored

Applied

Funding
collaborations

Public

Tourism

Pollinators

Climate Change

Investigating native seed quality for ecological restoration: A survey of the native seed community

About Us

Introduction

Participant Information

Native Seed Quality Requirements

Native Seed Certification

Native Seed Market

Seed Zones

Production Standards

Outreach and Collaboration



Holly Abbandonato, MSc

Botanist/Ecologist

Science Museum of Trento (MUSE)

Trento, Italy



Marcello De Vitis, PhD

Conservation biologist/Ecologist

SCOTIA SEEDS

Brechin, UK

Native seed quality is not well-defined in the literature

1. Species and end use (Hampton 2002)

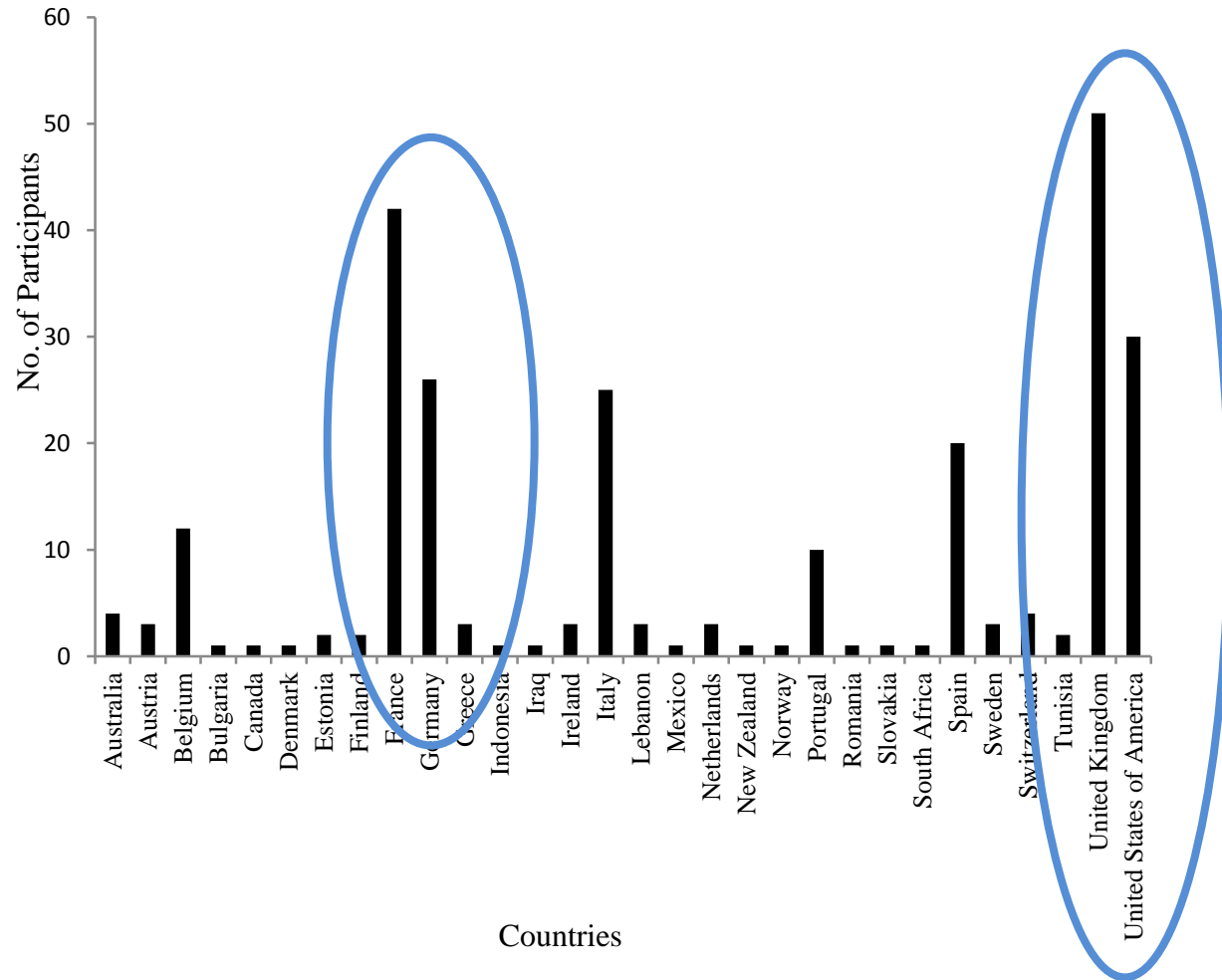
2. Genotype and pre-storage environment (Baskin & Baskin 2014)

3. Seed quality (purity) and seed quantity (TSW) (Haslgrüber 2013)

Collection Date
Harvesting Date
Origin
Provenance
Multiplied
Generations
Seed Lot
Purity
Storage
Moisture

Viability
Seed Health
Germination
Germination Rate
Pure Live Seed
Presence of Dormancy
Dormancy Type
Seed Vigour
Seed Pre-treatment

Survey of **native seed** users and stakeholders



n = 262

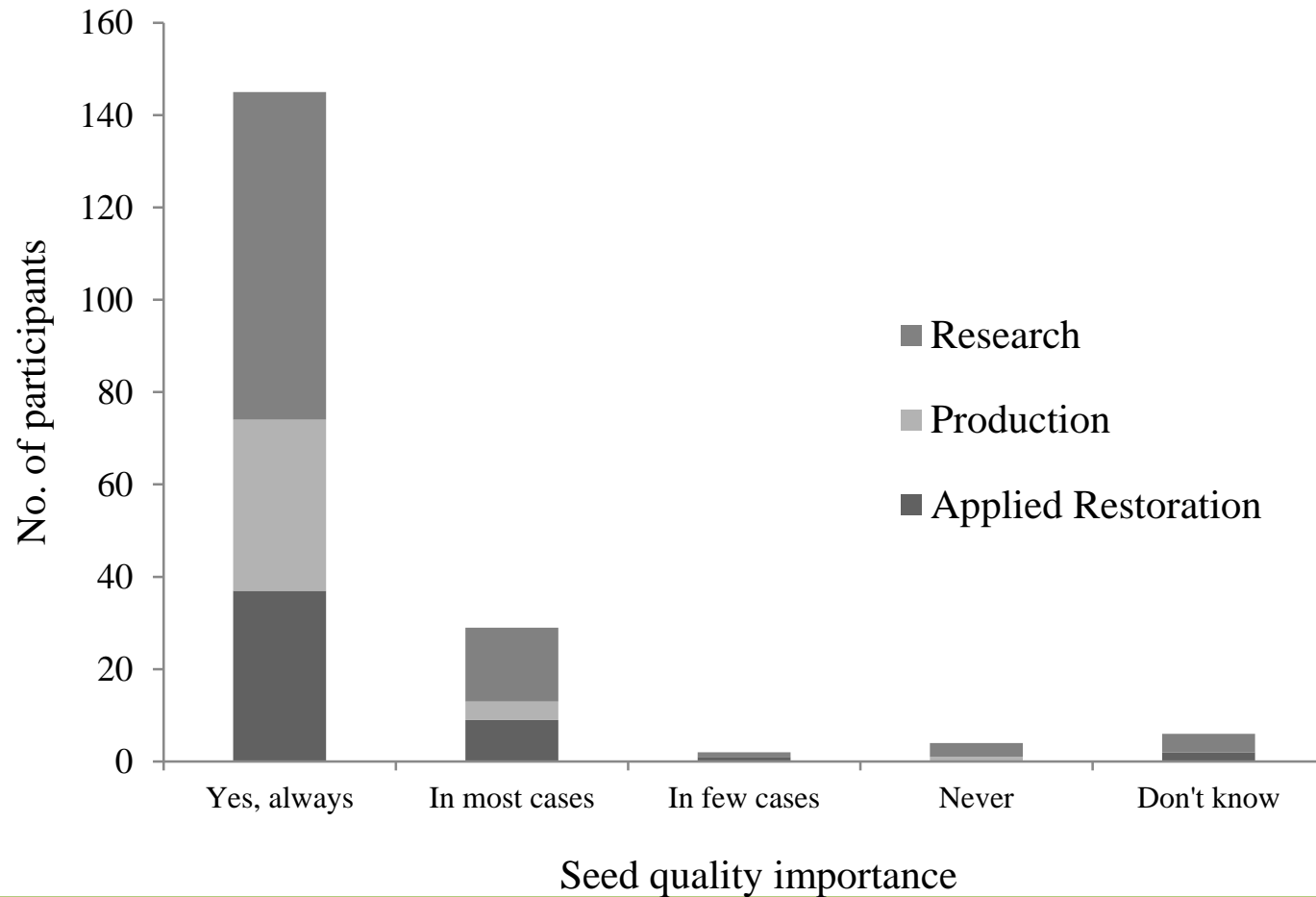
5 languages (EN, FR, IT, ES, DE)

List of stakeholders

Contacting native seed groups



Local Questions **Species Conservation**
Seed Health Seed Companies **Quality**
 Plant **Germination** Soil **Important Conditions**

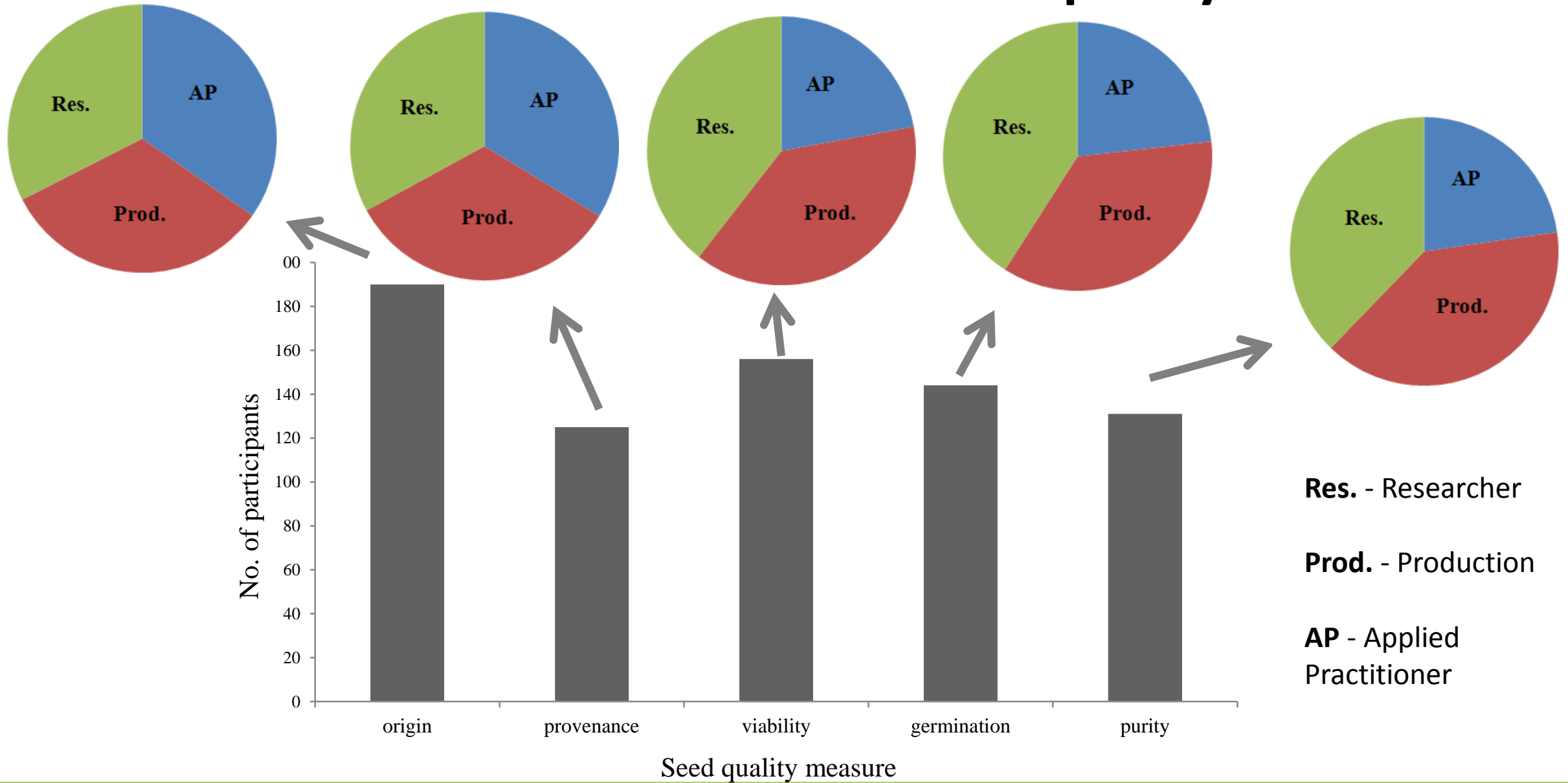


Researchers
n= 105

Production
n= 47

Applied Restor.
n= 60

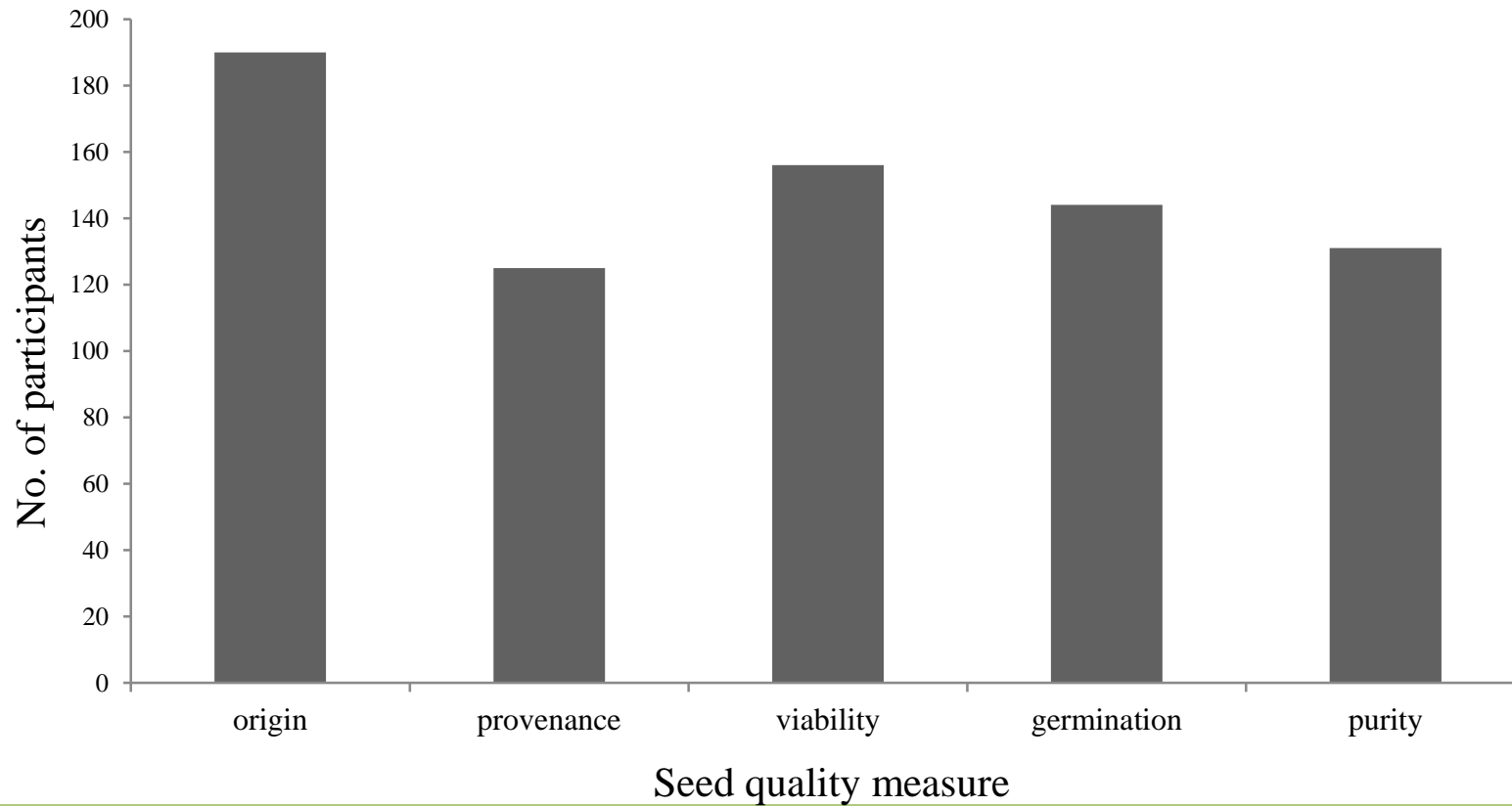
How to measure native seed quality?



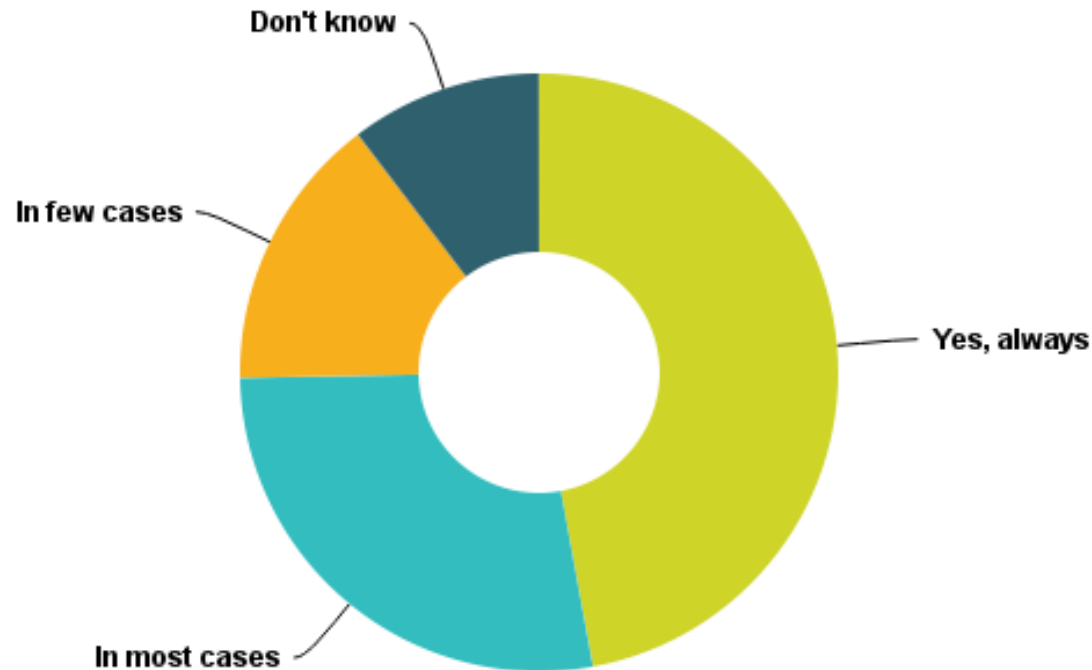
How to measure native seed quality?

First Choice:

Researchers
Producers
Applied Practitioners



Foundational certification standards for native seeds



Survey Results

YELLOW TAG

SOURCE IDENTIFIED SEED

Agency Logo Here	Species Name	Reservoir/soil combs
	Common Name	Needle and Thread Grass
	Germplasm ID Gen	NAK 0802
	GS State, County, Elev	UT, Inm, 5100-5300 ft
	GS Indigenous?	YES
GS National Track?	YES	
Cert #	WC-2314	Lot # HECCO CG-14-563

Example variety statement: The seed in this container with label properly affixed thereto, was produced in compliance with the Seed Certification Requirements and standards established by the Seed Certifying Agency for SOURCE IDENTIFIED seed. Growers may use variety name for labeling and/or for marketing purposes. This tag must be accompanied by a seed analysis label in compliance with state and federal law.

Member of Association of Official Seed Certifying Agencies

WHITE TAG

FOUNDATION SEED

Agency Logo Here	KIND:	ALFAFA
	VARIETY:	DOH
	CERT #:	AL-2145
	LOT #:	DFA/G017

Example variety statement: The seed in this container with label properly affixed thereto, was produced in accordance with the Seed Certification Requirements and standards established by the Seed Certifying Agency for the FOUNDATION Seed of certified seed. Based on this certification requirements, the Association makes no warranty, expressed or implied, as to the marketability or fitness for purpose or performance of this seed. This tag must be accompanied by a seed analysis label in compliance with state and federal law.

Member of Association of Official Seed Certifying Agencies

GREEN TAG

SELECTED SEED

Agency Logo Here	Species Name	Krascheninnikovia lanata	
	Common Name	Winefoot	
	Germplasm ID Gen	Northern Cold Desert, G2G3	
	GS State, County, Elev	OR, Malheur, 2300 ft	
	GS Indigenous?	NO	
GS National Track?	NO		
Cert #	22-2568	Lot #	HL203

Example variety statement: The seed in this container with label properly affixed thereto, was produced in compliance with the Seed Certification Requirements and standards established by the Seed Certifying Agency for the Selected Seed of certified seed. Growers may use variety name for labeling and/or for marketing purposes. This tag must be accompanied by a seed analysis label in compliance with state and federal law.

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PURPLE TAG

REGISTERED SEED

Agency Logo Here	KIND:	BARLEY
	VARIETY:	GOLDBEHEVE
	CERT #:	22563
	LOT #:	GB-4225

WARNING: PVP VARIETY

Example variety statement: The seed in this container with label properly affixed thereto, was produced in accordance with the Seed Certification Requirements and standards established by the Seed Certifying Agency for the REGISTERED Seed of certified seed. Based on this certification requirements, the Association makes no warranty, expressed or implied, as to the marketability or fitness for purpose or performance of this seed. This tag must be accompanied by a seed analysis label in compliance with state and federal law.

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BLUE TAG

TESTED SEED

Agency Logo Here	Species Name	Dalea condida	
	Common Name	White Prairie Clover	
	Germplasm ID Gen	Amalope, G2K5	
	GS State, County, Elev	MT, Carbon, 5500 ft	
	GS Indigenous?	YES	
GS National Track?	YES		
Cert #	19994	Lot #	S02-02-FL100-1

Example variety statement: The seed in this container with label properly affixed thereto, was produced in compliance with the Seed Certification Requirements and standards established by the Seed Certifying Agency for TESTED certified seed. Growers may use variety name for labeling and/or for marketing purposes. This tag must be accompanied by a seed analysis label in compliance with state and federal law.

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BLUE TAG

CERTIFIED SEED

Agency Logo Here	KIND:	THICKSPIKE WHEATGRASS
	VARIETY:	CRITANA
	CERT #:	31-5984
	LOT #:	ELLA-4566

Example variety statement: The seed in this container with label properly affixed thereto, was produced in accordance with the Seed Certification Requirements and standards established by the Seed Certifying Agency for the CERTIFIED Seed of certified seed. Based on this certification requirements, the Association makes no warranty, expressed or implied, as to the marketability or fitness for purpose or performance of this seed. This tag must be accompanied by a seed analysis label in compliance with state and federal law.

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Review of current schemes

Acknowledgements

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National Native Seed Network

UK Native Seed Hub

SER Europe

SER – INSR

ISTA



“Conservation is a state of harmony between men and land.”

-Aldo Leopold
A Sand County Almanac

Uniting Native Seed Users

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This and additional presentations available at <http://nativeseed.info>

