



NAOSTEC

an EU training initiative in native seeds production and use for grassland restoration

Marcello De Vitis, Giles Laverack & Costantino Bonomi

SCOTIA SEEDS, Brechin, Scotland, UK

MUSE, Museo delle Science, Trento, Italy

marcellodevitis@scotiaseeds.co.uk



INSR Symposium:
Get Smart in Using
Native Seed

2017 National Native
Seed Conference

February 13-16, 2017
United States National Arboretum
Washington DC



NASSTEC

The NAtive Seed Science, TEchnology and Conservation Initial Training Network

What is NASSTEC?



European Union (EU)



Seventh Framework Programme (FP7)



Marie Skłodowska Curie Initial Training Network

Running from April 2014 to April 2018



NASSTEC full partners:



NASSTEC associate partners:

Botanic Gardens and Parks Authority (Australia), Jardín Botánico Atlántico (Spain), Mylnefield Research Services (UK), National Trust for Scotland (UK), Provincia Autonoma di Trento (Italy)



OBJECTIVE

Create a functioning network of academic and industry specialists able to produce and use European native seed effectively and efficiently for grassland restoration



OBJECTIVE

Create a functioning network of academic and industry specialists able to produce and use European native seed effectively and efficiently for grassland restoration

GRASSLANDS

- In Europe > 32 million ha
- 10 million ha ↑ biodiversity value
- Habitat at risk



OBJECTIVE

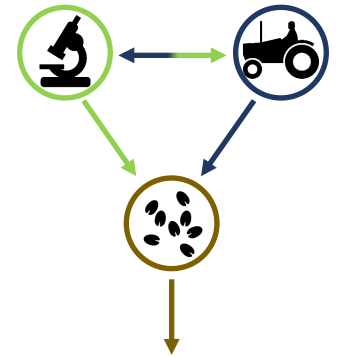
Create a functioning network of academic and industry specialists able to produce and use European native seed effectively and efficiently for grassland restoration

GRASSLANDS

- In Europe > 32 million ha
- 10 million ha ↑ biodiversity value
- Habitat at risk

NATIVE SEED INDUSTRY

- In many cases unable to meet the demand
 - High variability in seed quality
 - Loopholes in EU regulation
- Uneven development across the continent



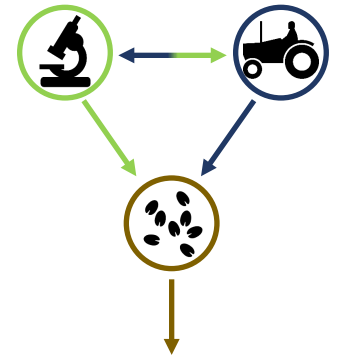
OBJECTIVE

Create a functioning network of academic and industry specialists able to produce and use European native seed effectively and efficiently for grassland restoration

Marin, M., Toorop, P., Powell, A.A. and Laverack, G. (2017), *Seed Sci. & Technol.*, 45, 1, 1-16.
<https://doi.org/10.15258/sst.2017.45.1.03>

Tetrazolium staining predicts germination of commercial seed lots of European native species differing in seed quality

M. MARIN^{1,2}, P. TOOROP³, A.A. POWELL⁴ AND G. LAVERACK^{1a}

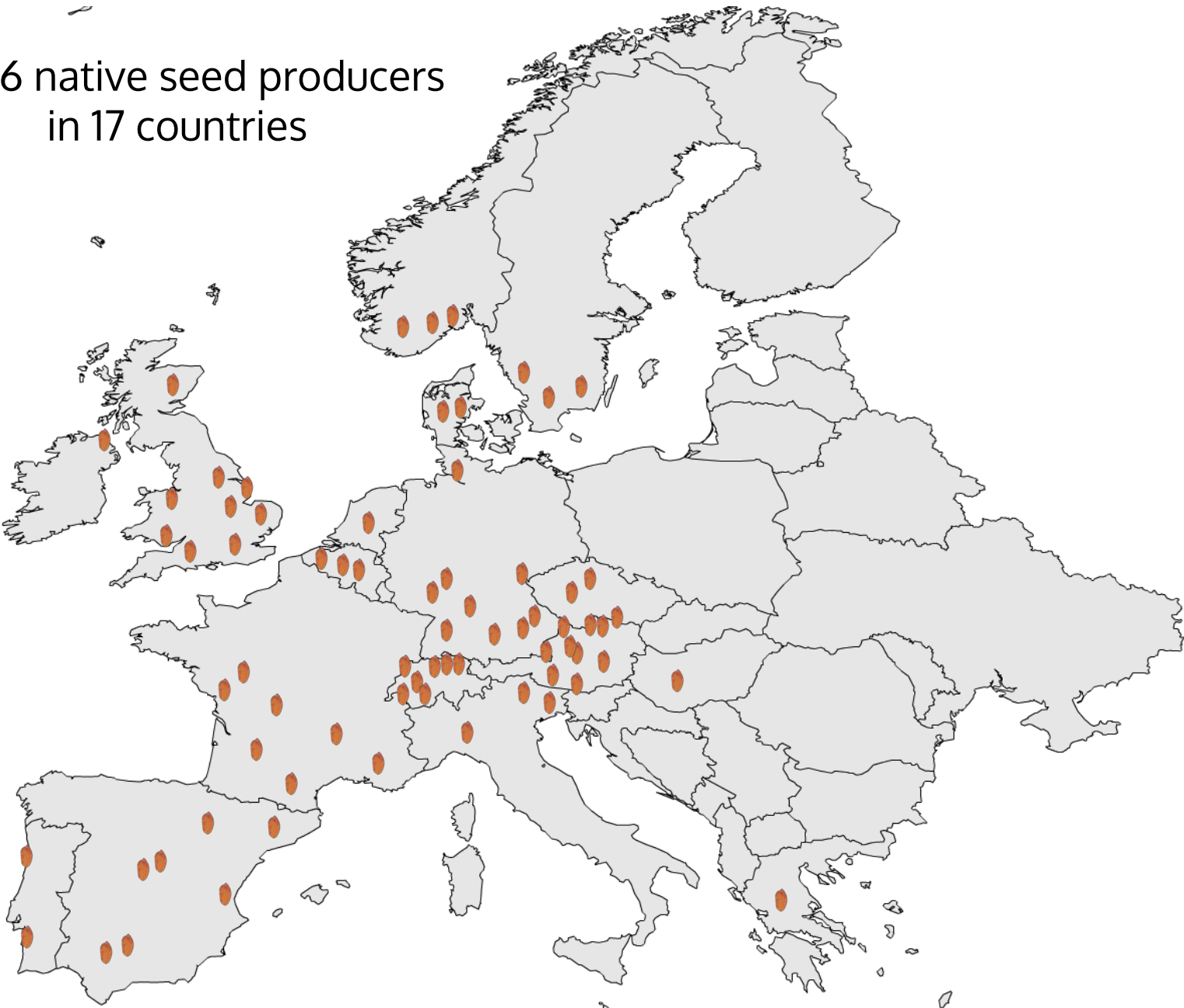


NATIVE SEED INDUSTRY

- In many cases unable to meet the demand
 - High variability in seed quality
 - Loopholes in EU regulation
- Uneven development across the continent



Ca. 76 native seed producers
in 17 countries



Seed Transfer Zones



- Austria
- Czech Republic
- France
- Germany
- Great Britain
- Norway
- Switzerland



14% countries
18% of European territory



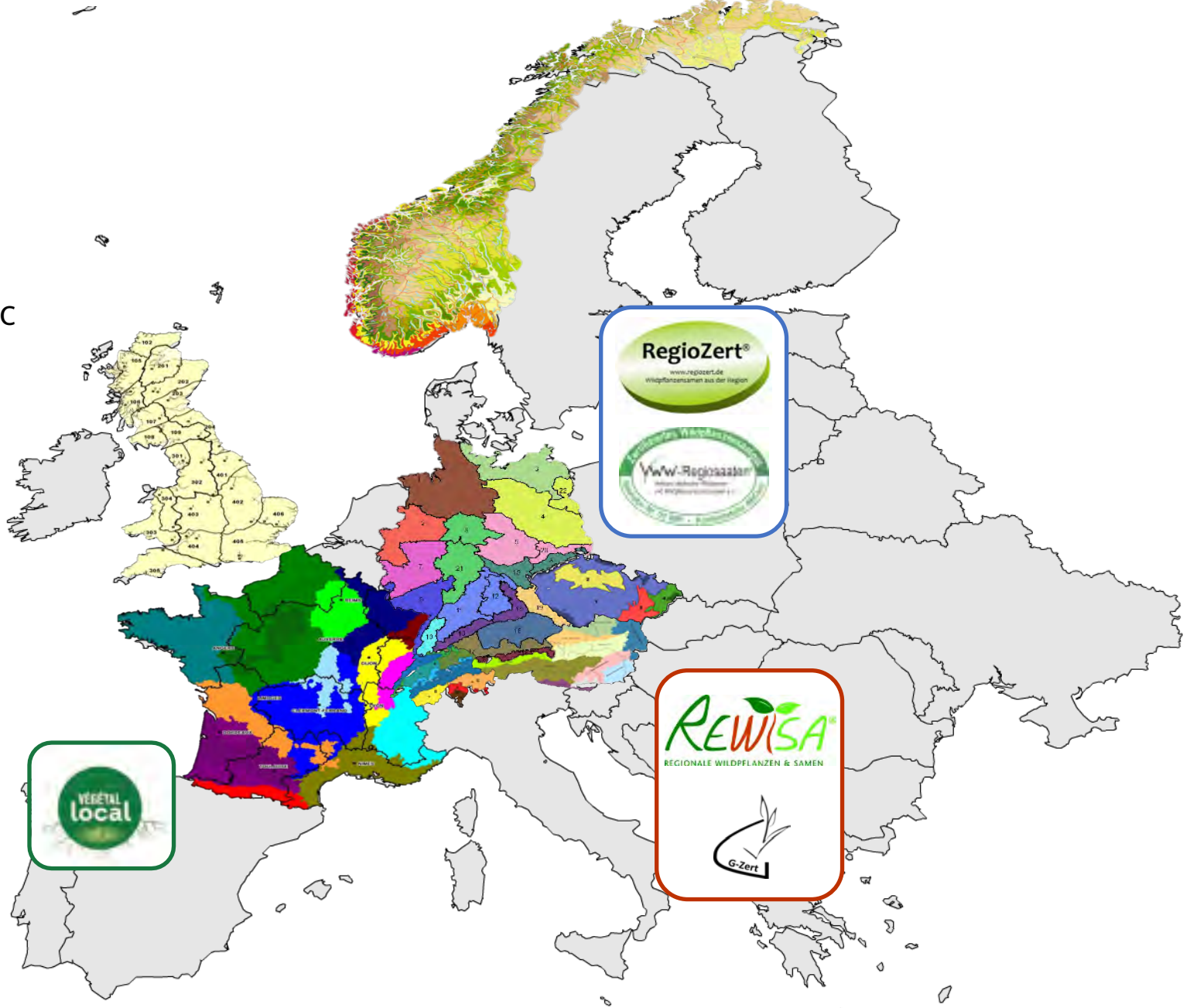
INSR Symposium:
Get Smart in Using
Native Seed

2017 National Native
Seed Conference
February 13-16, 2017
Clemson University
Clemson, SC



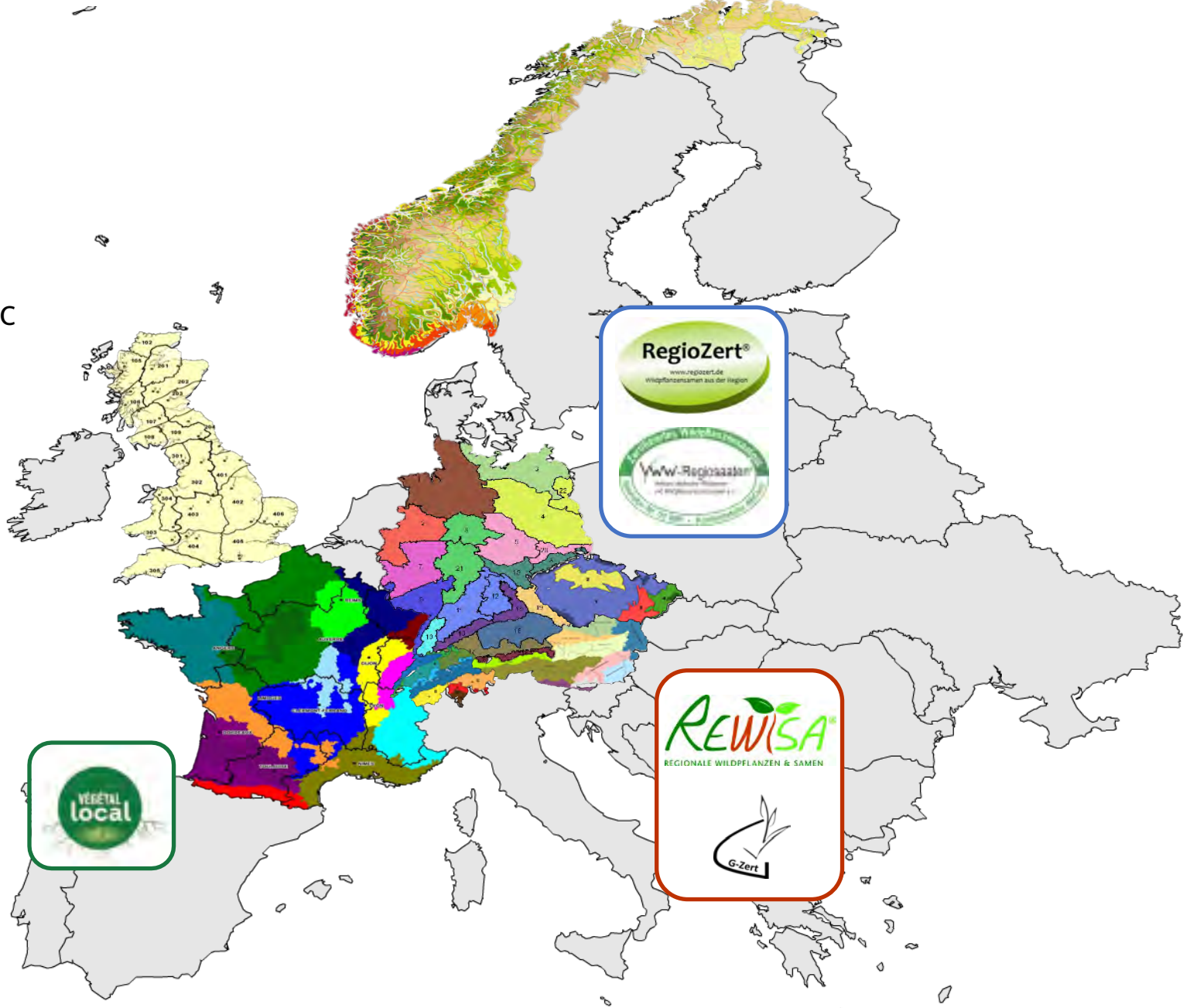


- Austria
- Czech Republic
- France
- Germany
- Great Britain
- Norway
- Switzerland





- Austria
- Czech Republic
- France
- ★ Germany
- Great Britain
- ★ Norway
- Switzerland



HOW?

- Delivering key practical **training** to ESRs and partners to ensure high quality seed sourcing and production;
- **Connecting** key disciplines and key stakeholders **building** a community of practice;
- **Submitting** to EU regulatory services draft guidelines on the production, certification and use of native seed.



MUSE Museo delle Scienze

The James Hutton Institute

syngenta SEEDS

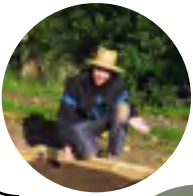
SEMILLAS SILVESTRES

SCOTIA SEEDS Wildflowers of Scotland

TRAINING

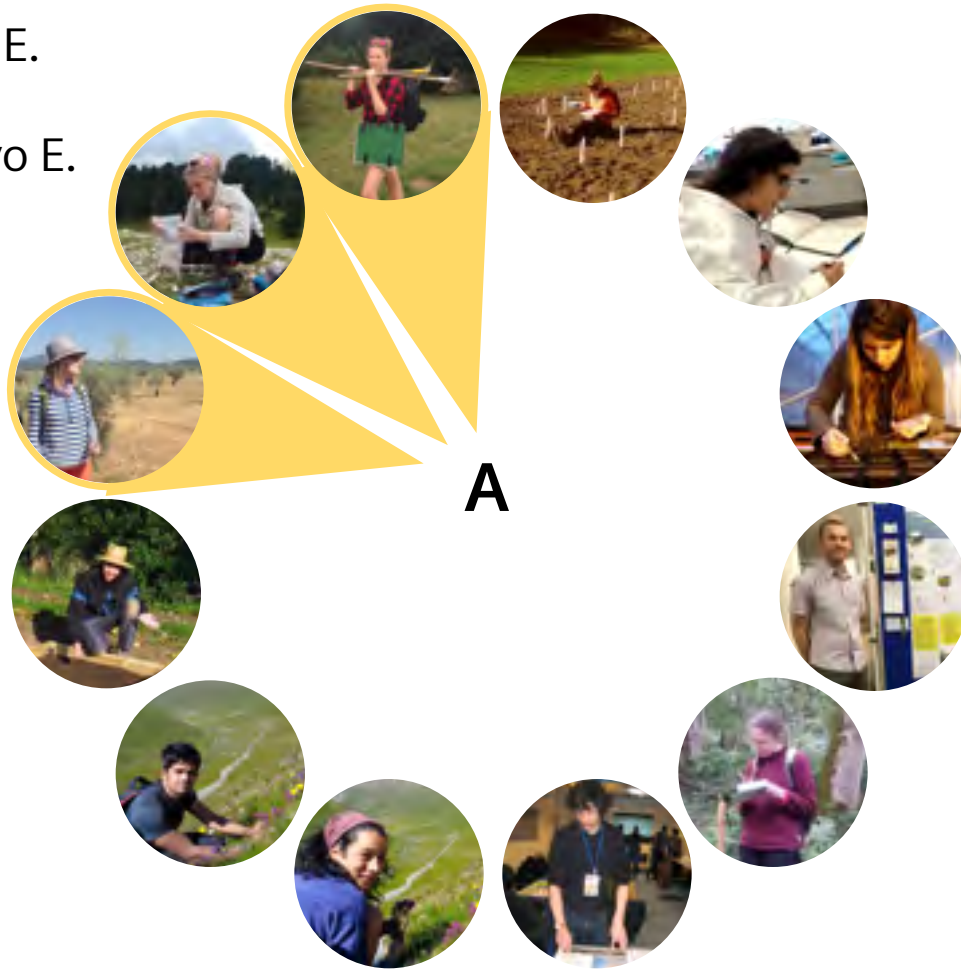
UNIVERSITA DI PAVIA

Kew ROYAL BOTANIC GARDENS



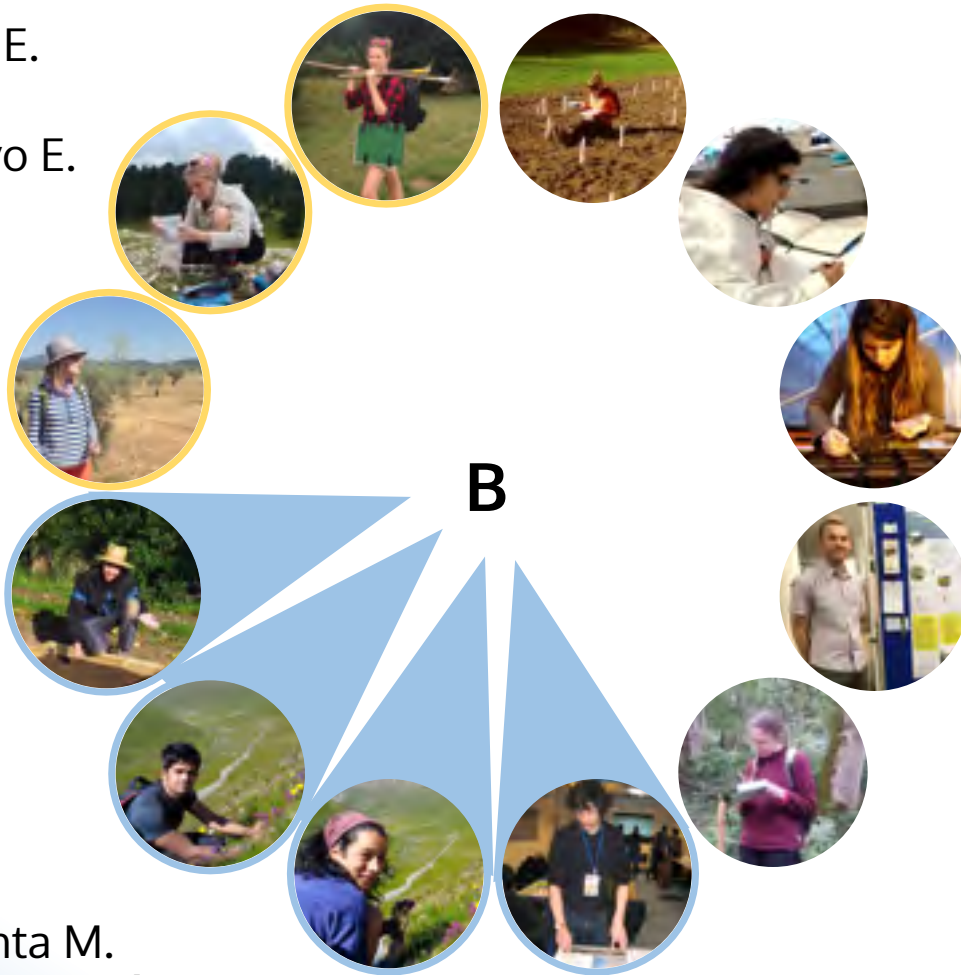
Sub-programme A: *In situ* seed sampling

- ESR 1A. Ladouceur E.
- ESR 2A. Frischie S.
- ESR 3A. dello Jacovo E.



Sub-programme A: *In situ* seed sampling

- ESR 1A. Ladouceur E.
- ESR 2A. Frischie S.
- ESR 3A. dello Jacovo E.



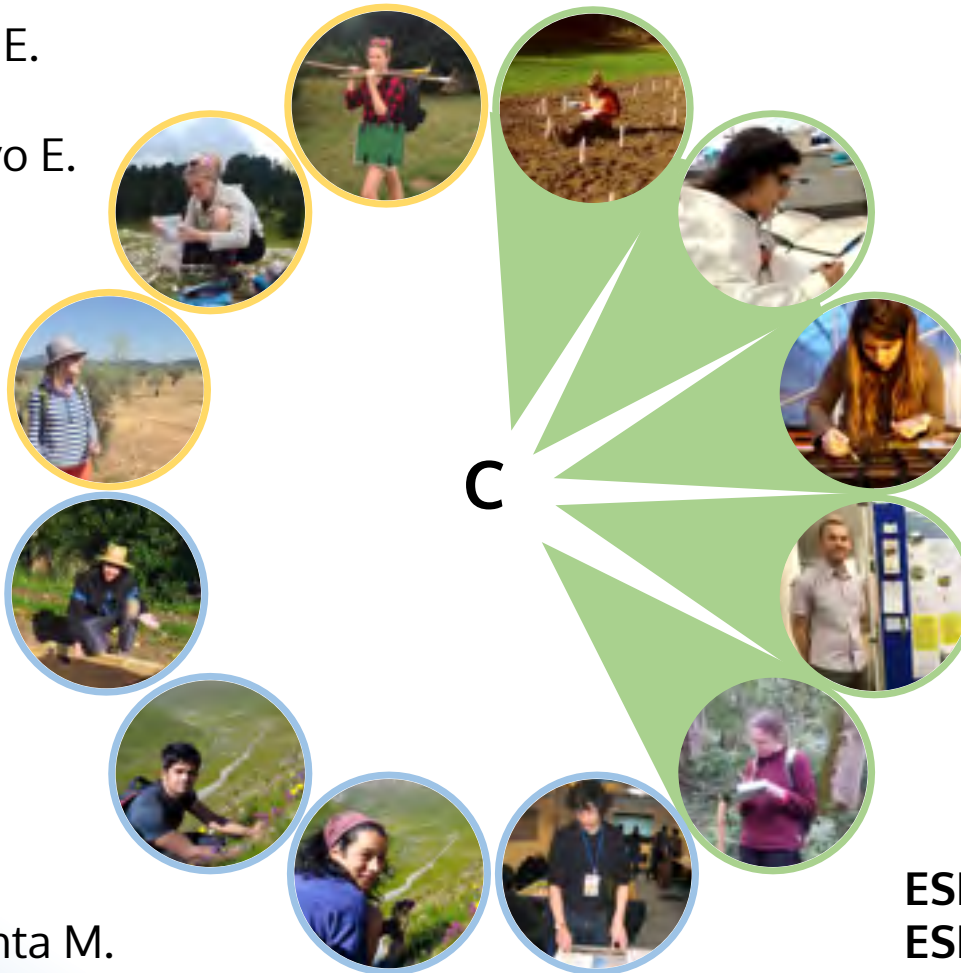
Sub-programme B: Seed biology characterisation

- ESR 4B. Tudela Isanta M.
- ESR 5B. Hernández González M.
- ESR 6B. Wijayasinghe M.
- ESR 7B. da Costa Teixeira A.



Sub-programme A: *In situ* seed sampling

- ESR 1A. Ladouceur E.
- ESR 2A. Frischie S.
- ESR 3A. dello Jacovo E.



Sub-programme B: Seed biology characterisation

- ESR 4B. Tudela Isanta M.
- ESR 5B. Hernández González M.
- ESR 6B. Wijayasinghe M.
- ESR 7B. da Costa Teixeira A.

Sub-programme C: Production and deployment of seeds

- ESR 8C. Marin M.
- ESR 9C. Blandino C.
- ESR 10C. Lopez del Egido L.
- ESR 11C. Abbandonato H.
- ER 12C. De Vitis M.



Sub-programme A: *In situ* seed sampling

- ESR 1A. Ladouceur E.
- ESR 2A. Frischie S.
- ESR 3A. dello Jacovo E.

A bottom-up approach to seed quality and certification

Traits-based selection tool for native seed farming in Spain

Sub-programme B: Seed biology characterisation

- ESR 4B. Tudela Isanta M.
- ESR 5B. Hernández González M.
- ESR 6B. Wijayasinghe M.
- ESR 7B. da Costa Teixeira A.

Sub-programme C: Production and deployment of seeds

- ESR 8C. Marin M.
- ESR 9C. Blandino C.
- ESR 10C. Lopez del Egido L.
- ESR 11C. Abbandonato H.
- ER 12C. De Vitis M.



Sub-programme A: *In situ* seed sampling

- ESR 1A. Ladouceur E.
- ESR 2A. Frischie S.
- ESR 3A. dello Jacovo E.



Sub-programme B: Seed biology characterisation

- ESR 4B. Tudela Isanta M.
- ESR 5B. Hernández González M.
- ESR 6B. Wijayasinghe M.
- ESR 7B. da Costa Teixeira A.

OUTREACH

Sub-programme C: Production and deployment of seeds

- ESR 8C. Marin M.
- ESR 9C. Blandino C.
- ESR 10C. Lopez del Egido L.
- ESR 11C. Abbandonato H.
- ER 12C. De Vitis M.



TRAINING

Secondments & Exchange visits



TRAINING

Secondments &
Exchange visits



Summer Schools:

1. Seed collection
2. Seed germination



TRAINING

Secondments & Exchange visits



Summer Schools:

1. Seed collection
2. Seed germination

Workshops

1. Molecular diversity
2. IPR and patenting
3. Education and outreach
4. Industrial seed production



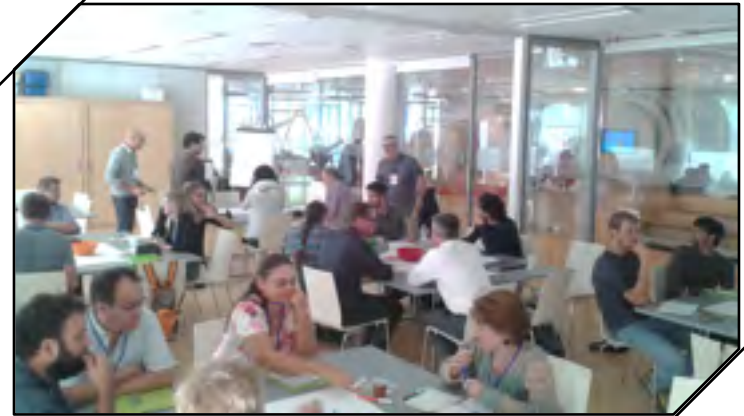
EVENTS



Seed production Workshop, 02/2017

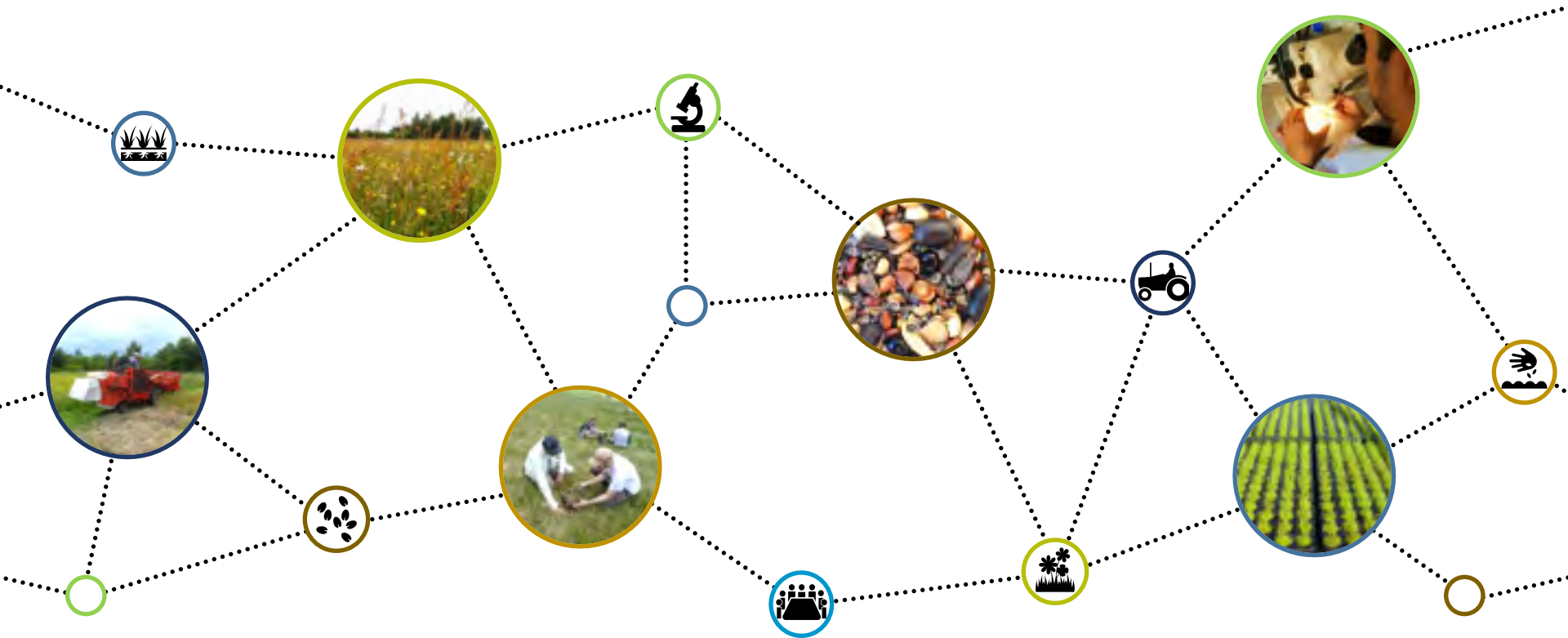


Outreach Workshop, 09/2016



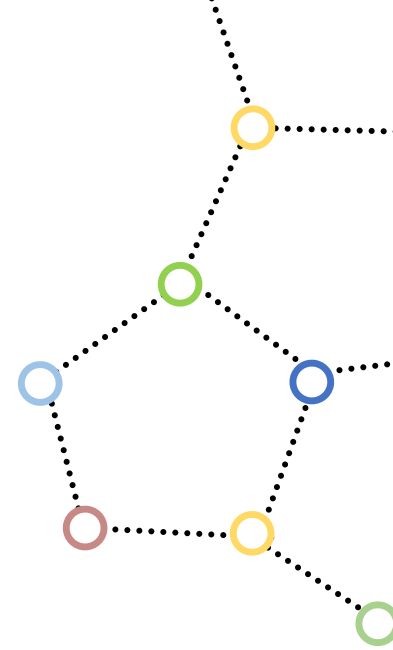
CONNECTING STAKEHOLDERS

and BUILDING A COMMUNITY



BUILDING A COMMUNITY

- Compilation of a **stakeholder list**
- Design and circulation of a **survey** to reveal needs, opinions and trends
- Publication of the **Native Seed Newsletter**
- **Online Forum** for discussion on Native Seeds
- Synergy with **INSR**



IMPACT & LEGACY

Useful data

Community of practice

Native seed selection tool

Handbook



IMPACT & LEGACY

Useful data

Community of practice

Native seed selection tool

Handbook

NASSTEC FINAL CONFERENCE

Seed Quality of Native Species - Seed ecology, production and policy

25TH – 29TH September 2017

Jodrell Lecture Theatre, Royal Botanic Gardens, Kew

London, UK

Kew
ROYAL BOTANIC GARDENS

Save
the date!



NASSTEC



INSR Symposium:
Get Smart in Using
Native Seed

2017 National Native
Seed Conference
February 13-16, 2017
United States Botanic Garden
Washington, DC



Thank you for your attention



...and keep
connecting and
sharing for
better results!



www.nasstec.eu



[NASSTEC.EU](https://www.facebook.com/NASSTEC.EU)



[@nasstecmuse](https://twitter.com/nasstecmuse)



[NASSTEC](https://www.researchgate.net/profile/NASSTEC)

2017 National Native
Seed Conference

February 13-16, 2017
Clemens Mountain Center
Washington DC

