

Bunt management in cereal seed networks: the case of Rete Semi Rurali's Community Seed Bank in Italy

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Tunisia



20 countries involved



84 community seed banks mapped

1 – yellow Spain (30)

2 – Orange France + Italy (21)

3 – Light blue Seed savers in Northen &

Central Europe founded until 1995 (10) ES

FR

DE

П

PT

AT

BE

CZ

EE

HR

LU

NL

UK

CH

DK

GR

HU

IR

Ш

SE

4 – Dark blue Seed savers in Northen & Central Europe founded since 1995 (mostly after 2005) (11)

5 – Green Est Europe (7)

6 – Red Greece, Portugal (5)





Founders of CSBs







Rete Semi Rurali from 5 (2007) to 35 (2021) member associations











RSR's Community Seed Bank - 9 year since 2012







A countinously Campaign

Managing local varieties and populations – Demonstration fields and trials

Seed Campaign – sending samples from our Cataloge with ATM (Accord for transfer material)

Cereal Month – events in farms, visiting trials fields, one thousand participants, one undred farmers involved in the participatory plant breeding

Cereal Value Chain Meetings -Filigrane – national or regional meeting with all pratictionaires of the cereal value chain



Why managing seeds within farms?

DYNAMIC vs STATIC MANAGEMENT
Key elements of Varieties Genetic Resources cannot be kept and conserved out of a field farm
VGR are not only genotypes, they are mainly knowledge, traditions and uses

CO-INNOVATION vs RESEARCH
Farm managing of the varieties/populations all

Farm managing of the varieties/populations allowed researchers and technicians to be directly involved in farm problems and innovations *It's the base to have multi-actor relationships*

RESILIENCE AND STABILITY vs PRODUCTION
Farm systems continuously generate diversity and new varieties
They promote constitution of VGR for marginal and low-input environments



New organic cereal value chain



Establishing own rules – be rigorous



Knowledge and competencies – reliability and confidence



RSR's Community Seed Bank









LABORATORY



How many and which seeds?

2016-2017 165 plots

93 soft wheat 52 durum wheat (dicoccum, turgidum and turanicum) 6 populations 4 spelt Paleocolchicum Militinae Carthlicum Macha Thimophevi Spherococcum

2018-2019 420 plots

26 turgidum 15 populations 6 spelt 4 monococcum 260 rice 15 sunflower 160 lentils 2020-2021 245 plots

85 soft wheat 42 durum wheat (dicoccum, turgidum and turanicum) 15 populations 2 spelt 8 monococcum Carthlicum Spherococcum

1190 accessions – 650 kg of seeds More than 600 participants to field visits (2019) More than 100 farmers received seeds (2020-21)



Cereals Diversity: variety, mixture, population



Control of quality and healthy of seeds

Health of seeds is the main aspect for the ongoing of informal seed systems and the key element to build trusting relationship among farmers

Treatment	Mechanical (sieves)	
	Physical	
		Thermotherapy
		Warm water
		Warm air
		Freezing
	Chemical	(allowed in organic agriculture)
		(mainly copper)

Bunt Management Protocol depending on detection of the disease

If the disease is NOT confirmed - risk prevention

- 1. rotations between the crops (avoiding the succession of winter cereals)
- 2. preventative use of copper for seed dressing
- 3. disease checks at critical stages of the growing cycle and at harvest
- 4. disease checks at harvest

If evidence of bunt infection has been FOUND or is SUSPECTED – sanification if

important seeds

- 1. mowing of the wild cereals surrounding the plot
- washing of the seed and the farm tools with a sodium hypochlorite solution (2%)
- to facilitate dispersion it is advised to mix previously the seed with sunflower oil (max 2 lt./100 kg of seed)
- once the oil is mixed, seed dressing of small lots with copper oxychloride (max 75 gr. of metallic CU/100 kg of seed). This operation guarantees contact with the dressing even in case of rain
- 5. the treatment should be done immediately prior to sowing: prolonged contact with CU oxychloride may reduce the germination rate of wheat seeds

When cereal seed accessions are distributed through the CSB, RSR provides farmers with instructions on how to treat cereal seed against bunt and additional information on how to detect the disease and best management practices

Smut Disease (Ustigalo tritici)

