

# Implementation of the ECPGR EVA network - vegetables

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# Project proposal to Germany

- To be submitted in April 2019
- Wheat and Barley + Vegetables
- Covered costs:
  - Coordination
  - EURISCO development
  - Lab test
  - Multiplication and distribution of accessions
  - Genotyping
  - Travel funds
- Available for vegetables, ca. Euro 120 000 in 3 years

# Scope

- Evaluation of disease resistance in one lab and then field testing in multiple sites looking at various phenotypic and agronomic traits
- Crops and areas:
  - Carrot: North – Central - South
  - Pepper: Central – South
  - Lettuce: North – Central – South

# Principles

- Evaluate:
- 15 carrot, 25-50 pepper, 50 lettuce genebank accessions in possibly 10 environments for two years
- Use same characterization / evaluation protocols (experiment set up; scoring methodology)
- Genotype all accessions
- Include phenotypic + genotypic data in public central place (EURISCO) – 3 years embargo for non-partners
- SMTA

# Activities – broad term

- Year 1 (2019-20): setting up of standards, acquisition, lab test, multiplication and redistribution of material (1<sup>st</sup> set)
- Year 2 (2020-21): first round of evaluation (1<sup>st</sup> set); second round of acquisition, lab test, multiplication and redistribution (2<sup>nd</sup> set)
- Year 3 (2021-22): second round of evaluation (1<sup>st</sup> set); first round of evaluation (2<sup>nd</sup> set); third round of acquisition, lab test, multiplication and redistribution (3<sup>rd</sup> set - extra budget)
- Year 4 (2022-23) [extra budget]: second round of evaluation (2<sup>nd</sup> set); first round of evaluation (3<sup>rd</sup> set)

# Activities – detailed

- i. Obtain signature of EVA-Letter of Commitment by the partners
- ii. Annual meetings of consortium partners
- iii. Draft of the Consortium Agreement by the Secretariat, in consultation with partners and obtaining related signatures
- iv. Agreement on traits to be evaluated during 2021, 2022 and 2023
- v. Design of the evaluation experiments, coordinated by Task Force (TF) including ...

# Activities - continued

- vi. Selection of genebank accessions (at least XX accessions per year per crop per zone) (to be repeated for 2 years)
- vii. Dispatch of agreed accessions (30-50 seeds per accession) with SMTA to the lab tester / multiplier institutes
- viii. Lab test Carrot: 4 diseases ; Pepper: TSMV ; Lettuce: Bremia
- ix. Multiplication of accessions by multipliers if needed
- x. Dispatch of multiplied accessions from multipliers to evaluators with SMTA (possibly about 10 environments in each zone and from multipliers to genotyping company (to be defined) – (summer 2020 and 2021)
- xi. Agreement on evaluation protocols and data collection standards (ontologies), coordinated by TF, ...
- xii. Definition of genotyping methodology and selection of commercial provider (by TF including .....

# Activities - continued

- xii. Analysis of database requirements by EURISCO staff and provision of special functionalities (intranet platform for the partners, with 3 years embargo before making data widely public, etc.)
- xiii. Carry out evaluation in multiple locations with the same accessions in each of the three zones, during growing seasons 2020, 2021 and 2022
- xiv. Dispatch of evaluation data based on agreed standard exchange formats from all the evaluation sites to the central repository (EURISCO), after harvests 2020, 2021 and 2022



# Activities - continued

- xv. Carry out the genotyping of selected accessions under evaluation each year (ca. 15 carrot per year, 100 pepper, 50 lettuce per year) (commercial provider) and dispatch of genotypic data from commercial provider to consortium partners
- xvi. Data analysis (IPK ?) and data display through the EURISCO Intranet platform
- xvii. Promote inclusion of multiplied accessions into AEGIS
- xviii. Plan for Network continuation of rolling activities after the end of the project

# Annual budget (x3)

	Carrot	Pepper	Lettuce	
Lab test	Some	10000	0	
Multiplication	Some	0	0	
Genotyping	some	3300	4000	
Travel				9000
<b>TOTAL</b>	<b>13300</b>	<b>13 000</b>	<b>4000</b>	<b>40 000</b>

# Activities

	Carrot	Pepper	Lettuce	
Lab test	JKI	CREA	ISI Sementi	
Multiplication	Nordgen INIAV, Warwick agrocampus	Isi sementi; Superior	Gautier	
Genotyping	commercial	Larisa, Commercial	CGN (done); commercial	
Evaluation	Vilmorin, organic sector; other	ISI; Superior; other	ISI; Gautier; other	
GWAS analysis	?	?	?	

# Task Forces

	Carrot	Pepper	Lettuce	
Agreement on evaluation protocols and data collection standards				
Definition of genotyping methodology and selection of commercial provider				