

# French PGR network « Carrot and other *Daucus* »



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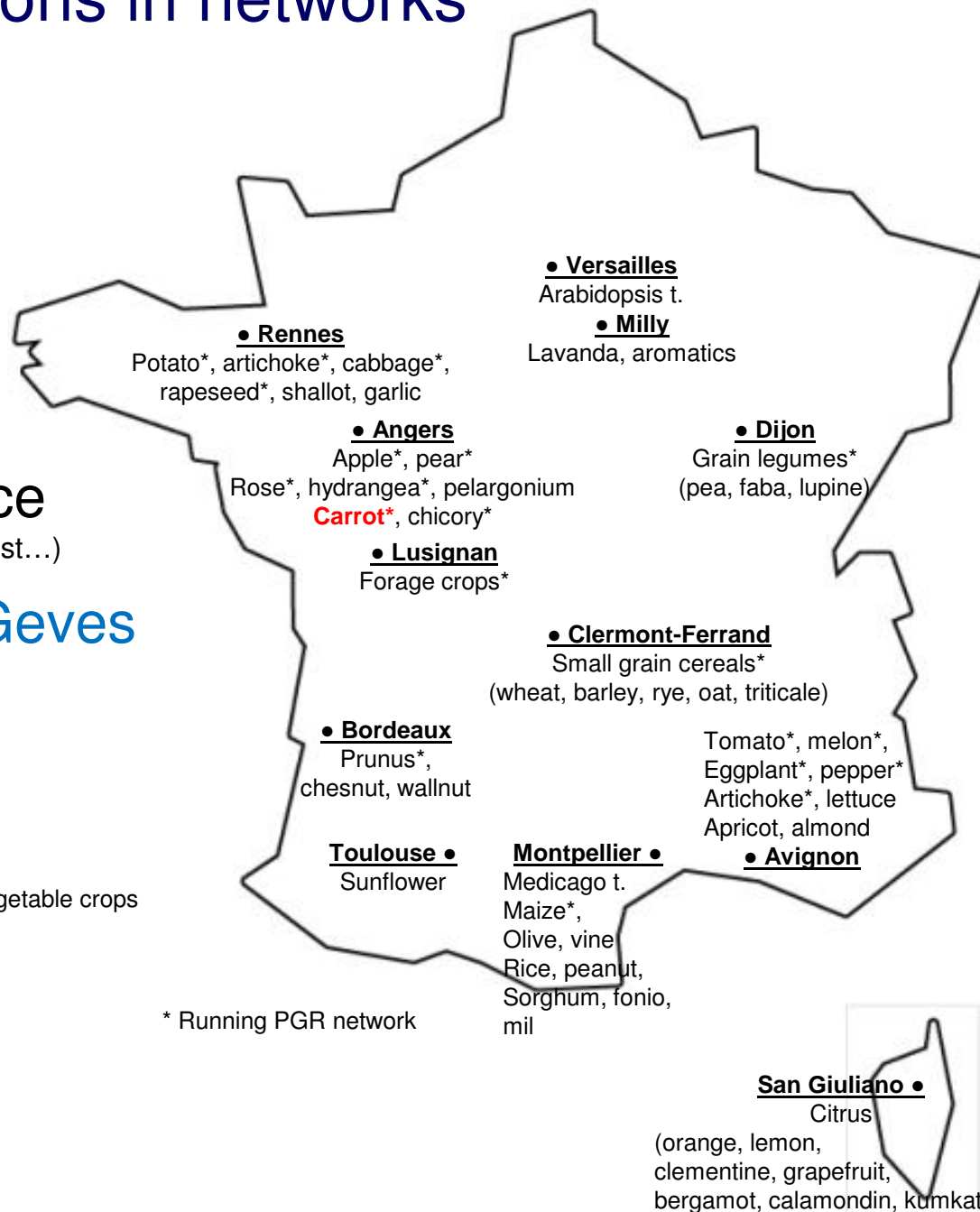
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## PGR collections in France

(Institutes : Inra, Cirad, Geves, Agrocampus Ouest...)

## National coordination : Geves

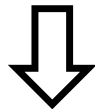
- **Reunion island** : Vanilla, underutilized vegetable crops
- **French Antilla** : coffee,



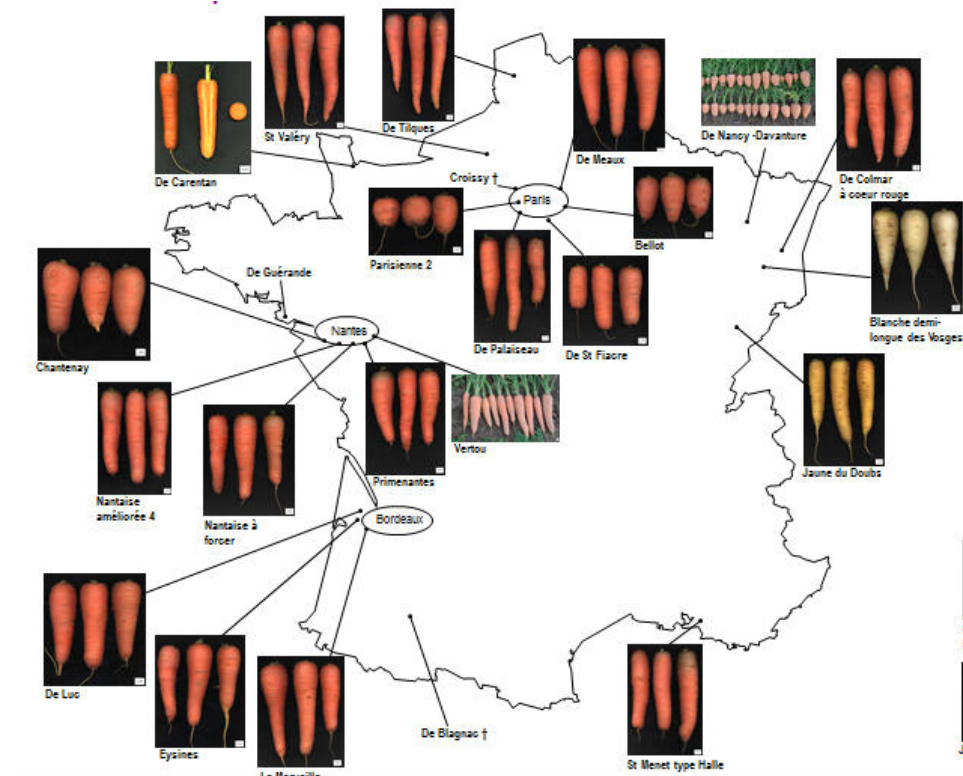
# Origin of the carrot network

## Carrots : a large but threatened diversity

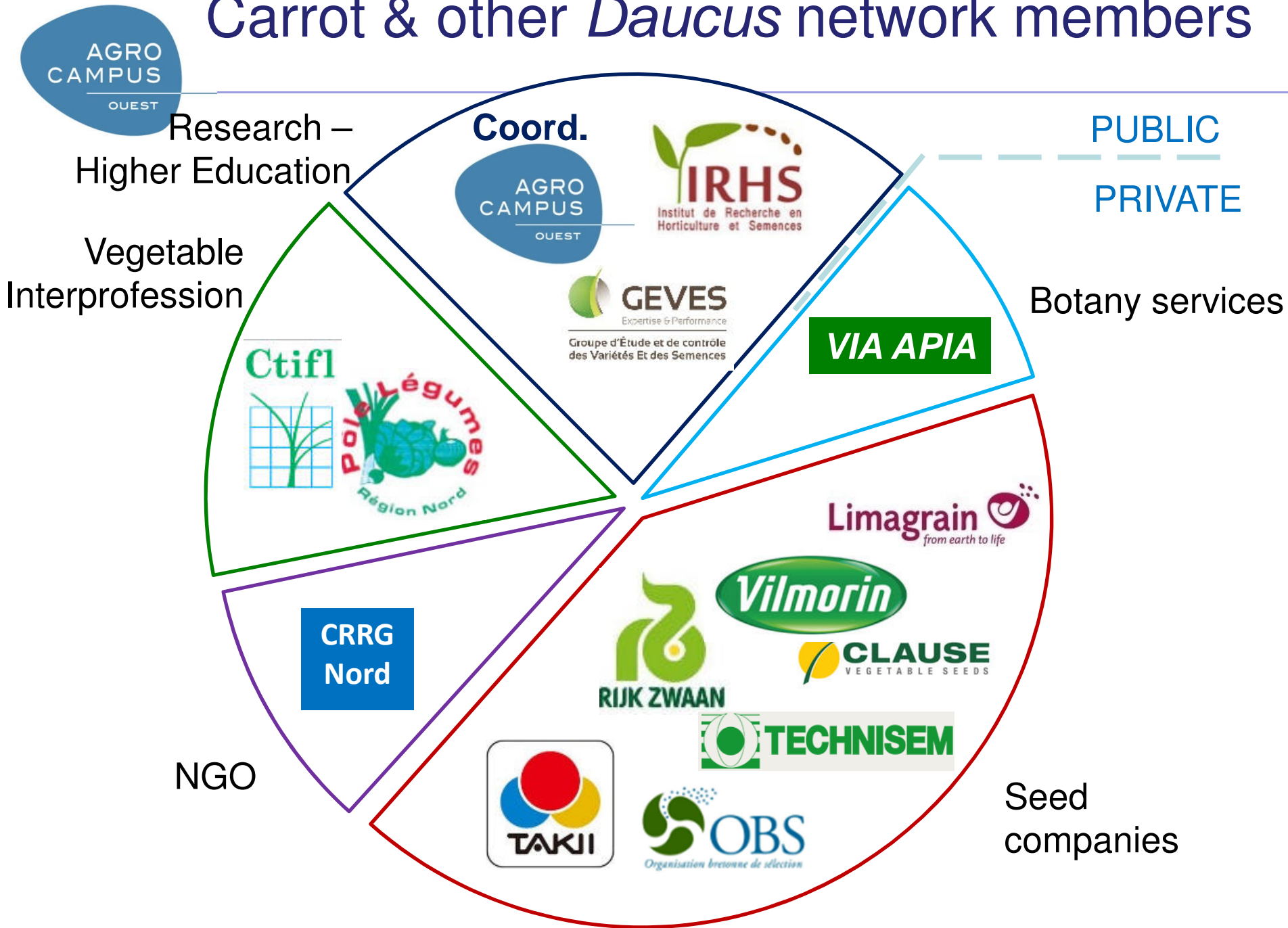
- A rich history of carrot breeding in France
- Rapid replacement of traditional Ops by hybrid varieties
- Reduction of cultivated types to the Nantaise type
- Unknown diversity of wild relatives
- Global risk of genetic erosion



Network set-up in 1996  
Under the aegis of  
BRG  
(Charter + network rules)



# Carrot & other *Daucus* network members



## Network objectives

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- Safeguard wild and cultivated carrot PGR
- Mutualise efforts of management and conservation
- Gather expertise of carrot specialists ((pre)breeders, technical centers extension services, research and higher education, taxonomists, agronomists, geneticists, ...)
- Maintain and valorize genetic patrimony





# Network activities

CATALOGUE GÉNÉRAL POUR 1930

Descriptif sommaire

**CAROTTES**

En grande culture, en plein air

En 1930 - 13 à 18 cm - à la fin - 1 à 1 1/2 kg

Page de Catalogue des Carottes de grande culture

CAROTTES	DESCRIPTION	PROD.	1929	1930
Carotte à cœur blanc	— Description: racine blanche, cœur blanc	100	1.10	1.10
Carotte à cœur rouge	— Description: racine rouge, cœur rouge	100	1.10	1.10
Carotte à cœur orange	— Description: racine orange, cœur orange	100	1.10	1.10
Carotte à cœur jaune	— Description: racine jaune, cœur jaune	100	1.10	1.10
Carotte à cœur vert	— Description: racine verte, cœur vert	100	1.10	1.10
Carotte à cœur noir	— Description: racine noire, cœur noir	100	1.10	1.10
Carotte à cœur violet	— Description: racine violette, cœur violet	100	1.10	1.10
Carotte à cœur bleu	— Description: racine bleue, cœur bleu	100	1.10	1.10
Carotte à cœur gris	— Description: racine grise, cœur gris	100	1.10	1.10
Carotte à cœur brun	— Description: racine brune, cœur brun	100	1.10	1.10
Carotte à cœur blanc-rose	— Description: racine blanche-rose, cœur blanc-rose	100	1.10	1.10
Carotte à cœur rouge-rose	— Description: racine rouge-rose, cœur rouge-rose	100	1.10	1.10
Carotte à cœur orange-rose	— Description: racine orange-rose, cœur orange-rose	100	1.10	1.10
Carotte à cœur jaune-rose	— Description: racine jaune-rose, cœur jaune-rose	100	1.10	1.10
Carotte à cœur vert-rose	— Description: racine verte-rose, cœur vert-rose	100	1.10	1.10
Carotte à cœur noir-rose	— Description: racine noire-rose, cœur noir-rose	100	1.10	1.10
Carotte à cœur violet-rose	— Description: racine violette-rose, cœur violet-rose	100	1.10	1.10
Carotte à cœur bleu-rose	— Description: racine bleue-rose, cœur bleu-rose	100	1.10	1.10
Carotte à cœur gris-rose	— Description: racine grise-rose, cœur gris-rose	100	1.10	1.10
Carotte à cœur brun-rose	— Description: racine brune-rose, cœur brun-rose	100	1.10	1.10



Inventory  
Document

Acquire  
Share & Collect

Characterize  
Authenticate

Regenerate



Conserve

Evaluate

Distribute

# Network governance

## Coordination

Meeting animation  
Collection management  
Proposition and reporting  
Projects management

2 annual steering committees  
consensus decisions & 1  
annual filed trial

## Membership conditions

Accept charter & rules, provide material, 1  
multiplication/year, participation to trial  
and meeting

## 2 collections

National collection  
Network collection

Annual financial reporting  
Internal to each partner



# PPP experience in the network

## Benefits

Sharing within an Expert group

Resources sharing and management mutualisation

Descriptions for further use in breeding

Better understanding of *Daucus* genus

Direct access to unique resources

Share with international community

## Limitations

Difficulty to acquire collaborative evaluation data (work on resistances, quality)

Motivation of the participants and their related managements.

## Factors of success

Equilibrium: private/common /public good

Volunteering based organization

Nursery for collaborative projects



## Valorisation of wild and cultivated PGR for innovative carrot breeding (2008-2011).

Funded by French Ministry for Agriculture (Agrocampus Ouest-IRHS, Vilmorin, Clause, Rijk Zwaan, Geves, Ctifl, Via Apia, Pole Légumes Région Nord)

- Collecting missions, conservation of wild relatives from France
- Improvement of taxonomical knowledge of wild subspecies and taxa
- Diversity structure of French wild relatives (molecular markers)
- Characterization and evaluation for traits of interest for breeding



## Other projects for PGR and breeding

Carrot pigments, carrot quality, A. dauci resistance, participatory breeding for organic – Carrot wild relatives project, CarrotDiverse (ECPGR)

- Communication on network activities and collections
- Collecting missions
- Collaborative projects
- Worries about regulation uncertainty and hardening







**IHC 2022**  
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ANGERS – FRANCE



31<sup>st</sup> International  
Horticultural Congress



ANGERS, France  
August 14-20  
2022

