COST Action FA1204 database: A simple and effective tool for vegetable growers and the scientific community

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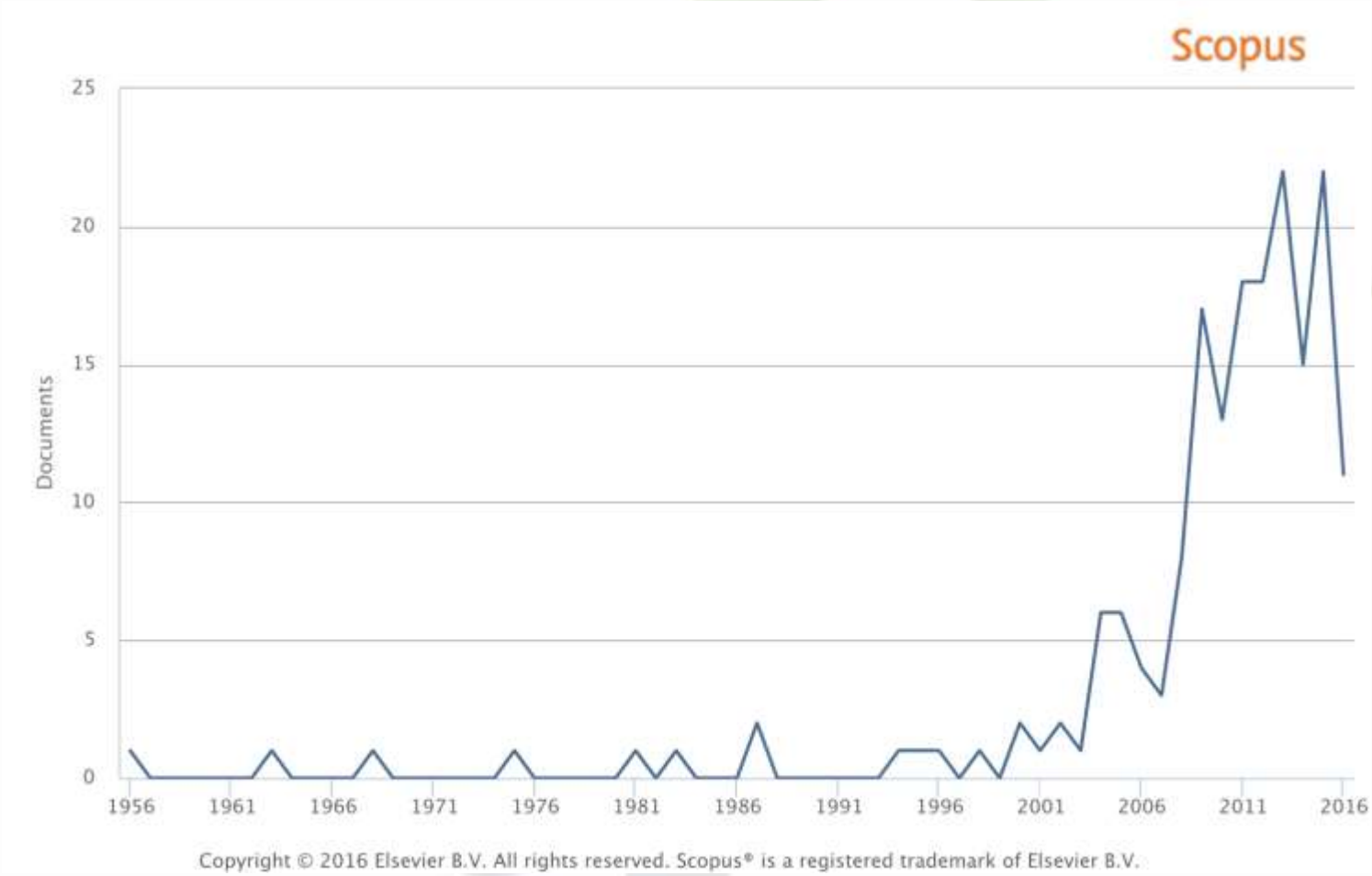
Publications vegetable grafting- a trend in tomato



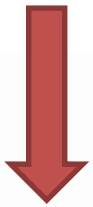
Key words: «tomato» «grafting» «rootstock»

Why do we need a database ?

- **Scattered** information in technical and scientific journals, abstracts of proceedings
- Increased **interest** of key **stakeholders** (academic, farmers, farm advisors, seed companies, nurseries, policy makers) to scientific knowledge and technical information
- Make information **easily available** to different stakeholders

Structure of the database- **How was it made?**

Scopus

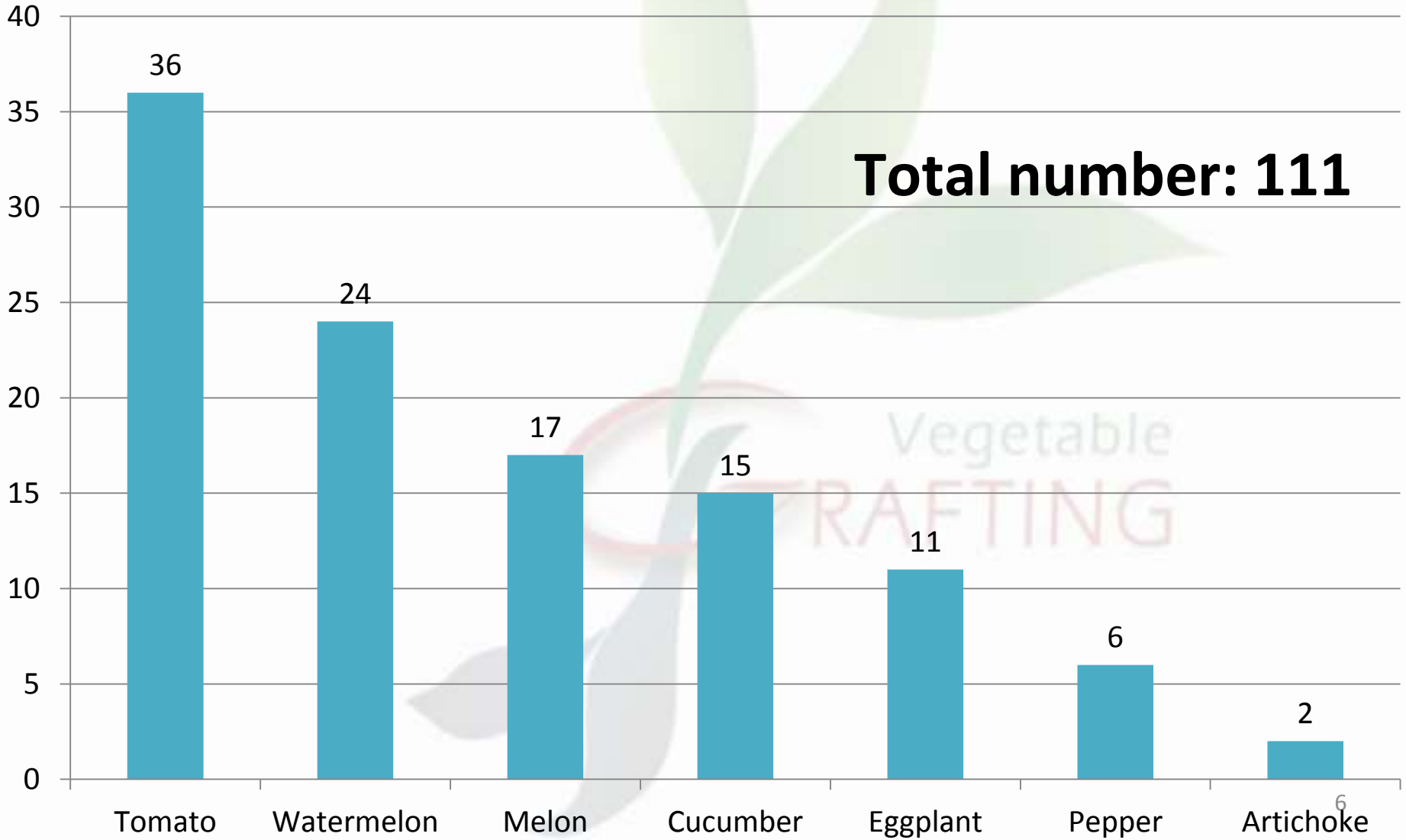


- Excel file
- Excel spreadsheet (each spreadsheet=crop)
- Source of information:
  - *www.scopus.com*
  - key words: «*Crop name*», *Grafting, Rootstock*
  - Years considered (1950-2016)
- Information: Title, Author(s), Journal citation, growing system, scion, rootstock, experimental treatments, effects of grafting combinations on agronomic response of crop and fruit quality.

Organization of database: **classification** of the works

- Disease tolerance
- Abiotic stress tolerance
- Compatibility issues
- Sources of rootstocks (New genetic materials)
- Grafting technique
- Vigour effects on scion
- Yield effects
- Quality effects

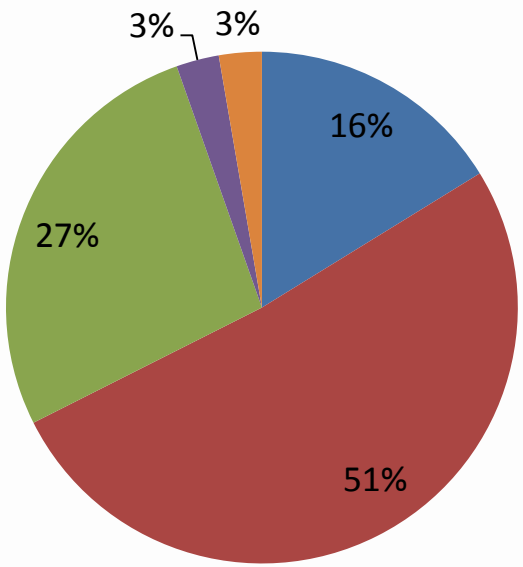
Number of studies found in literature



Total number: 111

Tomato- *Solanum lycopersicum*

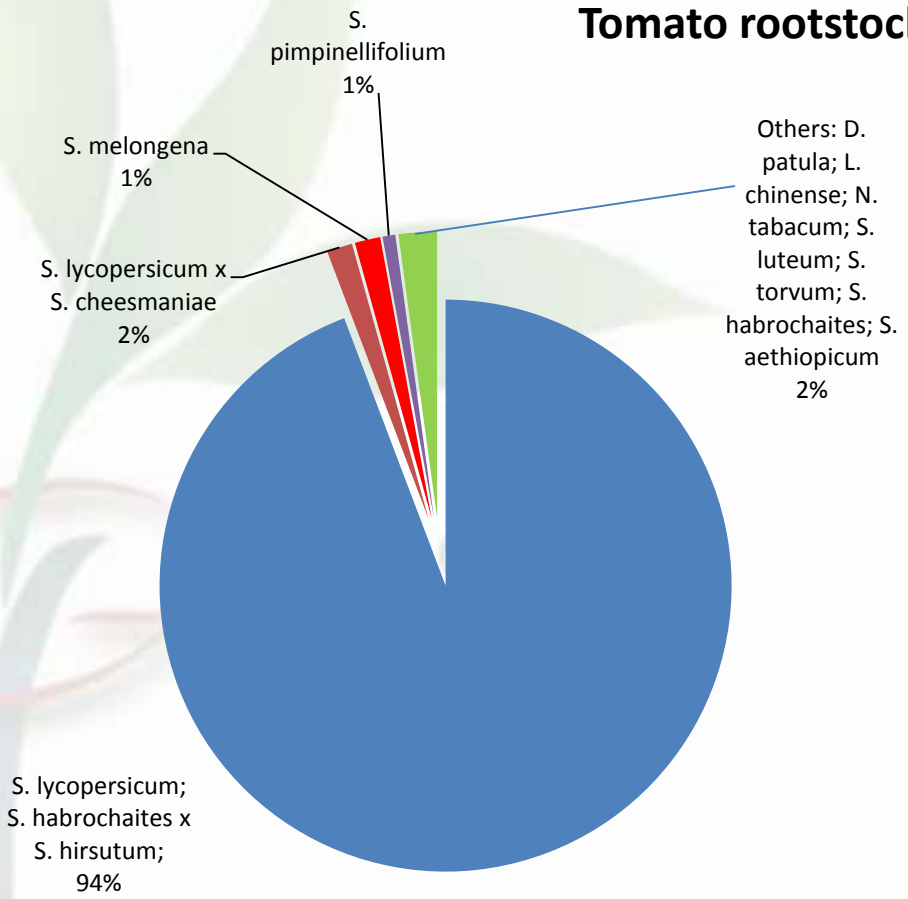
Categories



- Disease resistance of rootstocks
- Abiotic stres tolerance of rootstocks
- Agronomic behavior
- Grafting techniques
- New genetic materials

36 studies

Tomato rootstocks



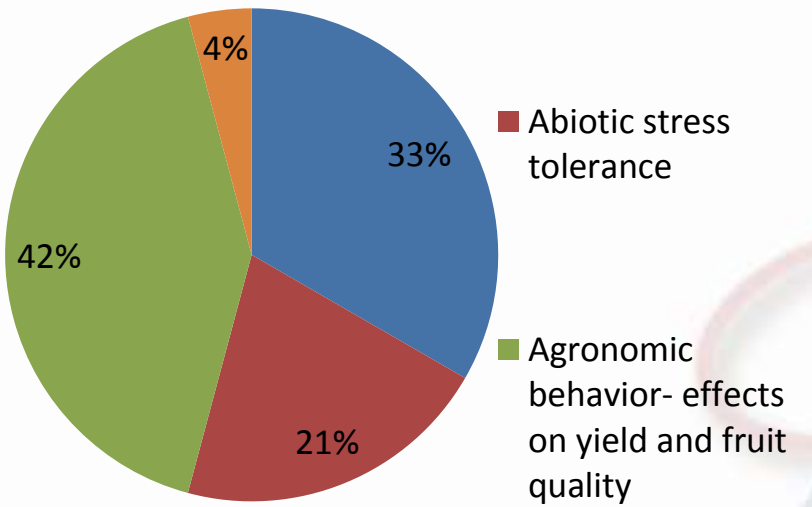
417 rootstock- scion combinations

Tomato- *Solanum lycopersicum*

Stress Importance (number of pubblications)	Biotic stress	Abiotic stress
1	Fusarium oxysporum	Salinity
2	Meloidogyne javanica	Drought
3	Colletotrichum coccodes	Low temperature
4	Ralstonia solanacearum	Alkalinity
5	Pyrenochaeta lycopersici	Flooding
6	Verticillium albo-atrum	Nichel
7		Shade
8		Low K supply

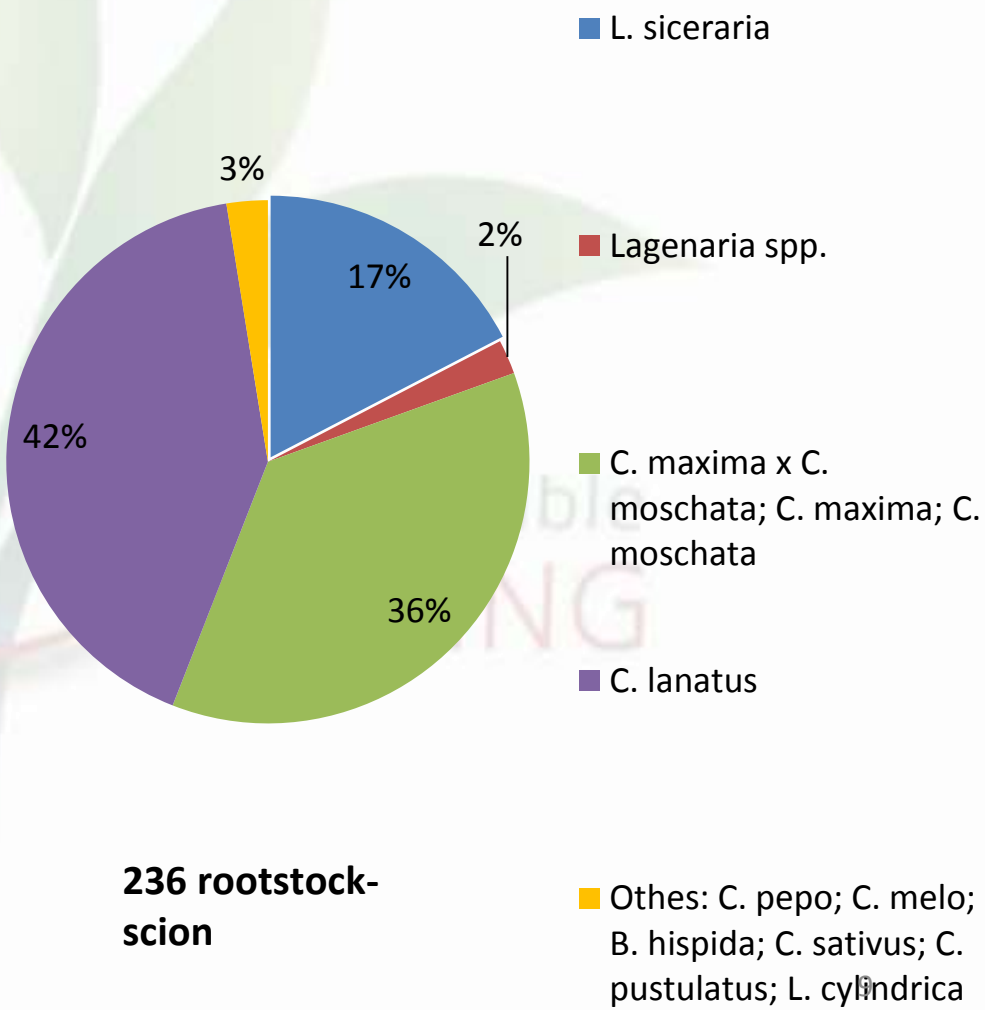
Watermelon- *Citrullus lanatus*

Categories



24 studies

Watermelon rootstocks

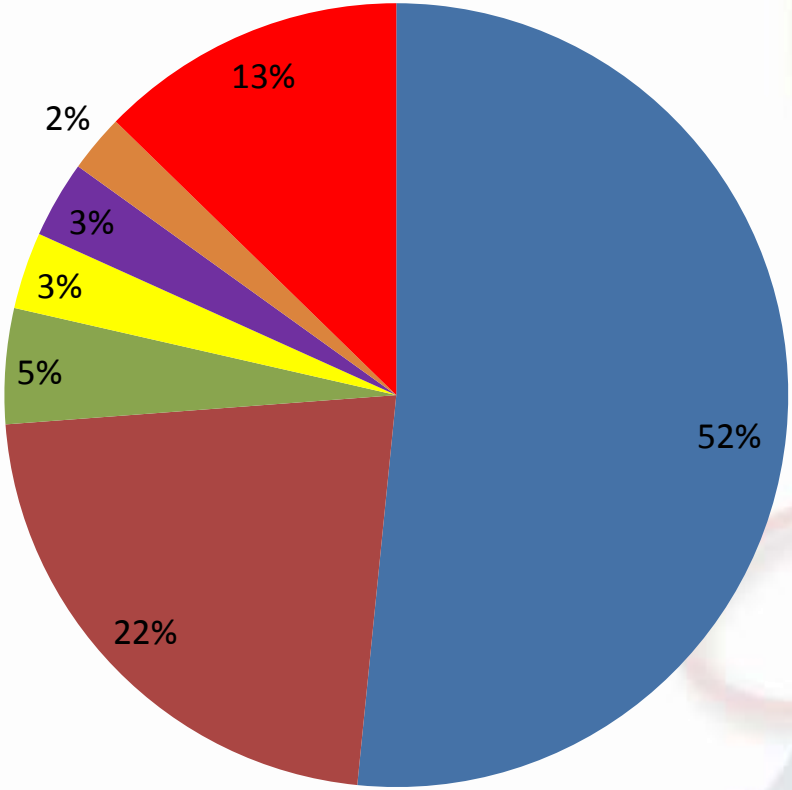


236 rootstock-scion

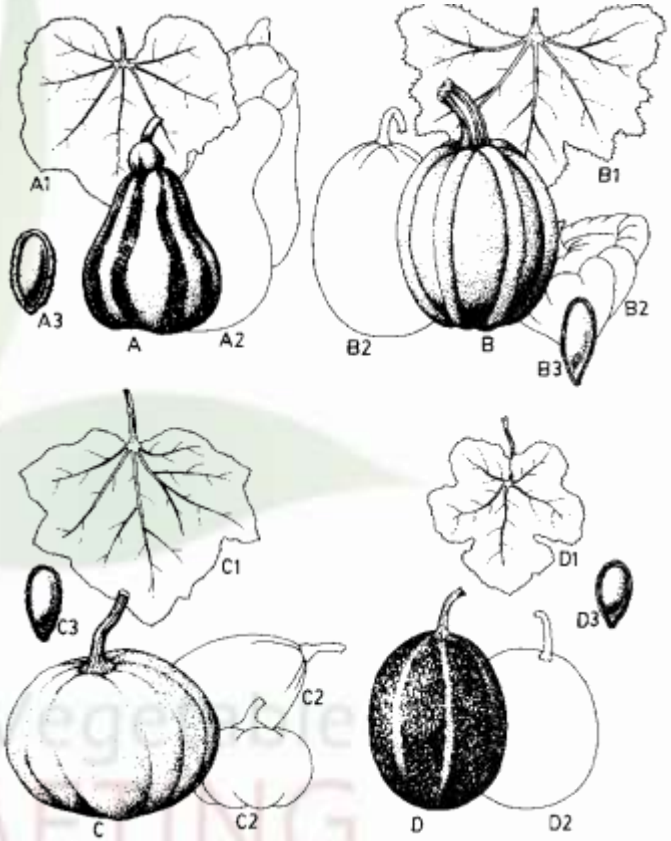
Watermelon- *Citrullus lanatus*

Stress Importance (number of pubblications)	Biotic stress	Abiotic stress
1	Fusarium ssp. (niveum, oxysporum)	Low N supply
2	Meloidogyne javanica	Low K supply
3	Phytoptora capsici	Low Mg supply
4		Alkalinity
5		Salinity

Melon rootstocks- *Cucumis melo*



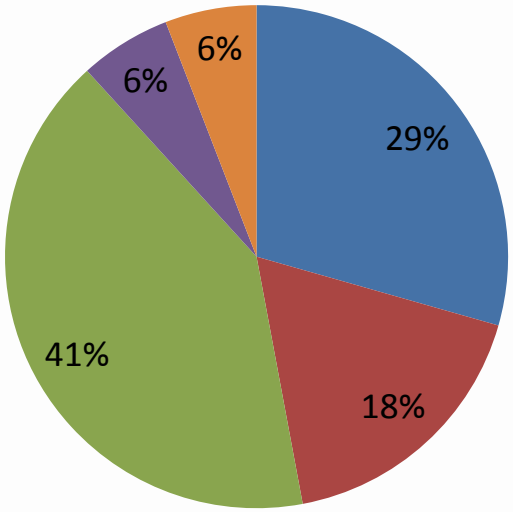
- C. maxima x C. moschata
- C. melo
- C. metuliferus
- C. sativus
- C. zeyheri
- B. hispida
- Others: C. maxima; C. moschata; C. pustulatus; L. siceraria; C. ficifolium; C. figorei; C. lanatus; C. africanus; C. anguria; C. myriocarpus; C. dipsaceus; C. prophetarum; C. subsericeus; C. zambianus



126 rootstock- scion combinations

Melon- *Cucumis melo*

Categories

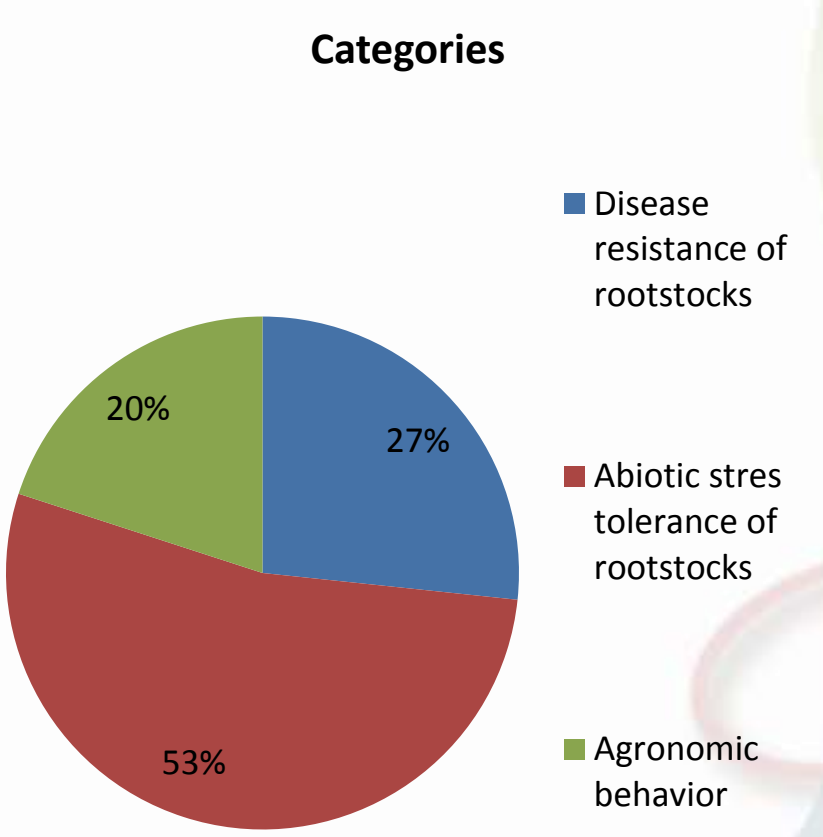


- Disease resistance of rootstocks
- Abiotic stres tolerance of rootstocks
- Agronomic behavior
- Grafting techniques
- New genetic materials

17 studies

Stress Importance (number of pubblications)	Biotic stress	Abiotic stress
1	Fusarium oxysporum	Salinity
2	Meloidogyne javanica	
3	Macrophomina phaseolina	
4	Monosporascus cannonballus	

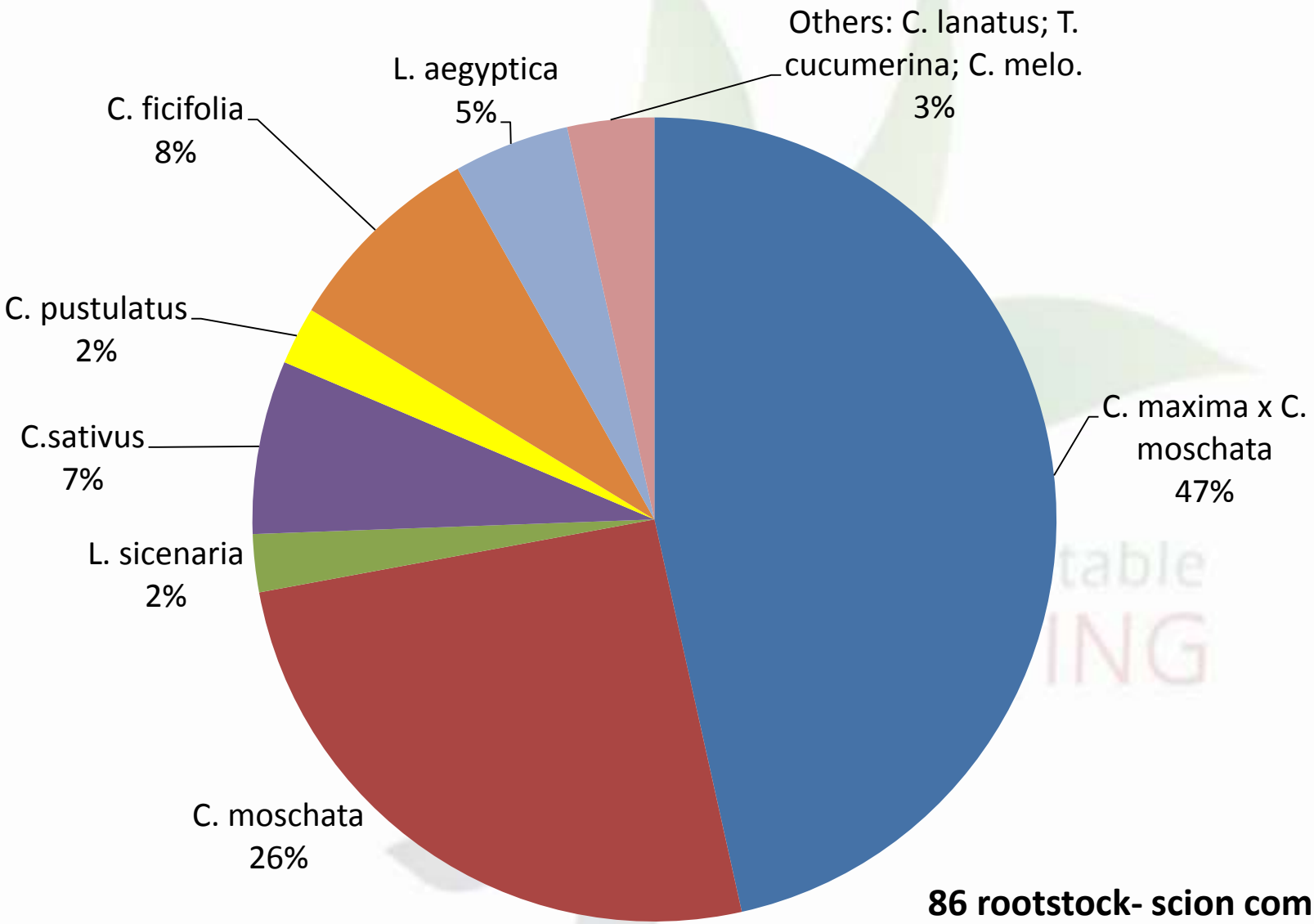
Cucumber- *Cucumis sativus*



15 studies

Stress Importance (number of pubblication	Biotic stress	Abiotic stress
1	Podosphaera xanthii	Salinity
2	Meloidogyne javanica	Low temperature
3	Fusarium oxysporum	High temperature
4	Pythium aphanidermatum	Heavy metals

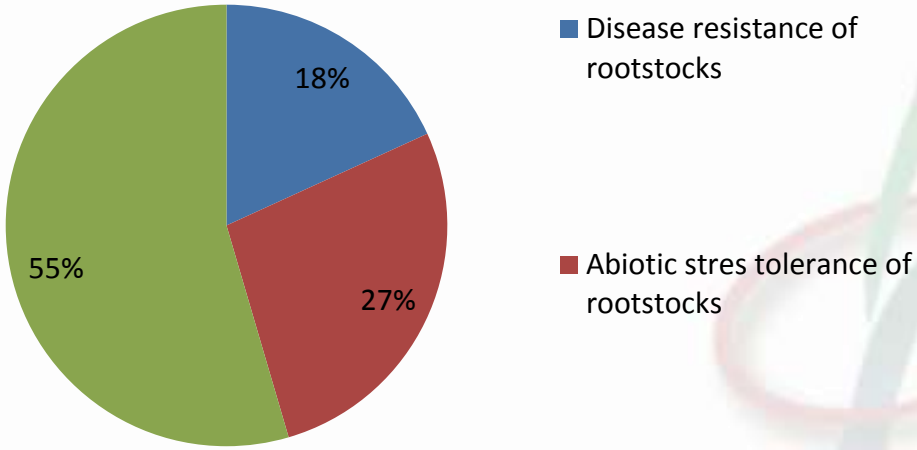
Rootstock cucumber- *Cucumis sativus*



86 rootstock- scion combinations

Eggplant- *Solanum melongena*

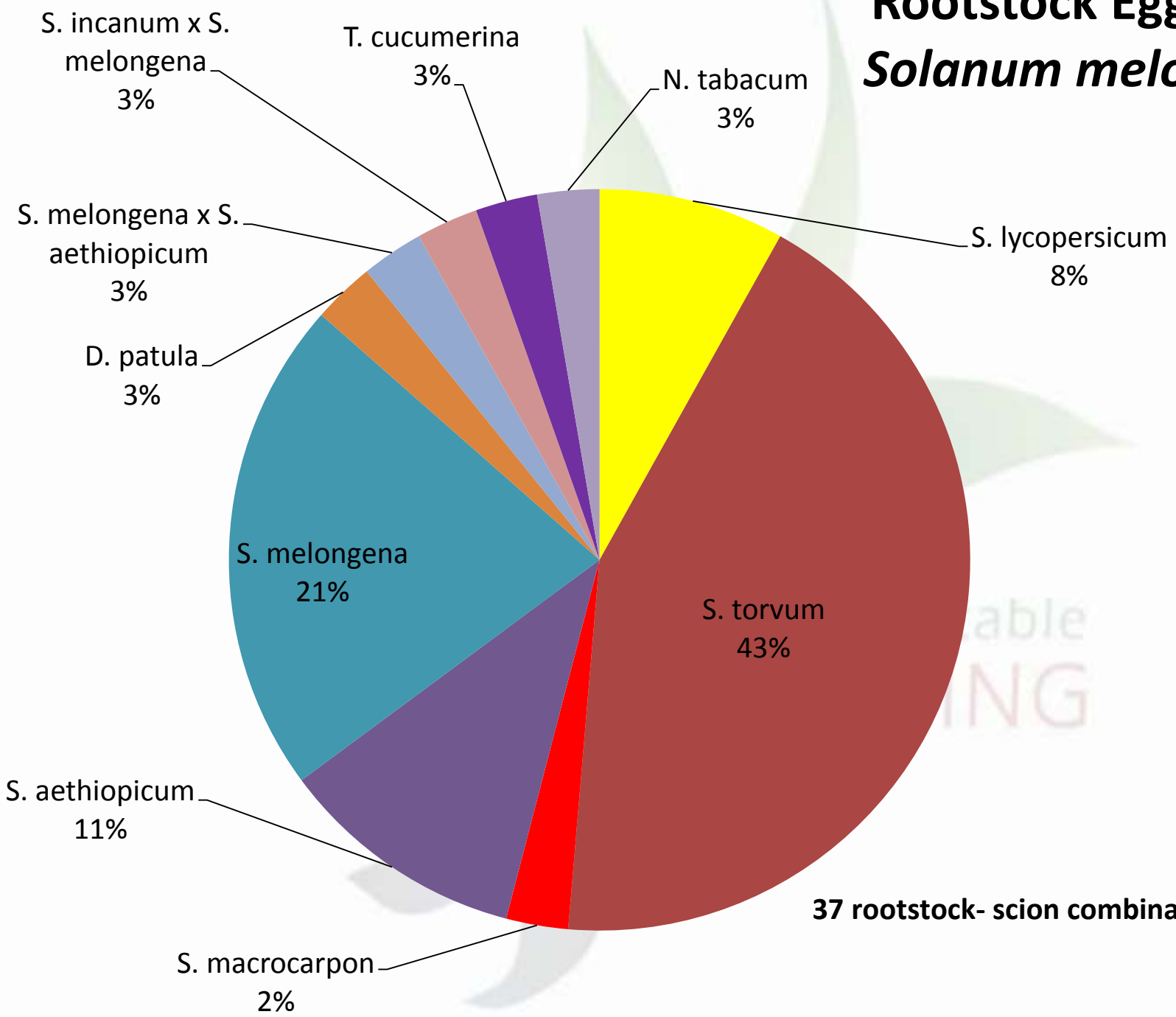
Rootstock eggplant



11 studies

Stress Importance	Biotic stress	Abiotic stress
1	Meloidogyne incognita	Flooding stress
2	Verticillium dahliae	Alkalinity
3		Nichel content

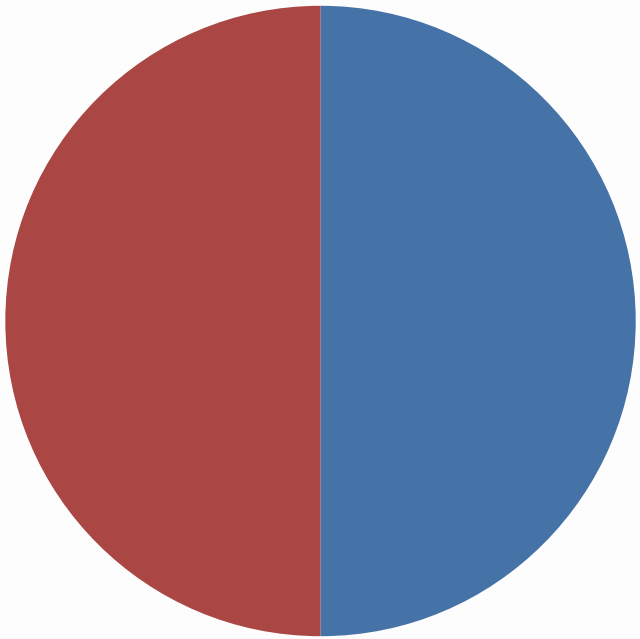
Rootstock Eggplant- *Solanum melongena*



37 rootstock- scion combinations

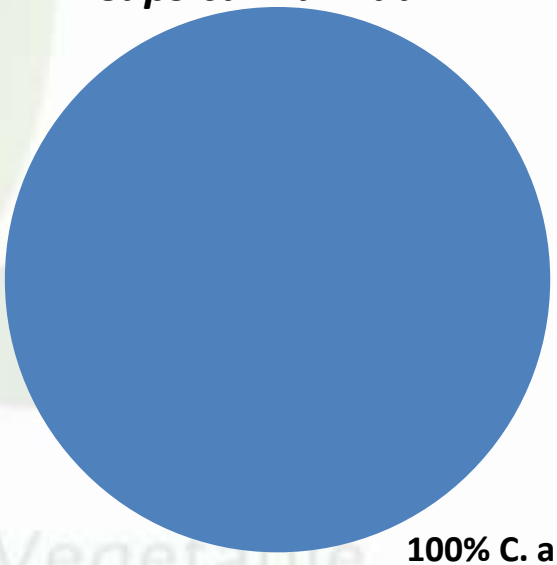
Pepper- *Capsicum annuum*

Categories



6 studies

Rootstock pepper- *Capsicum annuum*



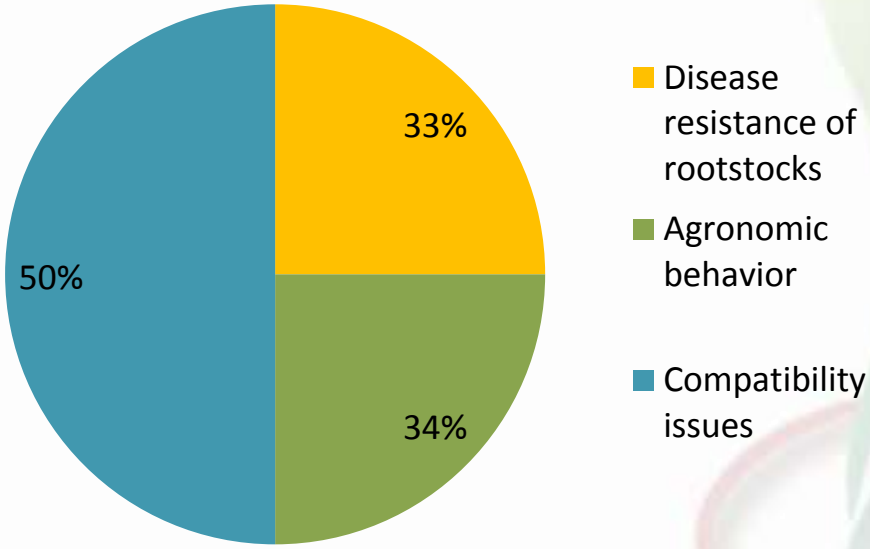
100% C. annuum

78 rootstock- scion

Stress Importance	Biotic stress	Abiotic stress
1	Phytoptora capsici	Salinity
2	Ralstonia solanacearum	Shade
3	Meloidogyne incognita	

Artichoke- *Cynara cardunculus var. scolymus*

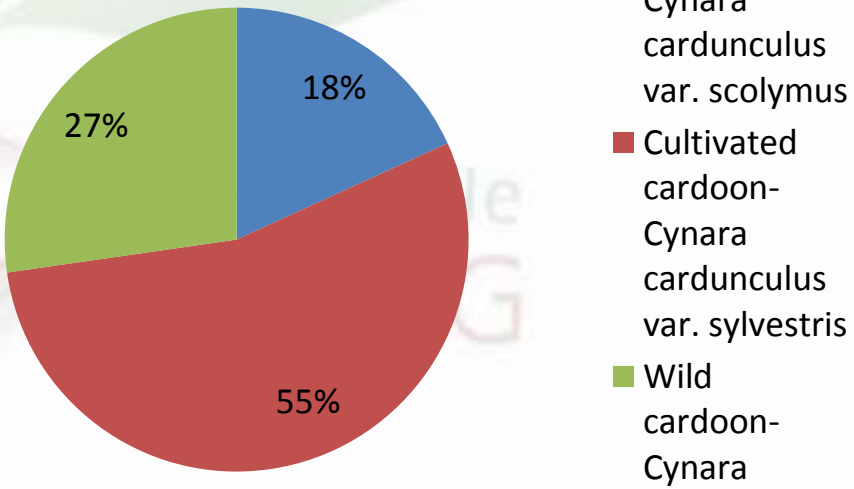
C. cardunculus var. scolymus



2 studies

Stress Importance (number of pubblication	Biotic stress	Abiotic stress
1	Verticillium spp.	-

Artichoke rootstocks- *Cynara cardunculus var. scolymus*



11 rootstock- scion combinations

Conclusions

- Simple and easy to use **tool** for **selection of grafting combinations** suitable for a specific growing environment.
- Allows a quick identification of **research needs** for different crops and categories.
- It is **far to be completed**: abstracts, proceeding papers, and other minor scientific journal have not be considered.
- Implementation of **Design** and upload in the **COST website** is needed.

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COST ACTION FA1204

Thanks for your attention

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