

Research and Technological Needs and Priorities for wine in Greece: The case of Eastern Macedonia and Thrace



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Structure of the Presentation

1

Research & innovations strategies by GRST

2

Research & Innovation on Wine processing

3

Research & Innovation on Viticulture

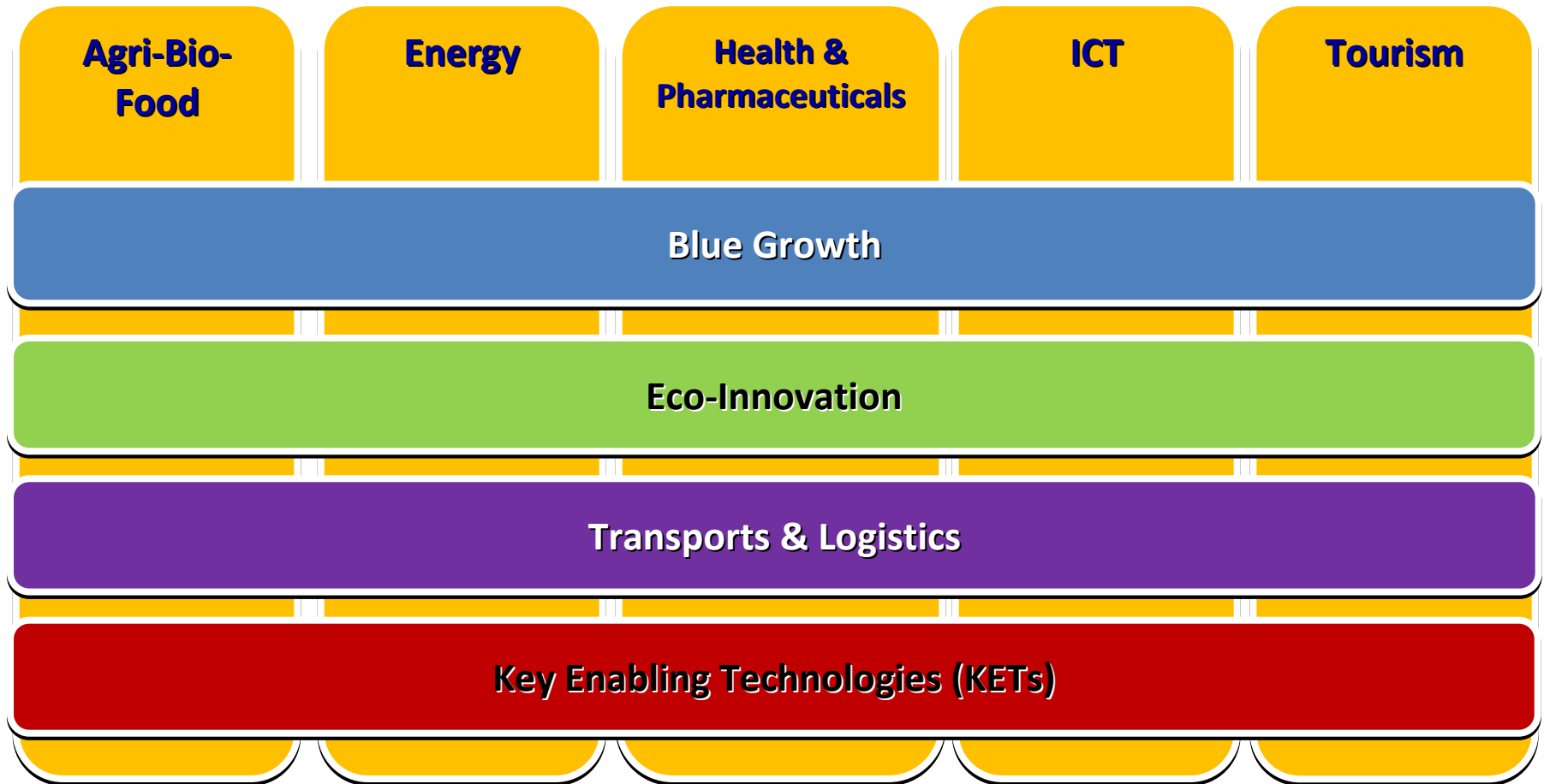
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The case of Eastern Macedonia and Thrace

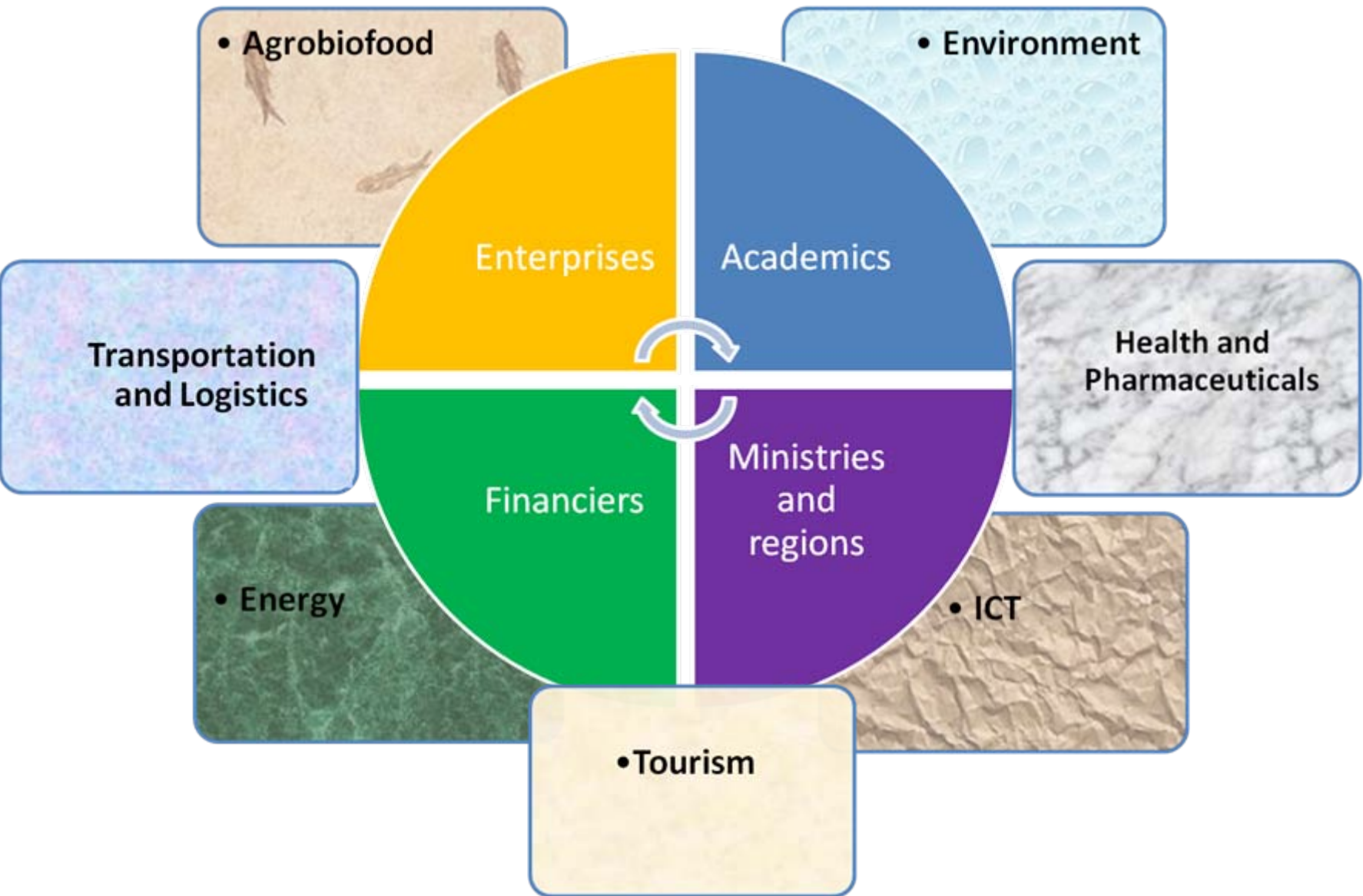
GRST ROLE ON NEW STRATEGIES

- GRST funded the agro-bio-food chain in all the actions.
- Contributes to the development of research & innovation policies.
- Already completed the consultation to the 13 areas identified on agro-bio-food chain
- the first announcements of funding opportunities were already advertised

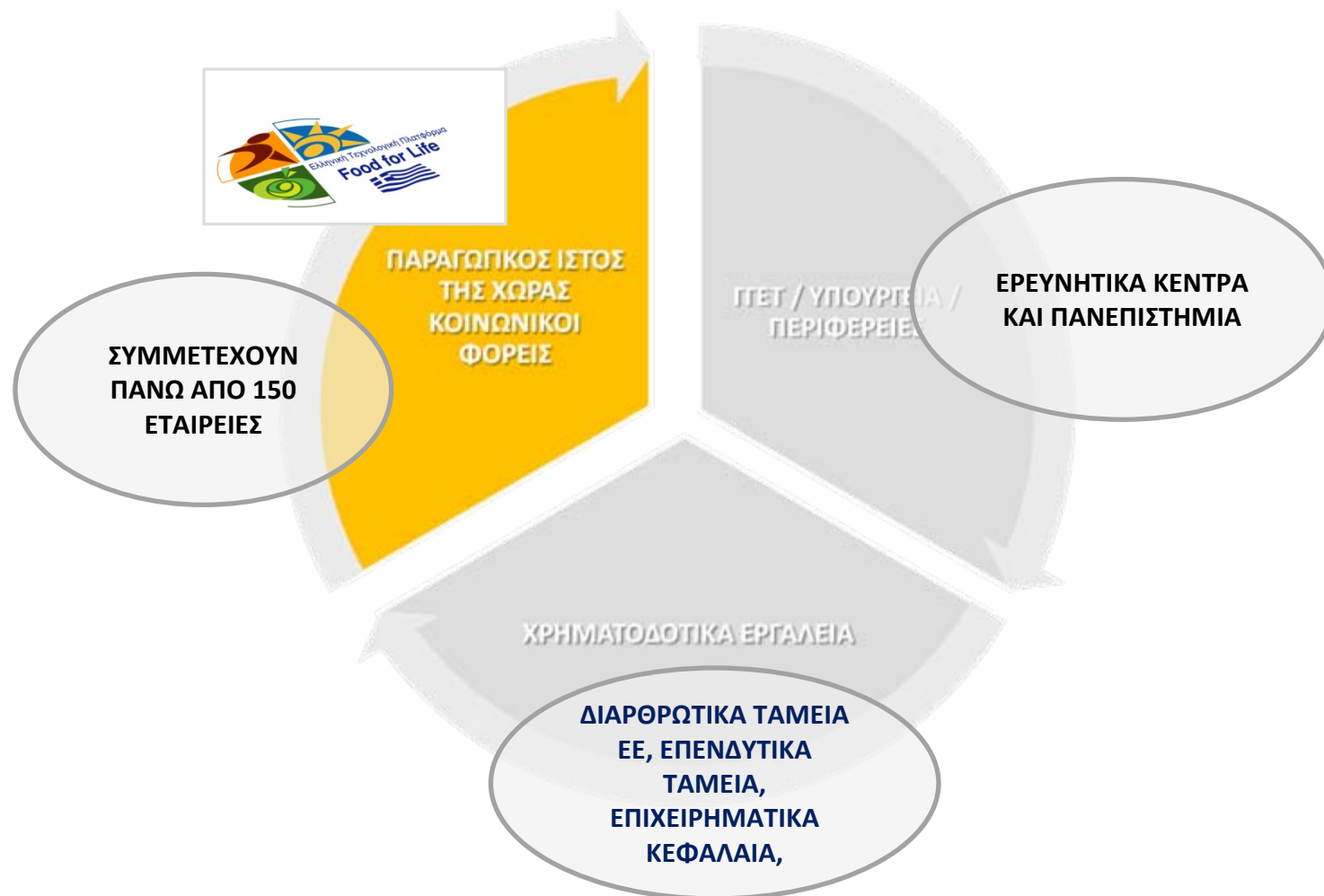
Smart specialisation Properties



Innovation Platforms

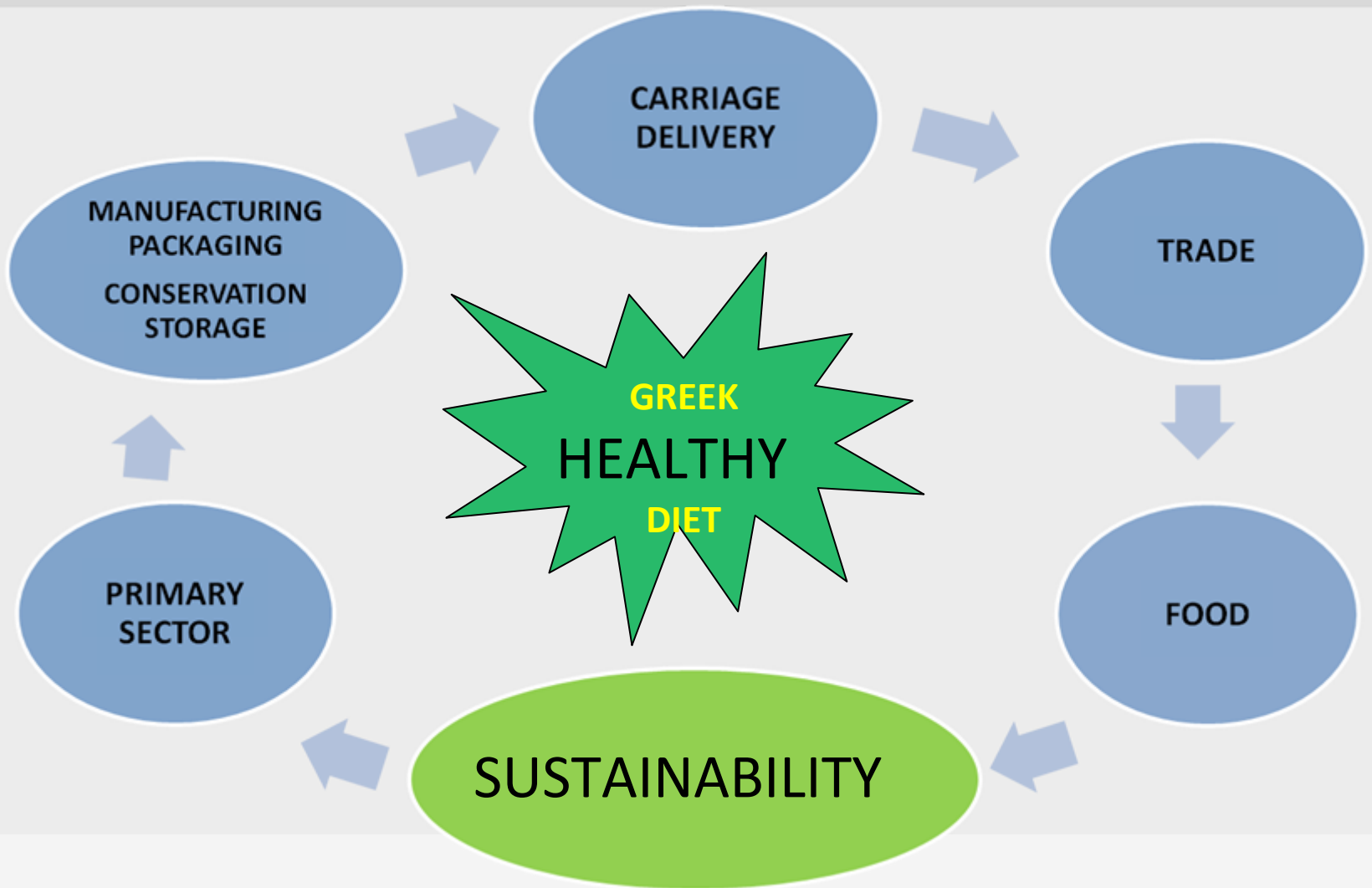


Πλατφόρμες καινοτομίας



2 ΣΥΝΑΝΤΗΣΕΙΣ: 2/8 και 16/10
2013

AGRO-BIO-FOOD THE BIGGEST CHAIN OF VALUE FOR OUR COUNTRY



13 thematic areas

Food - Nutrition



- SME'S
- HATiP

working
groups

Environment

- Forestry
- Water
- Residues from Agricultural Activities

Primary Agricultural production Groups

- Olives - Oil
- Horticulture
- Vine - Wine
- Aquaculture
- Plant Protection
- Field Crops
- Animal products Dairy
- Pomology

Residues from
Agricultural
Activities

Strategy - Aims

- Improvement of the competitiveness of the Greek wine sector will depend on its capacity for innovation.
- A strategic plan should be developed and funded to build the new 'innovative' profile of the Greek wine sector.
- This plan should be holistic, covering the vine/wine chain from terroir and planting material to wine production and marketing.

Priority fields

- **Winemaking varieties:** wine potential evaluation, clones , certified propagation plant material, vineyard management.
- **Table grape varieties, raisin varieties.**
- **Winemaking / distillates:** best winemaking practices of greek varieties βέλτιστες, innovation, adaptation on climatic changes καινοτομία
- **Wine and nutrition / Wine & health.**
- **By products valorisation / environment protection.**

The team vine -wine

- A small team was gathered together
- Co-ordinator Y. Kotseridis **A.U.A**
 - **S. Koundouras**, A.U.Th
 - **V. Karathanos**, Charokopion University
 - **A. Karathanos**, winemaker
 - **Kanakis I.**, nurseries
 - **A. Melakis** , Winemaker Coop Union Herakleion
 - **E. Hatzifdimitriou**, School of Chemistry A.U.Th

Διαβούλευση με τους παραγωγικούς φορείς

Παρουσιάσεις των τομέων προτεραιότητας σε:

- ΣΕΟ
- ΚΕΟΣΟΕ
- ΟΙΝΟΙ ΒΟΡΕΙΟΥ ΕΛΛΑΔΟΣ
- ΟΙΝΟΡΑΜΑ

Αποστολή ερωτηματολογίων:

- Πανω από 50 απαντήσεις

Questionnaires

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Παρακαλούμε όπως αξιολογήσετε το κάθε ερώτημα : Α : πολύ σημαντικό, Β : λίγο σημαντικό για την ελληνική αμπελουργία – οινολογία

Αμπέλι

1. Οινικό δυναμικό ελληνικών ποικιλιών, σύγκριση με ξενικές

<input checked="" type="checkbox"/>	Α	Β	Γ	Δ
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2. Αρωματική ωρίμανση, πολυφαινολική ωρίμανση των διαφόρων ποικιλιών

<input checked="" type="checkbox"/>	Α	Β	Γ	Δ
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3. Μελέτες σχετικά με το γονιδίωμα των ποικιλιών

<input checked="" type="checkbox"/>	Α	Β	Γ	Δ
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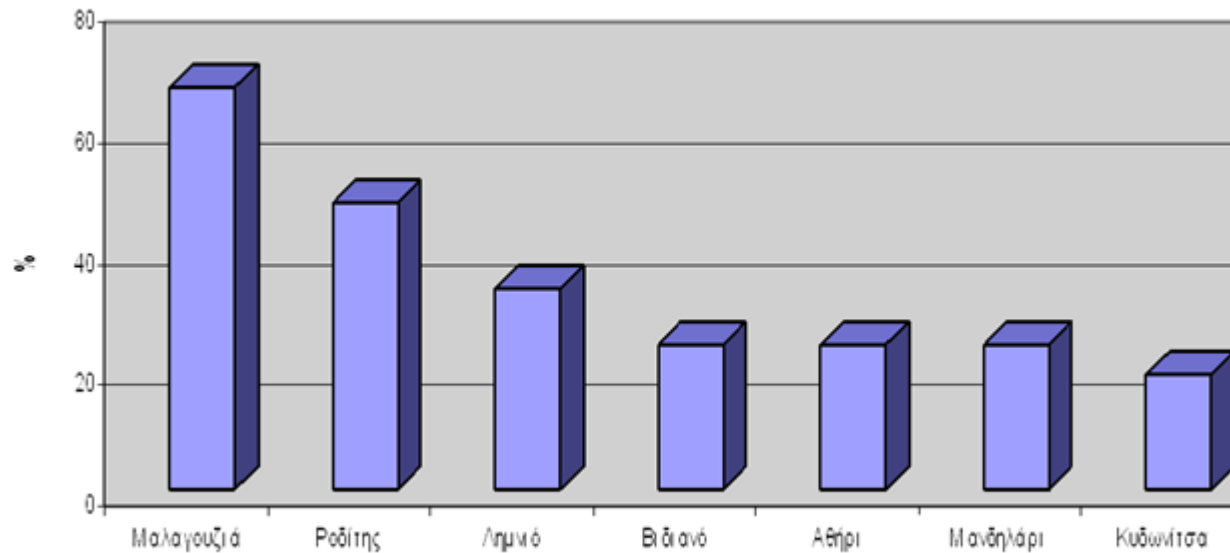
Questionnaires

7. Εκτός από τις βασικές ποικιλίες στου στρατηγικού σχεδίου (Αγιοργίτικο, Ασύρτικο, Ξινόμαυρο, Μοσχοφίλερο) για τις οποίες θα πρέπει να εφαρμοστεί πρόγραμμα κλωνικής επιλογής, ποιες άλλες ποικιλίες θεωρείτε ως σημαντικές για κλωνική επιλογή

Βηπάνα, Θεσσαυήρι, Βεδιανό, Δαφνι, Παντό, Κοτσίδα, Λι, Μανσηάρε.

Ερωτηματολόγιο στην Κρήτη!!!

Questionnaires



The most interesting varieties according the producers

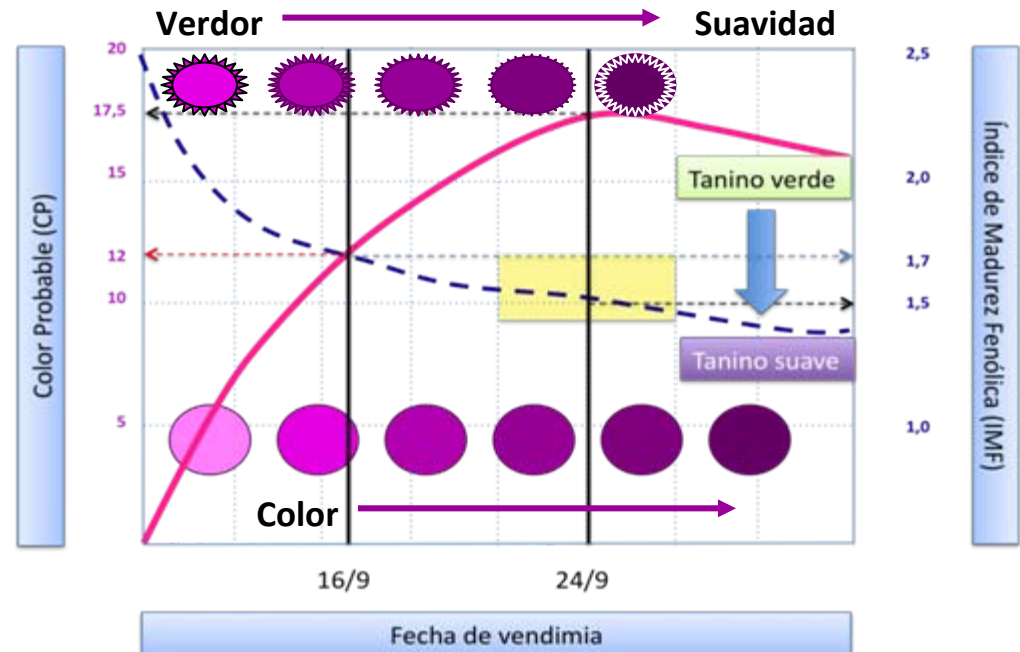
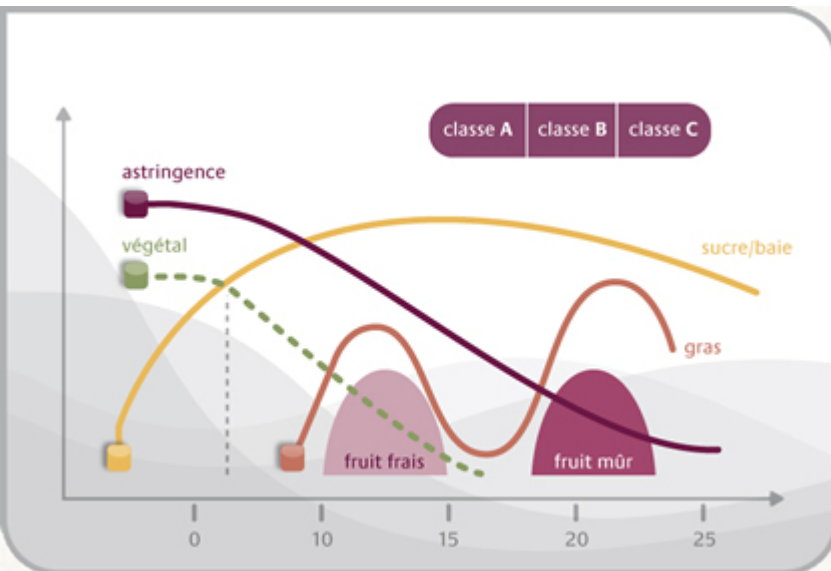
Research and innovation on winemaking

1. Best winemaking practices for the Greek varieties- climate change adaptation

- R & In on new winemaking techniques in order to promote the uniqueness of Greek varieties
- White wine and premature ageing, conservation
- No sulfite added wines, organic wines

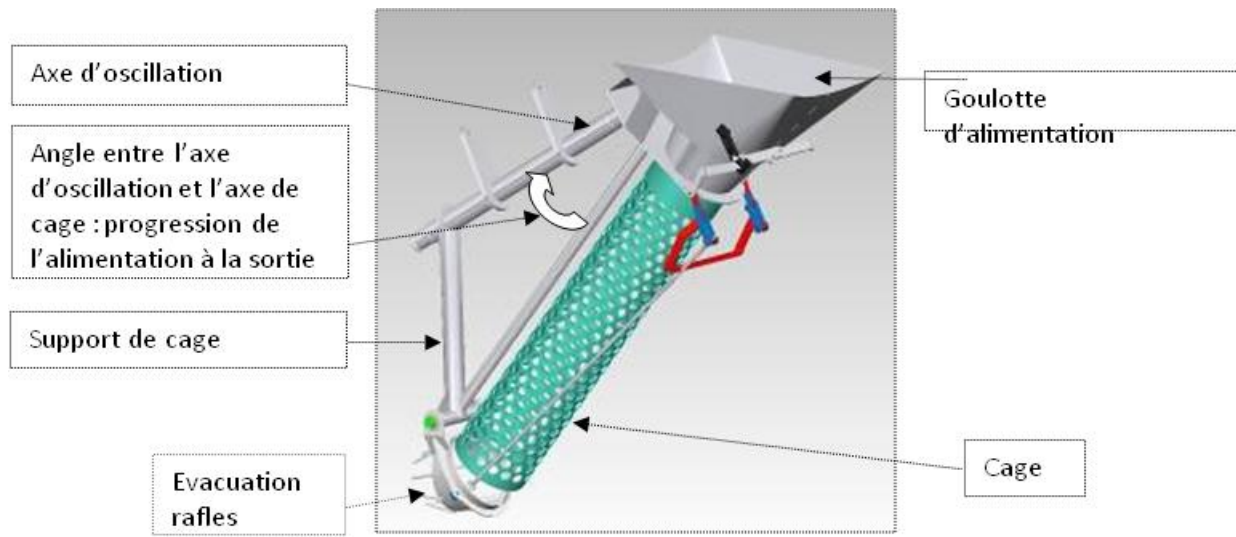
Best winemaking practices for the greek varieties- climate change adaptation- Exemples

- Phenolic maturity
- Grape anthocyanes & final wine quality



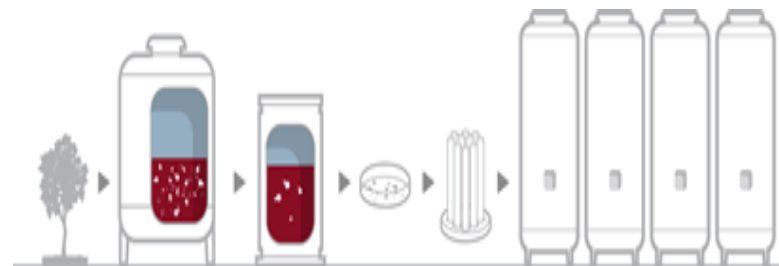
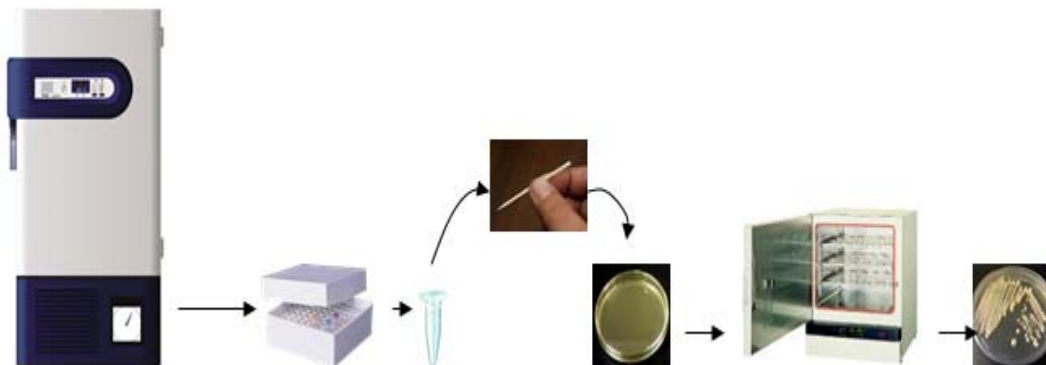
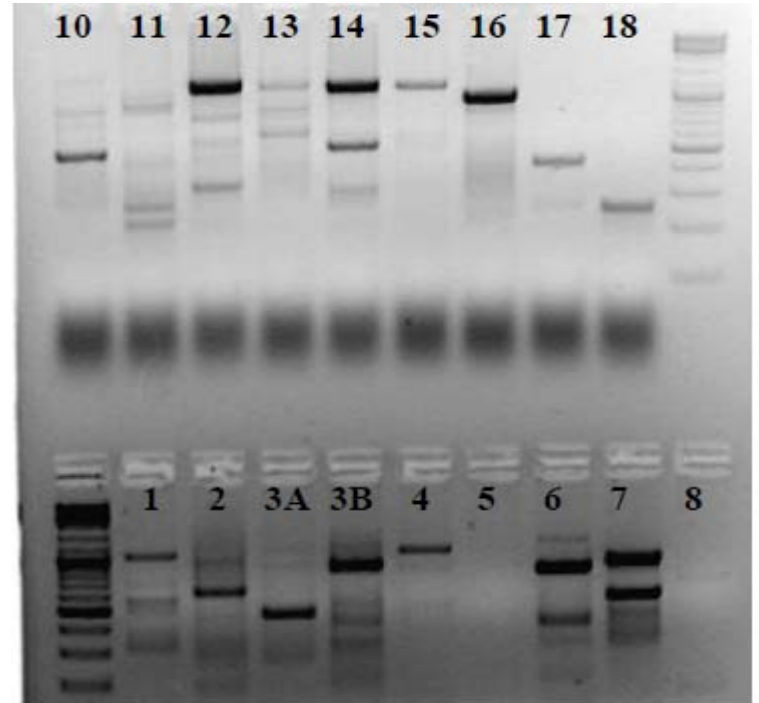
Best winemaking practices for the greek varieties- climate change adaptation

- Phenolic maturity
- Destemming



Best winemaking practices for the greek varieties- climate change adaptation

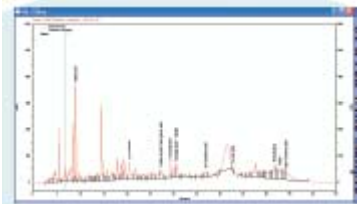
- Phenolic maturity
- Destemming
- Yeast strains
- Non-Saccharomyces



Research and innovation on winemaking

2. Wine and distillates authentication -

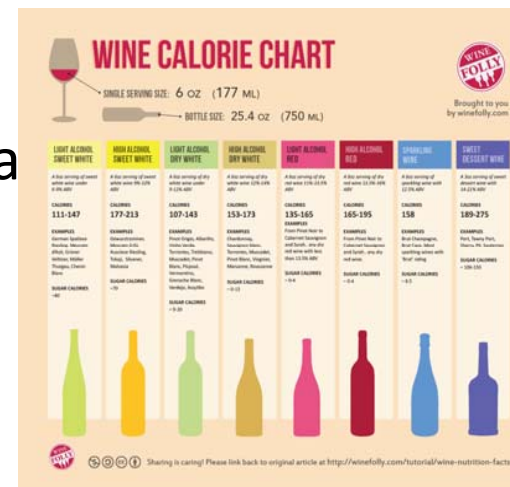
- Analytical methods development for control of varity of area of production, PGI
- Traceability systems



Research and innovation on winemaking

3. Wine & nutrition/ Wine & health

- studies on nutrition value of wine
- Improvement of nutrition value of the wine
- Winemaking techniques and influence on the nutrition value of wine
- Clinical studies proving the relationship of moderate consumption assisting the body and mental health



Research and innovation on winemaking

4. By products reclamation

- development of methodologies applicable to small wineries
- production of high added value products
- Phenolic compounds isolation, shampoo, cosmetics
πολυφαινόλες, food additives



Research and innovation on winemaking

5. Environment Green wineries

- purification and re-use of water
- CO₂ footprint and methods of reduction
- isolation of compounds causing environmental pollution
- methods for reduction of energy consumption

Research and Innovation in Viticulture

1. **Definition** of varietal potential of Greek indigenous grapevine cultivars.
2. **Maximization** of the expression of varietal potential by manipulation of *genetic, environmental, and vineyard management parameters*



Definition of varietal potential

- Definition of flavor and aroma profile of main Greek varieties
- Identification of key aroma compounds for each cultivar
- Investigation of phenolic structure and maturity
- Genotyping & Genomic Profiling



Expression of varietal potential

1. Investigation of the role of **genetic variability** (within-variety differentiation)
2. Connection of wine typicity with the **terroir** (soils, climatic conditions).
3. Investigation of the effect of specific **vineyard applications** on the quality and expression of varietal potential of Greek cultivars



1. Vine genetic resources

Investigation of performance differences between varieties or selections of the same variety:

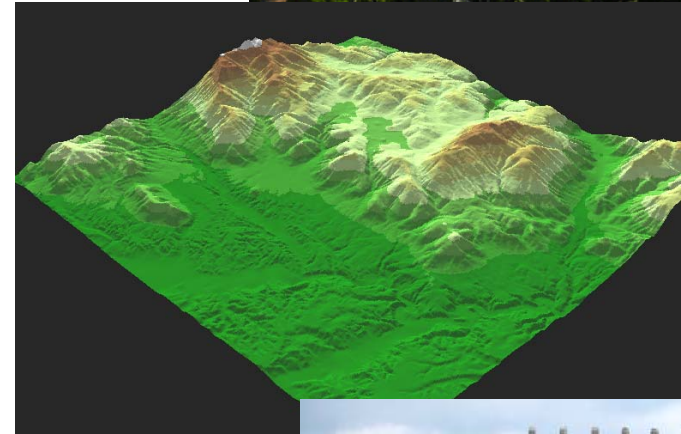
- Conservation and valorization of rare varieties
- Studies of clonal selection (a methodology that takes into account both the genetic identity and the sanitary state of the material) for the most important cultivars to select virus-free, superior biotypes for specific end use.
- Breeding programs for the production of new table grape (&raisins) varieties.
- Efficient phytosanitary control of grape planting stock



2. Vineyard environment

Understanding and studying soil and climate influence on quality and typicity of indigenous winegrapes and new table grape cultivars:

- Zoning of viticultural areas
- Greek climate spatial analysis for viticulture – Determination of suitable climates for each variety
- Adaptation of viticulture to climate change and global warming
- Implementation of Precision Agriculture principles and tools to reduce environmental impact and cost of viticulture and meet winery specifications.



3. Innovation in Viticultural Techniques

Improved vineyard management requires applied research aiming at specific practical objectives:

- Training system
- Rootstocks
- Canopy management.
- Irrigation: moderate/light deficit according to variety and wine style
- Fertilization
- Soil management: Cultivation vs ground cover
- Yield control
- Pest management Etc...



The case of Eastern Macedonia and Thrace

KAVALA

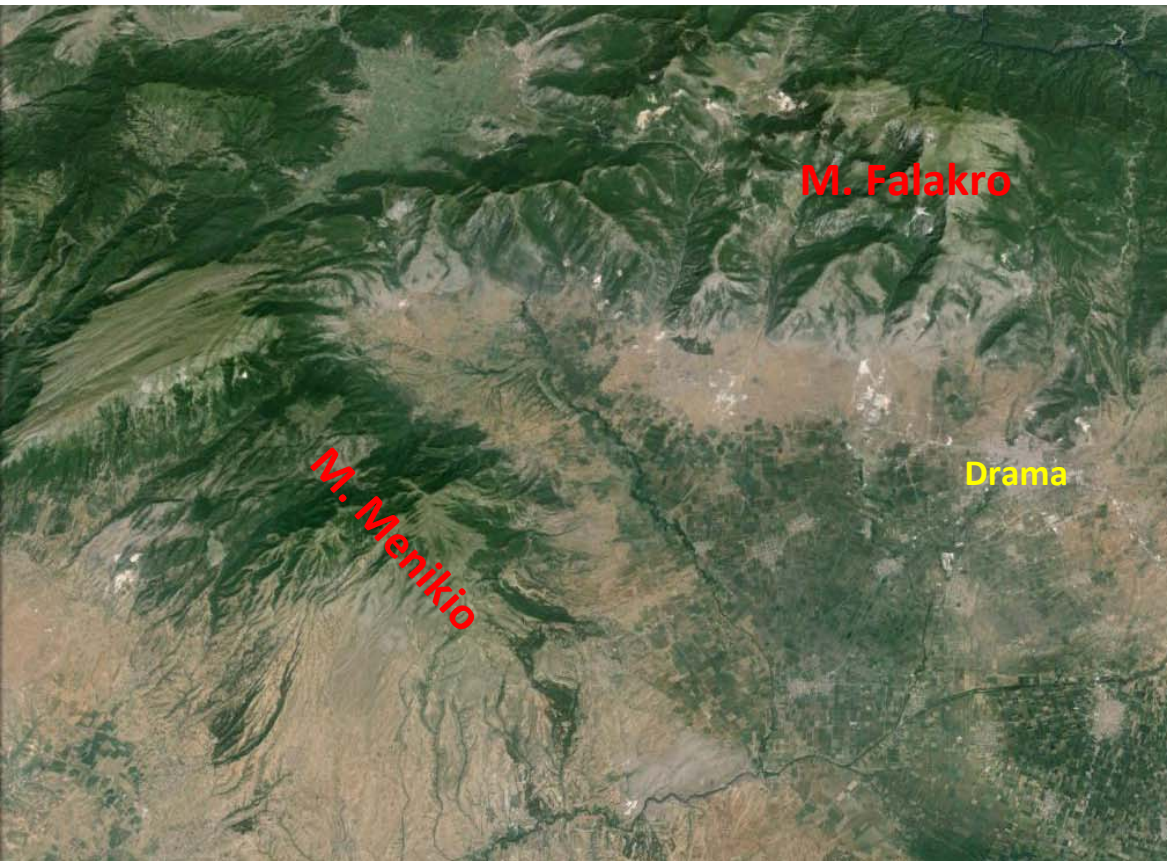
- The viticultural zone of **Pangeon** lies at a narrow valley (*'Pieria' valley*). Winegrapes are dominant (Sauvignon-Assyrtiko blend).

Further east, table grapes are the majority.



DRAMA

- The viticultural zone of **Drama** is situated between 3 important mountains: **M. Pangeon** at SE, **M. Menikio** at SW and **M. Falakro** in the North, offering protection from the cold north winds.
- The area is cooler than Kavala, but due to its continental characteristics (higher temperature range), it is suitable for red winegrapes.



THRACE

- The viticultural zone of **Avdira** lies mostly near the coast of the Aegean Sea, on flat soils. The climate is directly affected by the sea.
- The viticultural zone of **Maronia** is located on the slopes of M. Ismaros benefiting by both mountain and maritime influences.



Specificities and opportunities in Eastern Macedonia and Thrace

The topography of Eastern Macedonia and Thrace is complex, with a varied natural environment (mountain slopes or semi-mountainous terroirs, plateaus, valleys, lakes, coastline).

The climate is typically Mediterranean, but milder than in Southern Greece with a wide range of climate suitability for viticulture. Significant differences found in the general climate characteristics among areas (mainly due to altitude and sea).

The large diversity in topographic features and the influence of the sea create different local conditions, with meso-climates and soils suitable for the cultivation of both table grapes and wine grapes (4 PGI areas).



TABLE GRAPES: Sultanina and Victoria are main ones

WINE GRAPES: Successful adaptation of international varieties. Indigenous varieties?



Chardonnay



Sauvignon blanc



Assyrtiko



Cab. Sauvignon



Syrah



Mavroudi



Limnio



Pamidi



Sefka



Zoumiatiko

Conclusions

Development of the sector must be based on knowledge acquisition and innovation through entrepreneurship.

Successful collaborations between industry and research institutes are needed.

Results must provide direct solutions to the priority needs of the industry.

Coordination of actions at the national and local level is important.



Thank you

**Τον κ. Παναγιώτη Χατζηνικολάου της ΓΓΕΤ
για το συντονισμό**