

L'Osservazione della Terra nella Smart Agriculture

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Infosession Copernicus
Bari, 27 novembre 2018

Dal 1994...



Bari



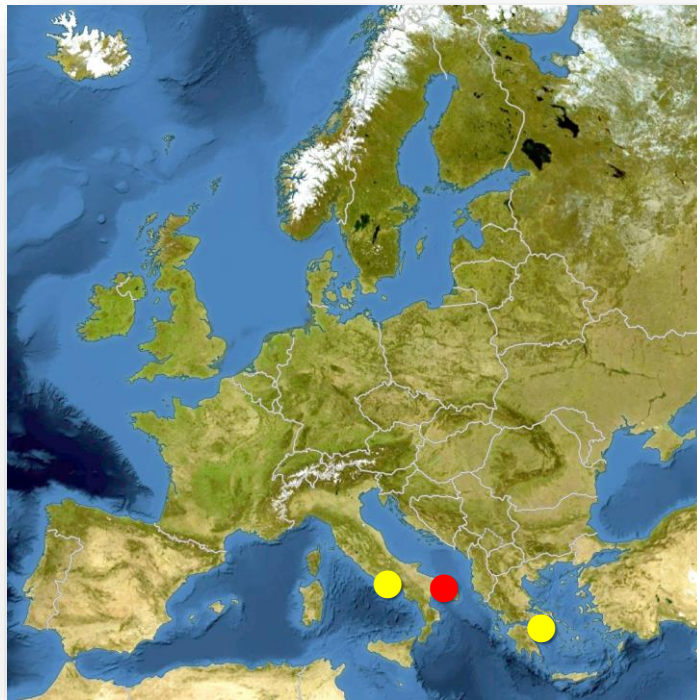
Athens



Roma



Bari



Earth Observation



Spatial Data
Infrastructure & GIS



Location Based
Systems



Space Software

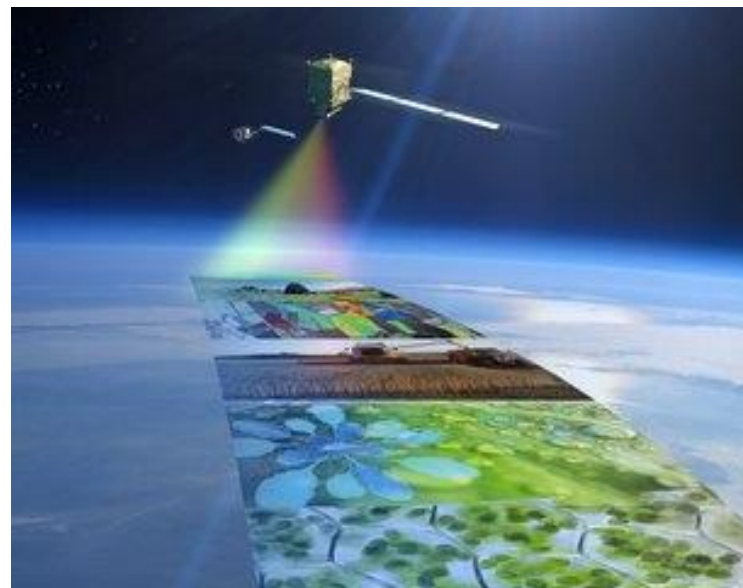


Premium Partner



Spazio & Agricoltura

- **Agricoltura di precisione**
- PAC – Controlli / Servizi ecosistemici
- Servizi Assicurativi e bancari
- Previsioni di produttività
 - Trade
 - Sostenibilità alimentare
- Tutela ambientale
-



Fonte foto: © Esa

- **Migliorare la qualità**
- **Incrementare le produzioni**
- **Ridurre i costi**



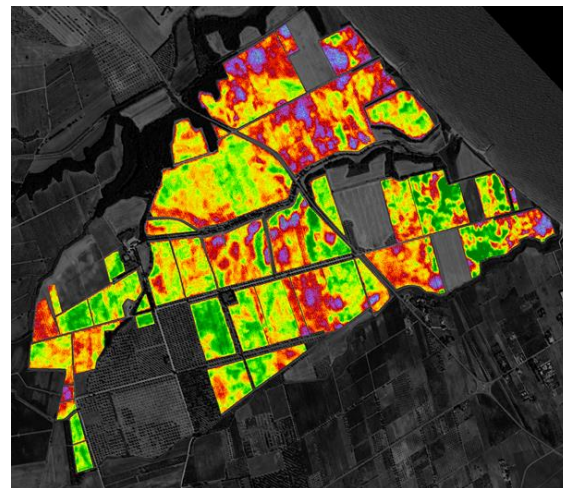


Maggio/Giugno/Luglio

Supporto delle pratiche colturali
(irrigazione, concimazione, fitopatie)

Luglio/Agosto (invaiatura)

Raccolta selettiva

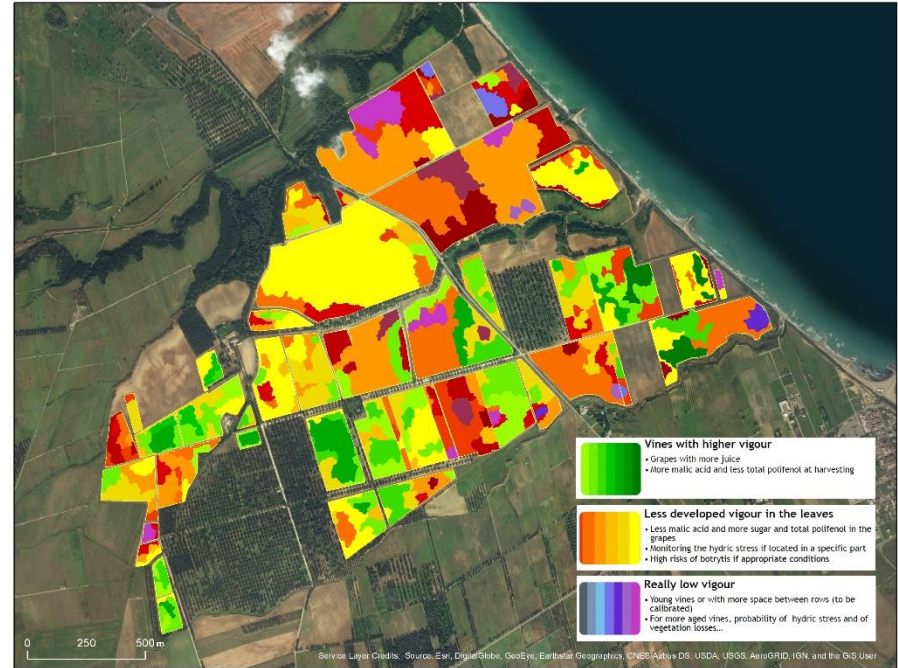
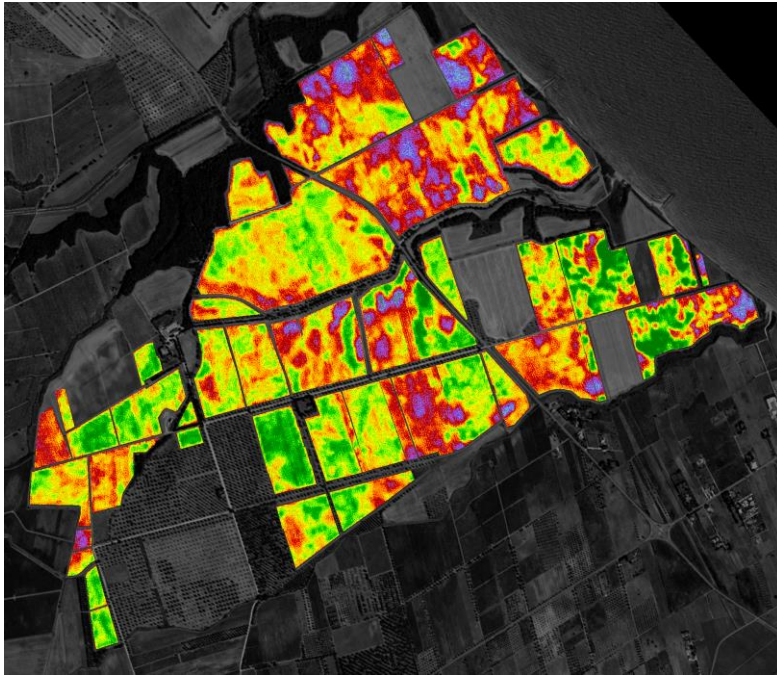


Mappe di Vigore vegetativo



Tenuta “Masseria Maime” - S. Pietro Vernotico (Br)

- **Varietà**
- **Portainnesto**
- Data di impianto del vigneto
- Orientamento filari
- Distanza filari
- Distanza piede
- Tipologia del suolo



Tenuta “Masseria Maime” - S. Pietro Vernotico (Br)

Dalla mappa del vigore alla zonazione



2 Tenute per complessivi 600ha di vigneti:
 Bocca di Lupo - Minervino Murge
 (Puglia – BAT)
 Masseria Maïme - San Pietro Vernotico (Puglia - BR)



Local projection: UTM_Zone_34 Datum: WGS_1984
 Scale 1: 25.000 for A3 print



Azienda Vinicola localizzata ad Andria con oltre
 70ha di vigneti (Puglia – BAT)



Local projection: UTM_Zone_34 Datum: WGS_1984

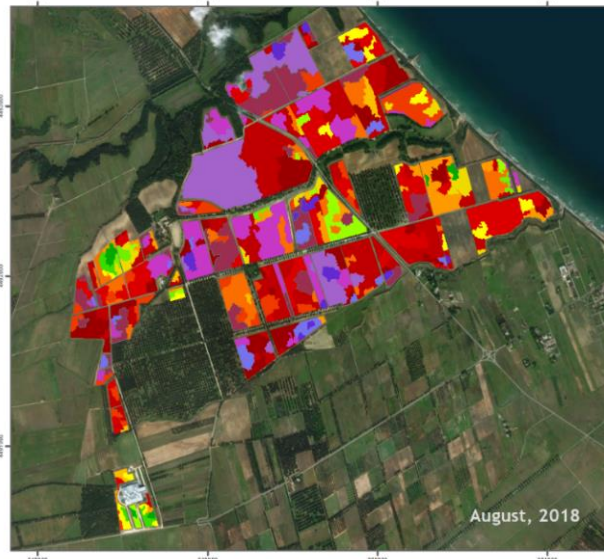
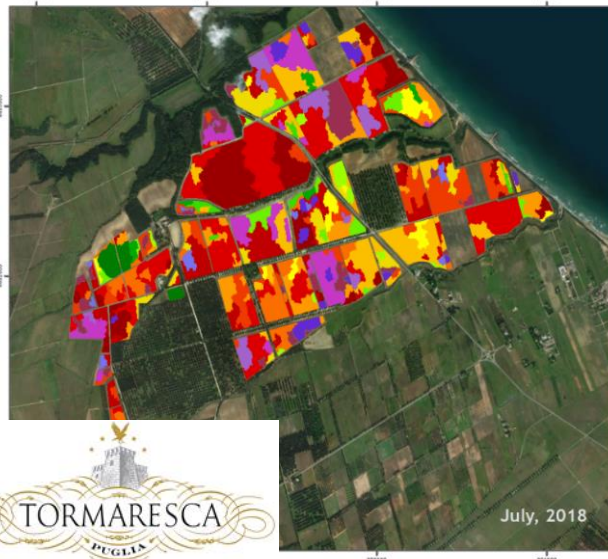
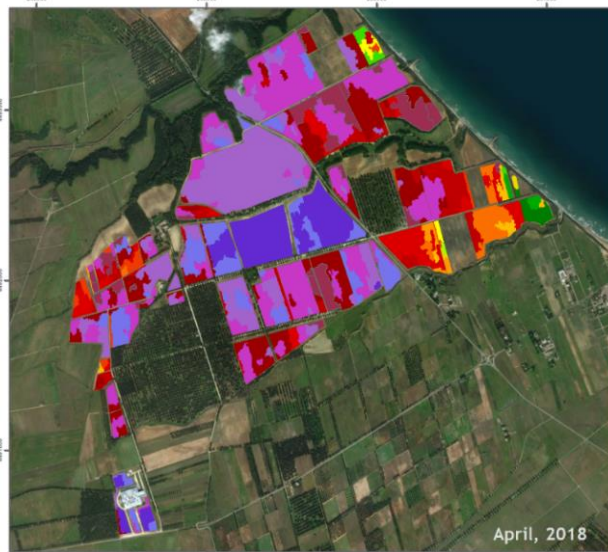


Cantina localizzata a Venosa con circa 400 soci con
 900ha di vigneti dislocati in 4 comuni
 (Basilicata - PZ)



Local projection: UTM_Zone_34 Datum: WGS_1984
 Scale 1: 15.000 for A3 print





Location



Local projection: UTM_Zone_34 Datum: WGS_1984
Scale 1: 25.000 for A3 print

Description

Maps of the vegetation development realized within EUGENIUS H2020 project. These maps are based on four satellite images taken on April, June, July and August, 2018.

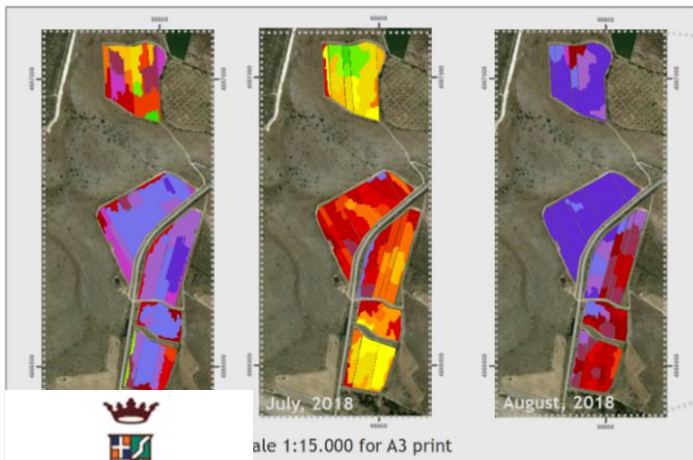
The infrared component allows to measure the foliar surface of the vine in each part of the plot and its characteristics (vigour, heterogeneity).

The service, named Oenoview® (by Terranis), allows to segment the vineyards according the qualitative potential of each plot.

Legend

- Vines with higher vigour**
 - Grapes with more juice
 - More malic acid and less total polyphenol at harvesting
- Less developed vigour in the leaves**
 - Less malic acid and more sugar and total polyphenol in the grapes
 - Monitoring the hydric stress if located in a specific part
 - High risks of botrytis if appropriate conditions
- Really low vigour**
 - Young vines or with more space between rows (to be calibrated)
 - For more aged vines, probability of hydric stress and of vegetation losses...





Rivera
I VINI PREGIATI DI PUGLIA



Location RIVERA site



Local projection: UTM_Zone_34 Datum: WGS_1984

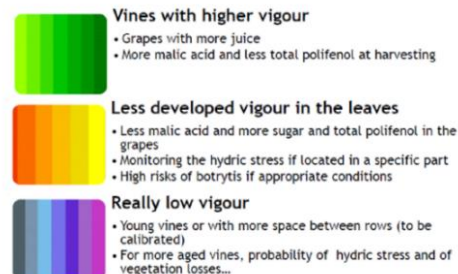
Description

Maps of the vegetation development realized within EUGENIUS H2020 project. These maps are based on three satellite images taken on April, July and August, 2018.

The infrared component allows to measure the foliar surface of the vine in each part of the plot and its characteristics (vigour, heterogeneity).

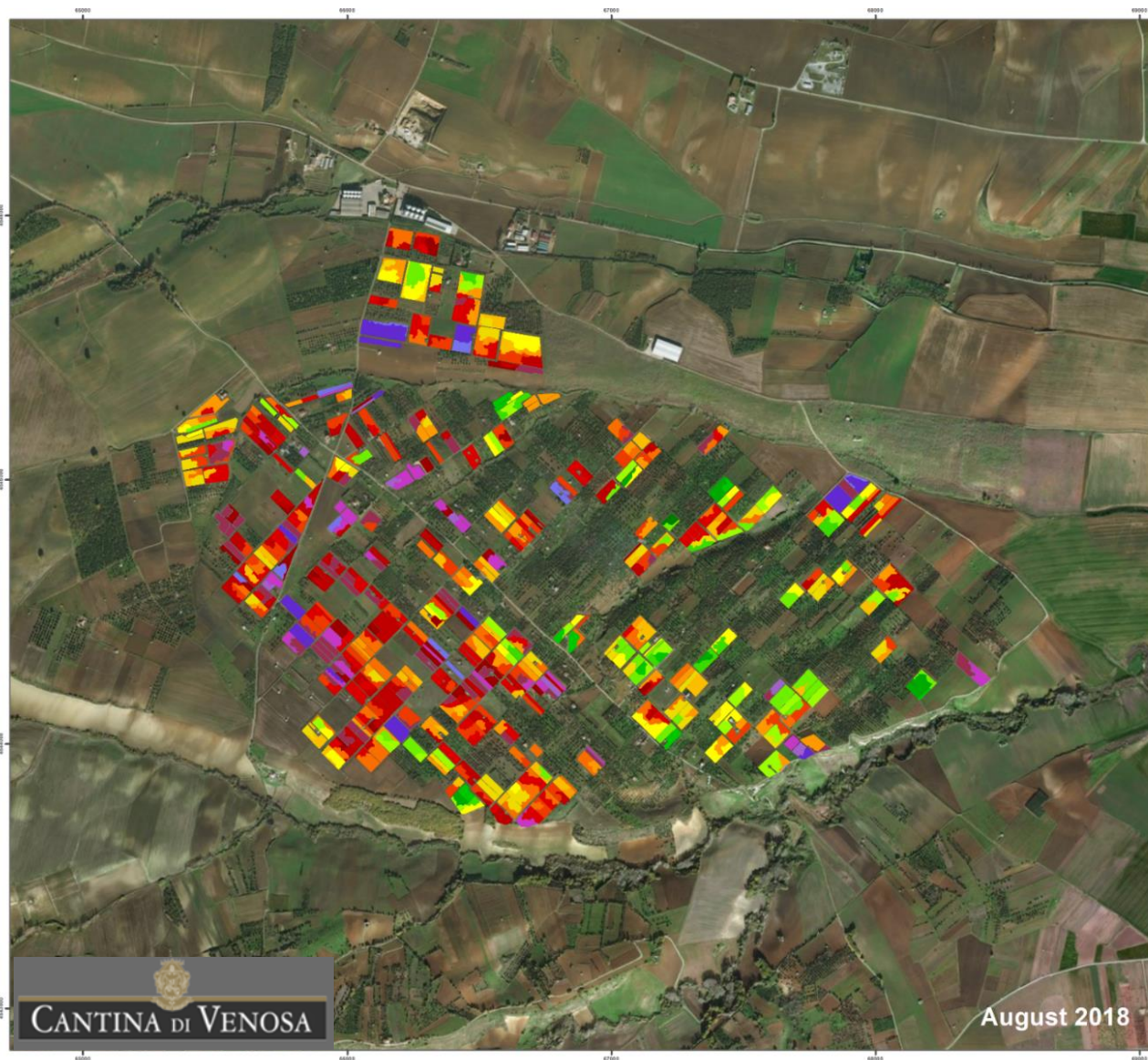
The service, named Oenoview® (by Terranis), allows to segment the vineyards according the qualitative potential of each plot.

Legend



planetek
italia

terranis
New Information Services



Location: ALSIA site



Local projection: UTM_Zone_34 Datum: WGS_1984
Scale 1: 15.000 for A3 print

Description

Map of the vegetation development realized within EUGENIUS H2020 project. This map is based on a satellite image taken on August, 2018.

The infrared component allows to measure the foliar surface of the vine in each part of the plot and its characteristics (vigour, heterogeneity).

The service, named Oenoview® (by Terranis), allows to segment the vineyards according the qualitative potential of each plot.

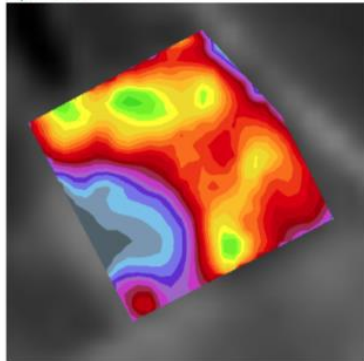
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Sentinel 2

Appellation: no
Plantation: 2001 - 2009
Variety: cabernet sauvig
Mean value: 0.22
Area (ha): 4.37
Heterogeneity: 6.50

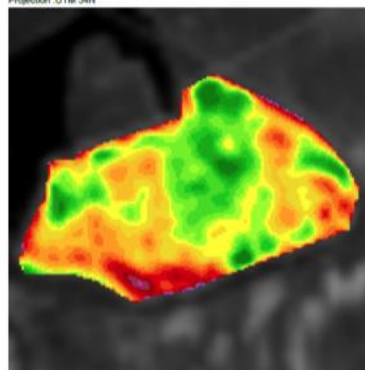
Projection: UTM 34N



0 | 100m

Appellation: no
Plantation: 2006
Variety: chardonnay
Mean value: 0.32
Area (ha): 23.97
Heterogeneity: 5.50

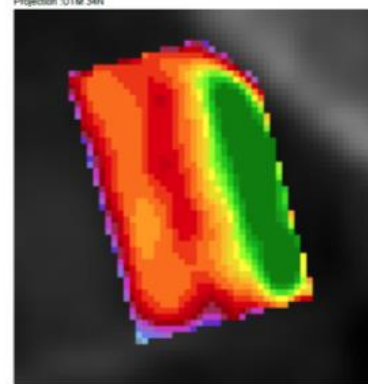
Projection: UTM 34N



0 | 100m

Appellation: yes
Plantation: 2000-2001-2009
Variety: syrah
Mean value: 0.29
Area (ha): 3.16
Heterogeneity: 9.90

Projection: UTM 34N



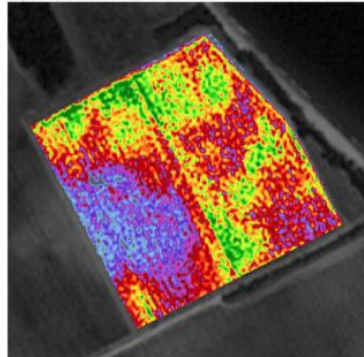
0 | 100m

x400

Spot 6

Appellation: no
Plantation: 2001 - 2009
Variety: cabernet sauvig
Mean value: 0.25
Area (ha): 4.37
Heterogeneity: 9.40

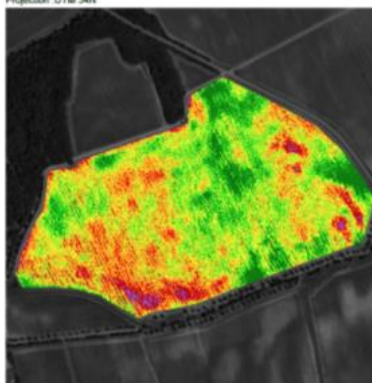
Projection: UTM 34N



0 | 100m

Appellation: no
Plantation: 2006
Variety: chardonnay
Mean value: 0.33
Area (ha): 23.97
Heterogeneity: 6.70

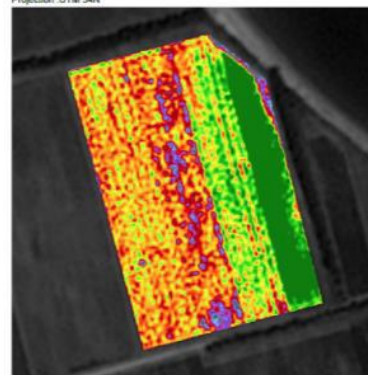
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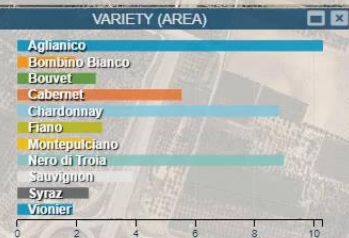
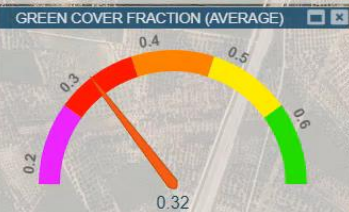
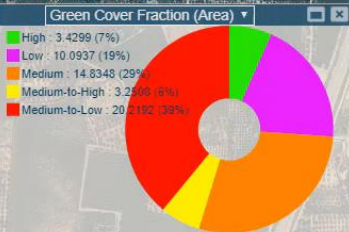
0 | 100m

Appellation: yes
Plantation: 2000-2001-2009
Variety: syrah
Mean value: 0.32
Area (ha): 3.16
Heterogeneity: 10.80

Projection: UTM 34N



0 | 100m



FIELD

RR2

Apply

ROOTSTOCK

110 R

Apply

ROOTSTOCK

110 R

Apply

SUMMARY								
ID Parcel	Estate	ID Field	Variety	Rootstock	GCF Value	GCF Class	Heterogeneity Value	Heterogeneity Class
AGRIDEC10	AGRIDEC	R6	Cabernet	420 A	0.217821	Low	4.06109	Homogeneous
AGRIDEC10	AGRIDEC	R6	Cabernet	420 A	0.213054	Low	4.06109	Homogeneous
AGRIDEC10	AGRIDEC	R6	Cabernet	420 A	0.241108	Medium-to-Low	4.06109	Homogeneous
AGRIDEC10	AGRIDEC	R6	Cabernet	420 A	0.241108	Medium-to-Low	4.06109	Homogeneous
AGRIDEC10	AGRIDEC	R6	Cabernet	420 A	0.266194	Medium-to-Low	4.06109	Homogeneous
AGRIDEC10	AGRIDEC	R6	Cabernet	420 A	0.285081	Medium-to-Low	4.06109	Homogeneous
AGRIDEC11	AGRIDEC	R7	Fiano	nd	0.305517	Medium	6.99408	Heterogeneous
AGRIDEC11	AGRIDEC	R7	Fiano	nd	0.404898	Medium	6.99408	Heterogeneous
AGRIDEC11	AGRIDEC	R7	Fiano	nd	0.431660	Medium	6.99408	Heterogeneous
AGRIDEC11	AGRIDEC	R7	Fiano	nd	0.289068	Medium-to-Low	6.99408	Heterogeneous
AGRIDEC12a	AGRIDEC	R8	Aglianico	Kober 5BB	0.521744	Medium-to-High	7.82943	Very heterogeneous
AGRIDEC12b	AGRIDEC	R8	Aglianico	Kober 5BB	0.515685	Medium-to-High	6.80555	Heterogeneous

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Lesson learned: L'Azienda Agricola

L'azienda agricola deve:

- avere un obiettivo chiaro da raggiungere
- essere organizzata per accogliere il cambiamento
- disporre di risorse adeguate (e dimensioni)



Lesson learned: Space

I servizi spaziali devono essere:

- prossimi all'azienda agricola
verticalizzati per singola azienda
integrati a servizi geospaziali ed ICT
- economicamente sostenibili
- scalabili nello spazio e nel tempo



Sostenere la domanda



La PA può:

- Stimolare l'aggregazione della domanda
- Favorire l'adozione di servizi in modalità «Info as a Service»
- Adottare il Pre Commercial Procurement - PCP - per favorire l'incontro tra bisogni e offerta tecnologica

"Dio non ha fatto
che l'acqua,
ma l'uomo
ha fatto il vino"

Victor Hugo

