

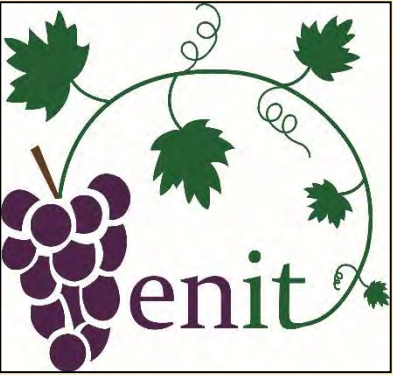


UNIVERSITÀ
CATTOLICA
del Sacro Cuore

Academic Year: 2018-2019

Welcome to the specializing
one-year Master in: **V**iticulture
and **EN**ology: **I**nnovation meets
Tradition

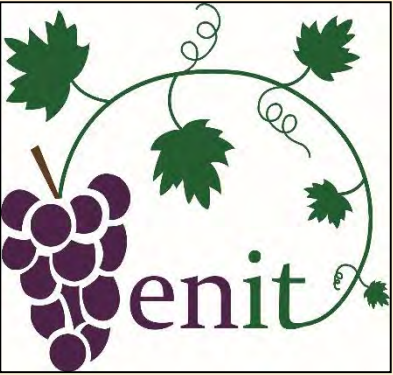




Items:

- ☐ Goal of the master
- ☐ Background and pre-courses
- ☐ Courses (Regular, Lab and Field courses)
- ☐ Seminars
- ☐ Internship (topic, location, agreement, etc.).
- ☐ Tutorship
- ☐ Final exam
- ☐ Involvement in Campus life
- ☐ Website: <http://piacenza.unicatt.it/master/>
- ☐ Invited lecturer for next year is.....
- ☐ The BIG SURPRISE
- ☐ Others?

<i>Courses and other activities</i>	<i>Credits</i>	<i>Hours</i>	<i>Semester</i>
Vineyard variability: traditional and precision approaches	6	47	I
Topics in wine-marketing	6	47	I
Enhancing the wine quality: innovations in monitoring and controls.	6	47	II
Applied grapevine eco-physiology	6	47	II
Advances in enology	9	73	I
Disease and pest management toward a sustainable viticulture	9	73	II
Seminars	0	30	I & II
Total teaching	42	364	I & II
Individual work		686	I & II
Internship	18	450	II
Total credits	60		



Reference persons:

- ☐ Myself (☺) : for scientific «stuff»
- ☐ Ufficio Master: for administrative issues
(uff.master-pc@unicatt.it)
- ☐ Your tutors: Ekaterina Kleshcheva
(ekaterina.kleshcheva@unicatt.it) and
irene.rodschinka (irene.rodschinka.unicatt.it)

YOUR TUTORS



Ekaterina Kleshcheva



The 'queen' of internships....

ekaterina.kleshcheva@unicatt.it



Irene Rodschinka



Any other issue....

irene.rodschinka@unicatt.it

Field course

Dr. Tommaso Frioni (call him «Tommy»)



Prof. Fernando Zamora Marín



Fernando Zamora Marín was born in Tarragona (Spain) on November 7, 1960. After studying the degree of chemistry, he obtained his PhD degree at the University of Barcelona in 1988. He has also obtained the Diplôme d'Etudes Approfondies en Viticulture et Œnologie and the Diplôme National d'Œnologue at the University of Bordeaux. He is now **Full Professor of the Faculty of Oenology of the University Rovira i Virgili in Tarragona (Spain)** in which has exerted as Dean during 4 years. He is currently the director Experimental Winery of the Rovira i Virgili University and president of the Technology Commission of the International Organisation of Vine and Wine (OIV). He has directed 14 PhD theses; he has published 70 scientific articles (peer-reviewed), more than 100 articles in other revues, numerous book chapters and several congress communications.

His main research subjects are:

- * Phenolic compounds, color and astringency of red wines
- * Proteins and polysaccharides of wine; sensory and technological implications.
- * Influence of climate change on wine composition and quality; Adaptation of winemaking techniques to global warming conditions.

He exerts as oenologist consulter in some wineries in AOC Priorat (Roquers de Porrera), Montsant (Cal Bessó) and Cava (Juvé y Camps). He is co-owner of the renowned wine "Espectacle del Montsant".

Awards:

- * 1985. Bachelor Special Award of the Faculty of Chemistry of Tarragona, University of Barcelona.
- * 2006. Gold Medal for the "Research in Enology" Awarded by the Spanish Federation of Winemakers in Congress 2006 in Tenerife.

ONAV: Organizzazione Nazionale Assaggiatori Vino
is the Italian Association of Wine tasters,
Founded in Asti in 1951.

Its mission is promoting a fair wine culture
throughout the approach to tasting,
dissemination and teaching through local courses.

ONAV has a national body and boasts a great number of
sections in several Italian provinces.

Anybody can enroll to ONAV to test his own attitude to the
wine world and learn in a pleasant way.

Attending the II level courses and passing the final exam
allow obtaining the degree of "Expert ONAV wine taster".



What is ONAV offering to his members?

ONAV provides his members continuous professional update
through an intense activity carried out at national, regional
and local levels.

Among the main initiatives, the followings deserve special mention:

- complimentary copies of the magazine "L'Assaggiatore";
- study travels in Italy and abroad;
- attending the "Wine Taster Days";
- selections of local and national enological competitions;
- evenings devoted to tasting;
- seminars on the great Italian wines;

ONAV members have special treatment and discounts in several
bars, pubs and restaurants having a signed agreement with
FIDELITY, by simply showing the ONAV card. Members can ask
anytime an official certification allowing them to be included
as "Expert Taster" in the list held by Regions or Chambers
of Commerce. This also provides access to the national
committees involved in control of wines produced under
the DOP regulations.



WINE PASSION & SKILL



ORGANIZZAZIONE NAZIONALE
ASSAGGIATORI DI VINO

ONAV NATIONAL HEADQUARTERS

Piazza Medici, 8 - 14100 Asti

Tel. 0141 530313 Fax. 0141 594836

Email: segreteria@onav.it

Info available at:

- the closest ONAV venue
- www.onav.it

WINE PASSION & SKILL



ORGANIZZAZIONE NAZIONALE
ASSAGGIATORI DI VINO

Find out about
your wine skills,
learn how to taste wine
and become an
"assaggiatore di vino"





Became a Wine Taster

You just need to enroll in ONAV as "Applicant Wine Taster" and after course attendance and Final exam you will get the license of "Wine Taster" becoming automatically a member of ONAV.

How is the Course organized?
The course schedules 18 lessons, covering both theory and practice.

It is open to everyone

Info available at:
• the closest ONAV venue
• www.onav.it

Registration Fees include:

- Enrollment in ONAV For two years
- book and any teaching material
- a suitcase with 6 glasses
- 18 lessons
- Final exam.

Here a brief content For each lesson Follows



1° - What is ONAV and Who is the "Wine Taster"
ONAV presentation and role of ONAV members.
Grapes and wine in the world. Welcome toast.

2° - Discover the senses and their memory
Elements of physiology of senses, stimuli and their perception.
Practical activity on olfactory memory on simple flavors.
Tasting of the first wine.

3° - How much are we sensitive to taste?
Taste thresholds. Outline of taste anatomy and physiology.
Practical activity on taste perception.
Tasting of one wine.

4° - How to taste
How to taste a wine. The tasting score card.
Tasting of four wines.

5° - Legislation and wine label
Wine labels and consumer protection.
Legislation and classification of wines: the pyramid of wine quality.
Tasting of four wines.

6° - The grapevine: the origin of everything
Elements of viticulture. Grape composition.
Juice to fresh mass ratios.
Tasting of four wines.

7° - Enology - From cluster to must
Main must biochemical compounds. Grape ripening.
Harvest and grape transport to the winery.
The structure of a winery. Wine tanks and containers.
Tasting of four wines.

8° - Enology - Must changes into wine
Main biological processes of wine making: alcoholic and malolactic fermentations.
Primary and secondary metabolites of the two processes. Tasting of four wines.

9° - Enology - Red wine making
Red wine making: different steps
From crushing to racking.
Tasting of four wines.

10° - Enology - White wine making
White wine making: different steps
From crushing to storage
Tasting of four wines.

11° - Enology - Alternative red wine making
Alternative red wine making: rosé wines.
Wine making under carbonic maceration: novello wines.
Tasting of four wines.

12° - Enology - Fining of wine
Fining, stabilization, ageing, bottling.
Tasting of four wines.

13° - Sometimes something goes wrong
Main analytical parameters of wine.
Wine alteration and defects.
Tasting of four wines.

14° - Special wines with bubbles
Sparkling wines. Traditional method and Charmat method.
Tasting of four wines.

15° - Special wines without bubbles
Fortified wines, flavored wines and mistelles.
Passito wines.
Tasting of four wines.

16° - Is wine good for health? Pride and prejudice
Wine and health.
Tasting of four wines.

17° - Enography of the Region
Terrains, soil, climate, cultivars, appellation and wines pertinent to the Region where the course is held.
Tasting of four wines.

18° - Let's backup together
General overview of treated topics.
Tasting of four wines.

Final exam
Written test.
Tasting of 5 wines.



Last but not least.....(especially in Italy...)

Welcome pizza
when???



Basic Viticulture – Pre-course

3-19 September 2018

Final test: 21 September

Prof. Stefano Poni

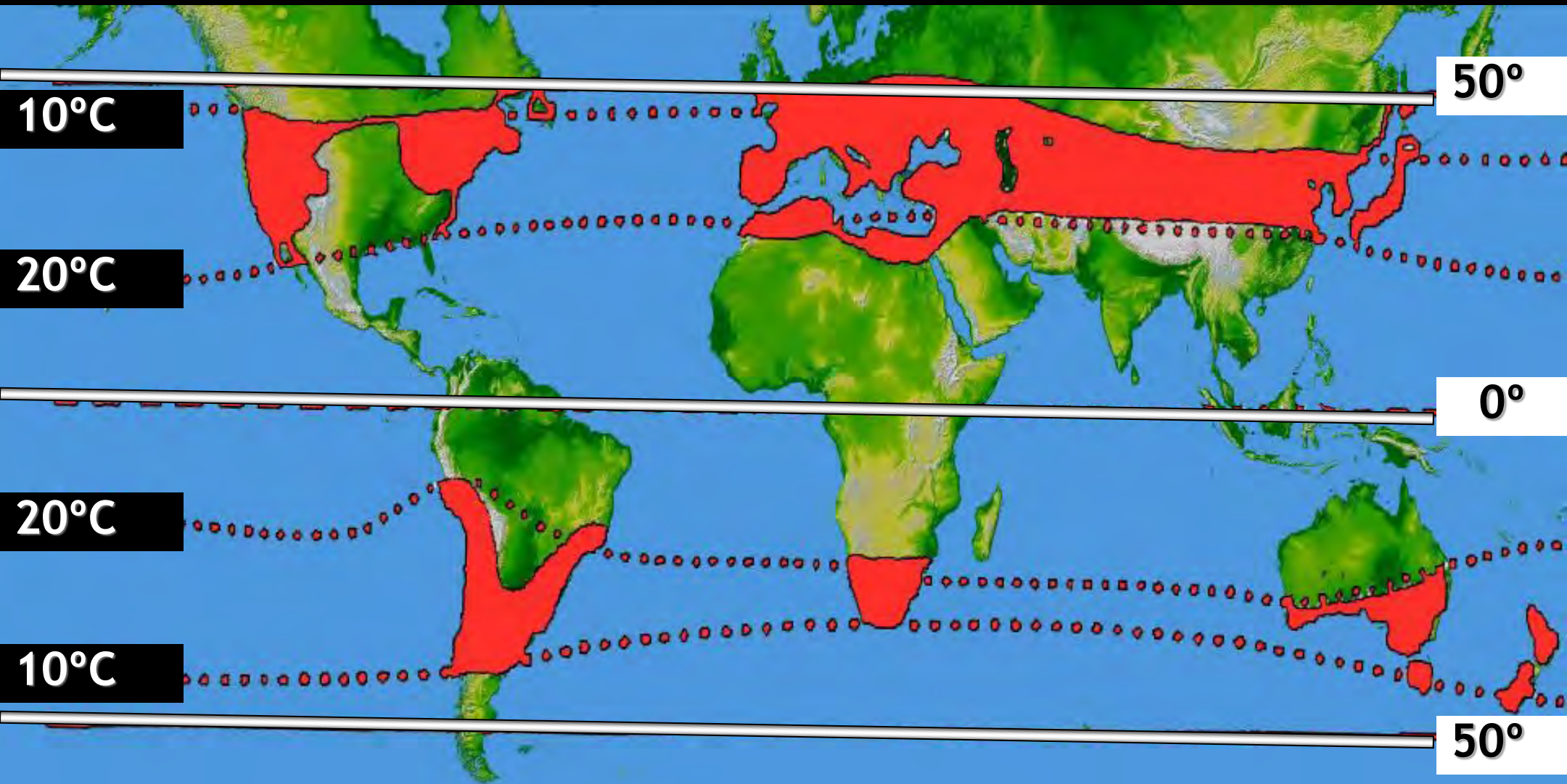
e: mail: stefano.poni@unicatt.it

DATE	TEACHERS			CLASSROOM
	PONI	LAMBRI	CAFFI	
03/09/2018	2 (10:30-12:30)	2 (14:30-16:30)	2 (08:30-10:30)	W
04/09/2018	2 (08:30-10:30)	2 (10:30-12:30)		
05/09/2018	2 (10:30-12:30)	3 (14:30-17:30)		
06/09/2018	2 (10:30-12:30)	1 (09:30-10:30) 2 (13:30-15:30)		
07/09/2018	2 (10:30-12:30)			
10/09/2018	2 (10:30-12:30)		3 (14:30-17:30)	4
11/09/2018		2 (10:30-12:30)	2 (08:30-10:30)	
12/09/2018	2 (08:30-10:30)	2 (10:30-12:30)	2 (14:30-16:30)	
13/09/2018	2 (08:30-10:30)	3 (10:30-13:30)	2 (14:30-16:30)	
14/09/2018		2 (11:30-13:30)	3 (08:30-11:30)	
17/09/2018	3 (09:30-12:30)		2 (14:30-16:30)	W
18/09/2018	2 (08:30-10:30)	2 (14:30-16:30)	2 (10:30-12:30)	
19/09/2018			3 (08:30-11:30)	
21/09/2018	TEST(10:30-12:30)			5

COURSE CONTENTS

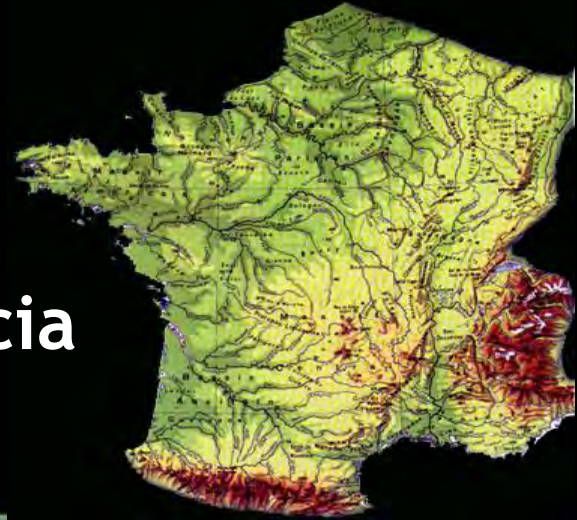
- ECTS 1. Origin and taxonomy of *Vitis* spp. Botany and anatomy: root system and canopy structure with specific focus on shoot, leaf, bunch and berry. Phenology and growth cycle. Reproductive cycle: bud differentiation, blooming and fruit-set. The concept of bud fruitfulness.
- ECTS 2. Grapevine physiology: factors affecting plant growth, gas exchange, water relations and leaf-to-fruit balance.
- ECTS 3. Berry development and ripening: physiological and biochemical patterns. General overview on vineyard management: training systems and pruning. Floor management and harvest.

World Viticulture



Latitude Comparison

Francia



42 °

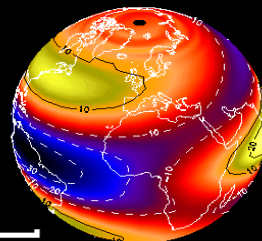
Indiana



Iberia

California

32 °





I numeri del vino

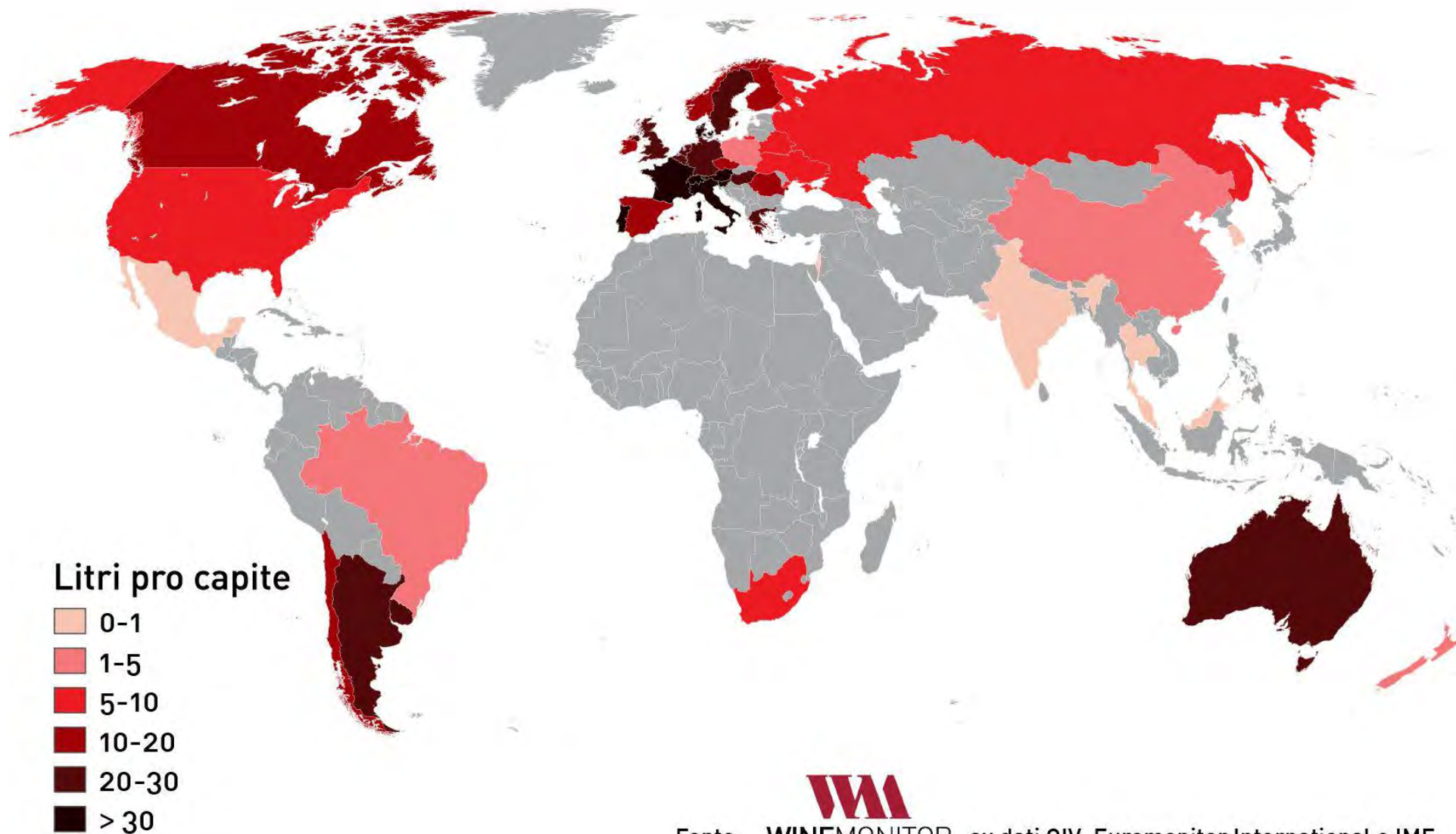
Statistiche produttive, dati di riferimento di base.

Produzione mondiale di vino (hl/milioni)

	2007	2008	2009	2010	2011	2012E	2013E	2014E
Francia	45.7	42.7	46.3	44.4	50.8	41.5	42.0	46.2
Italia	46.0	47.0	47.3	48.5	42.8	45.6	52.4	44.4
Spagna	34.8	35.9	36.1	35.4	33.4	31.1	45.7	37.0
Germania	10.3	10.0	9.2	6.9	9.1	9.0	8.4	9.7
Portogallo	6.1	5.7	5.9	7.1	5.6	6.3	6.2	5.9
Romania	5.3	5.2	6.7	3.3	4.1	3.3	5.1	4.1
USA	19.9	19.3	22.0	20.9	19.1	21.7	23.5	22.5
Cina	12.0	12.6	12.8	13.0	13.2	13.8	11.8	11.8
Australia	9.6	12.4	11.8	11.4	11.2	12.3	12.3	12.6
Argentina	15.0	14.7	12.1	16.3	15.5	11.8	15.0	15.2
Cile	8.3	8.7	10.1	8.8	10.5	12.6	12.8	10.0
Sud Africa	9.8	10.2	10.0	9.3	9.7	10.6	11.0	11.4
Other	43.4	45.5	42.0	39.2	42.3	36.6	41.4	40.1
Total	266.0	269.8	272.2	264.5	267.2	256.2	287.6	270.9

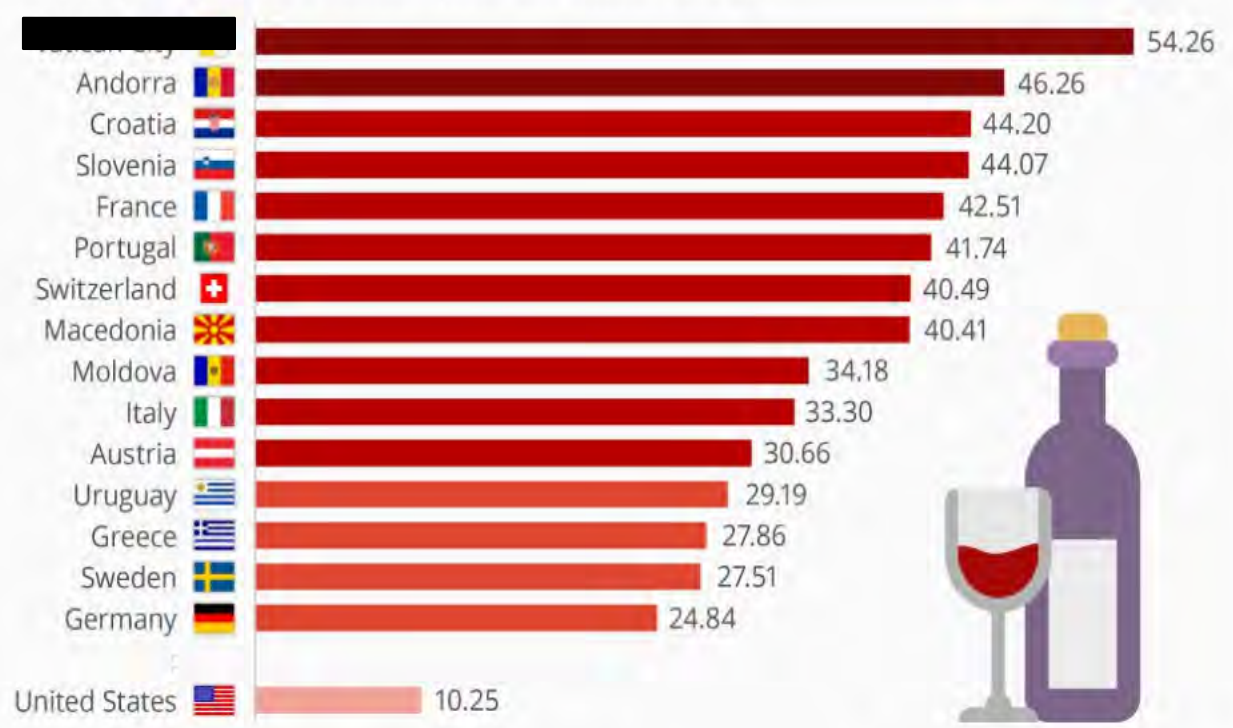
Per l'Italia il dato somma vino + mosti.

Wine consumption (L/head/year) -2015



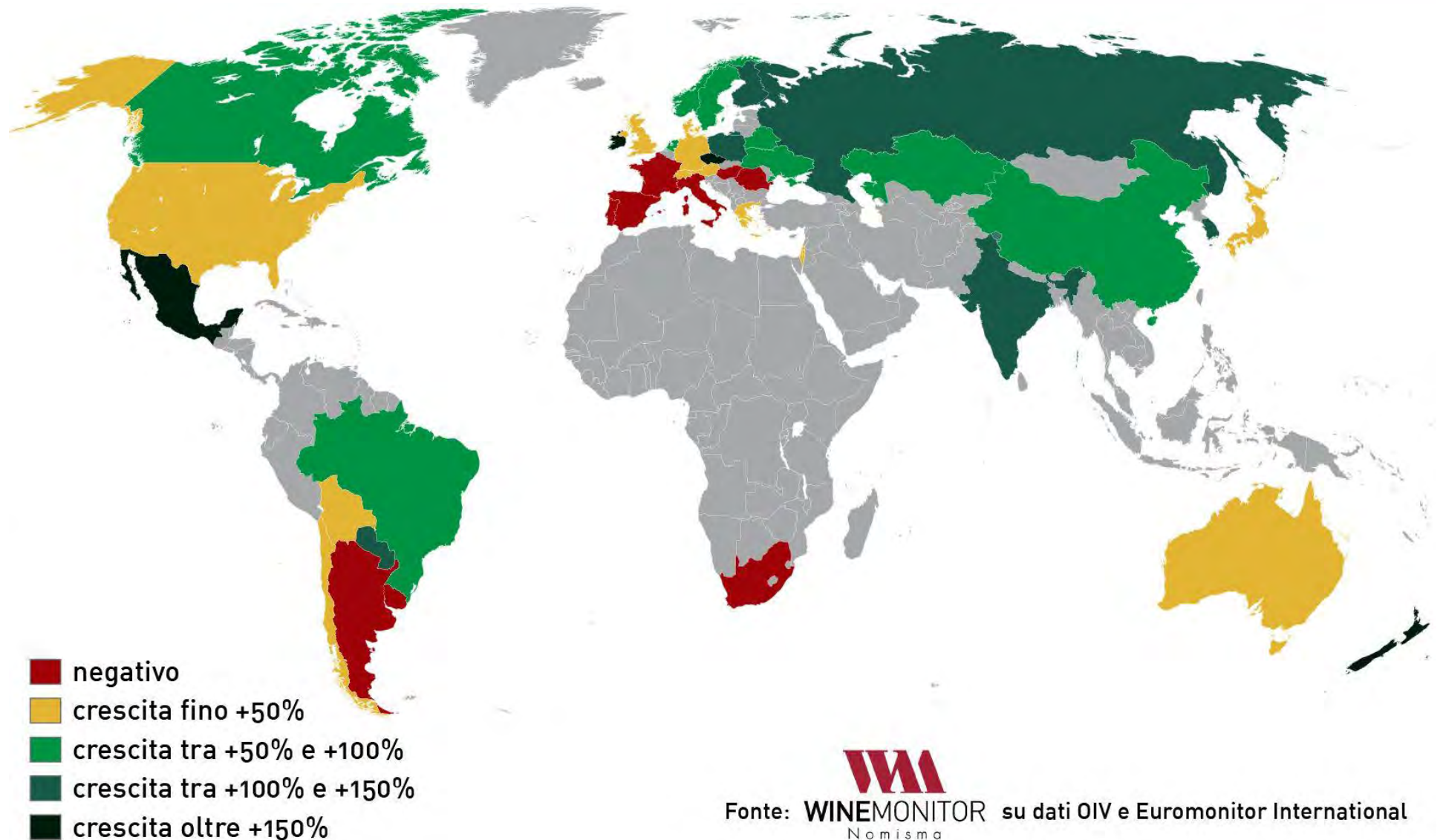
The World's Biggest Wine Drinkers

Annual per capita wine consumption worldwide (Nov 15)*



* Liters per capita, excluding overseas territories

Trends in wine consumption over last 15 years (volume basis)

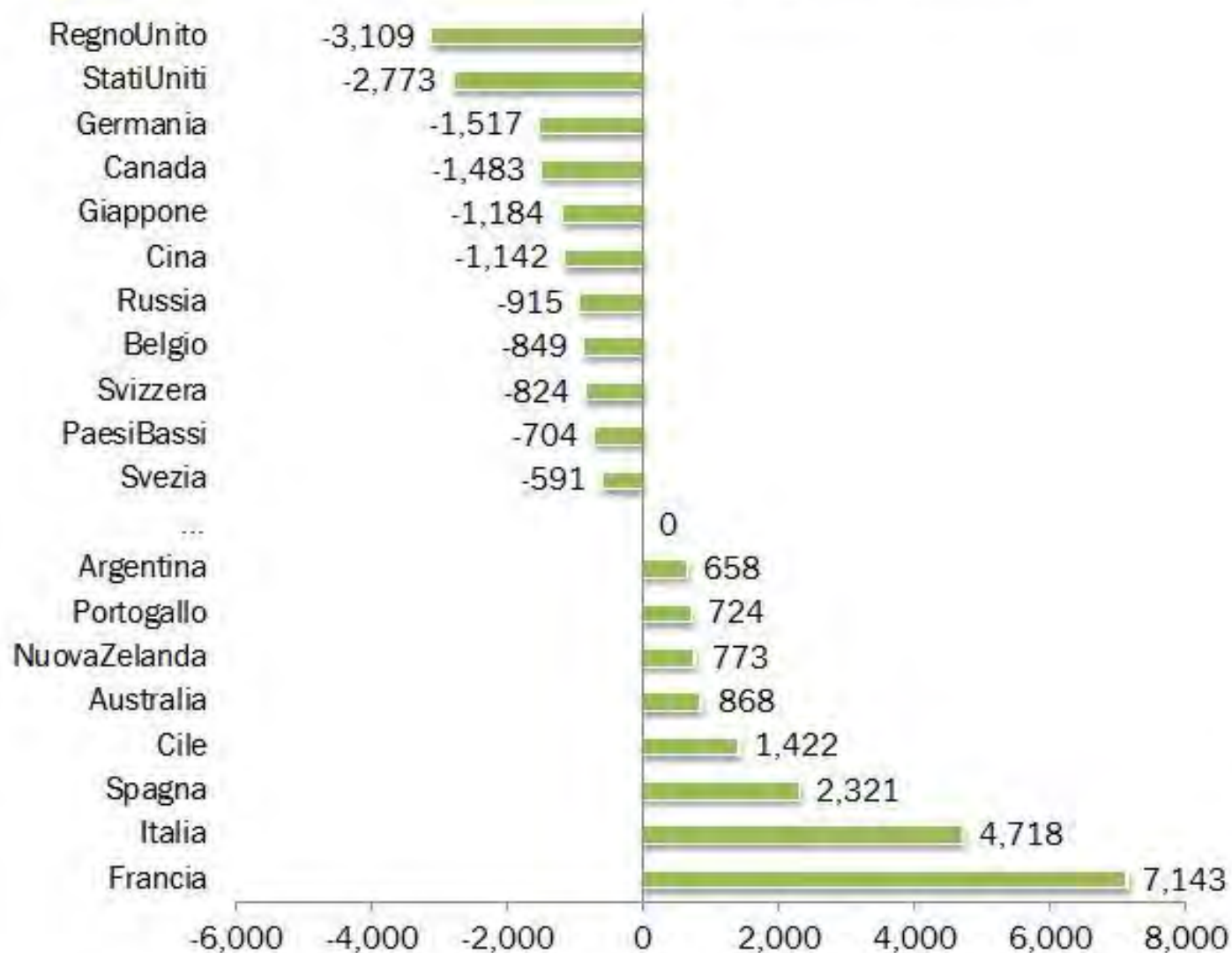




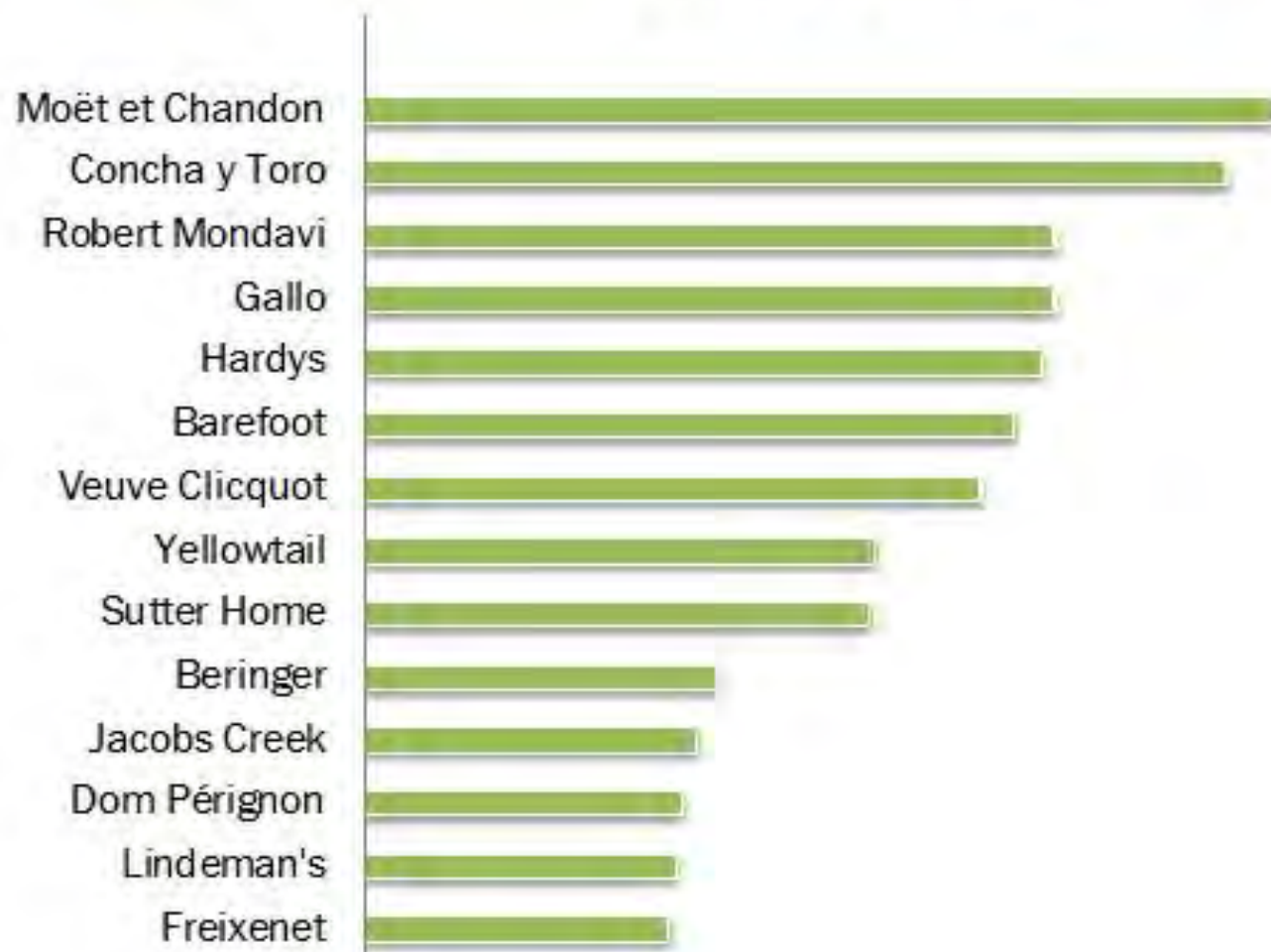
I numeri del vino

Statistiche produttive, dei consumi e di consumo

Bilancia commerciale 2013 per paese (EUR m)



Classifica Power100 2014 - valore del marchio





Italia

Produzione vino e mosti (hl/1000)

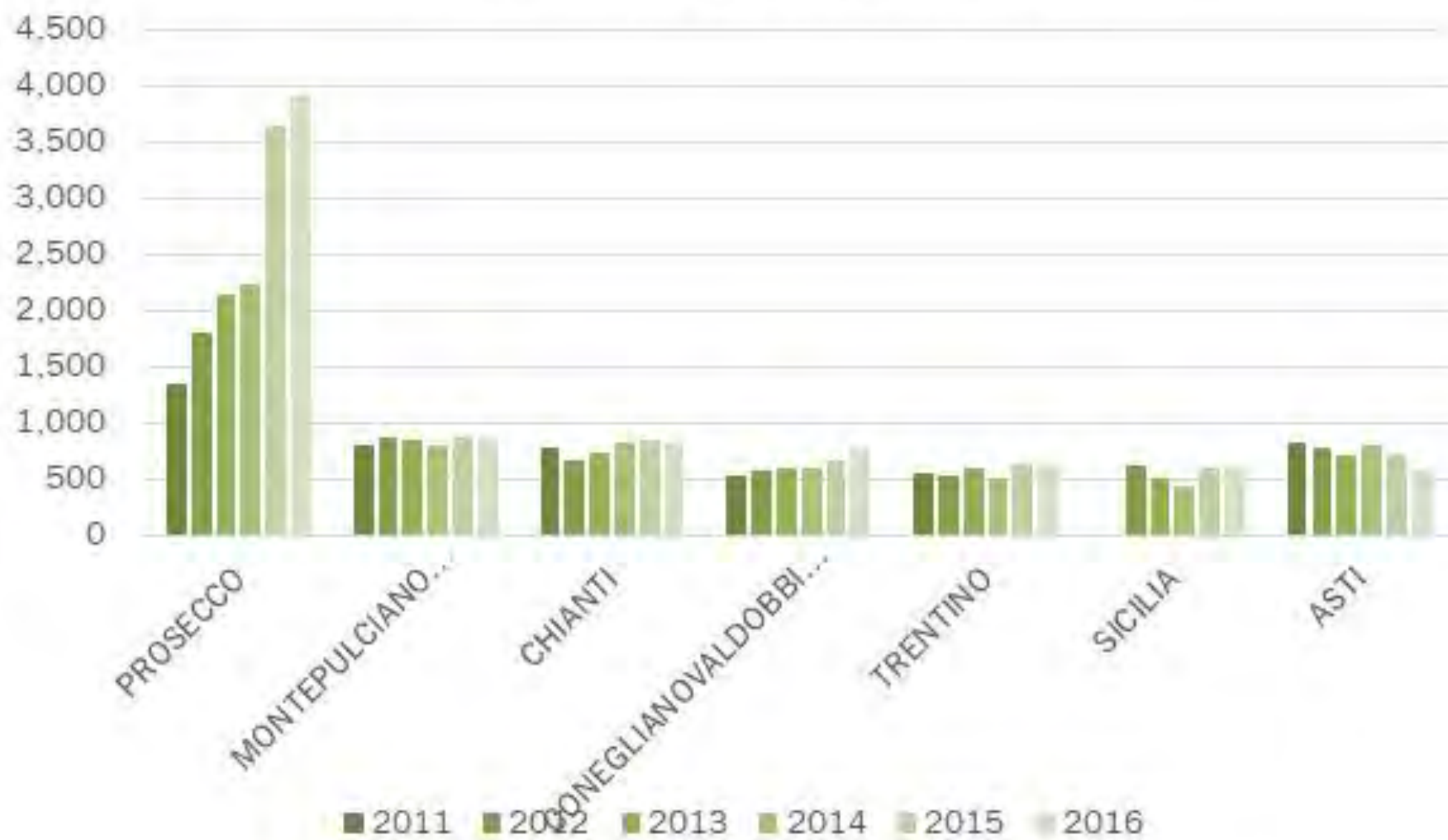
	Vino	Bianco	Rosso	DOC	IGT	Comune	Mosto	Totale
(hl/1000)								
2005	47,834	22,506	25,548	15,020	12,726	20,085	2,515	50,696
2006	47,117	21,876	25,241	14,794	12,598	19,724	2,515	49,631
2007	40,943	18,860	22,083	14,247	12,034	14,662	1,616	42,559
2008	43,946	20,803	23,143	14,441	13,129	16,377	2,299	46,245
2009	43,424	21,474	21,951	15,262	12,271	15,891	2,376	45,800
2010	44,703	22,174	22,529	15,743	13,953	14,997	2,041	46,745
2011	40,632	20,396	20,235	15,061	13,592	11,979	2,073	42,705
2012	38,265	19,629	18,637	16,026	12,546	9,693	2,808	41,074
2013	45,044	24,046	20,999	17,340	15,787	11,917	2,922	47,966
2014	39,741	20,874	18,867	16,373	13,452	9,916	2,346	42,088
2015	48,635	26,118	22,518	18,954	15,423	14,258	2,091	50,726
2016	51,615	27,410	24,205	19,508	15,345	16,762	2,523	54,138
2017	43,829	24,087	19,742	17,447	11,790	14,593	2,271	46,100
2017/16	-15%	-12%	-18%	-11%	-23%	-13%	-10%	-15%
Media 10y	43,695	22,178	21,517	16,296	13,753	13,645	2,309	46,005
2017/Med	0%	9%	-8%	7%	-14%	7%	-2%	0%

Produzione mondiale di vino (hl/milioni)

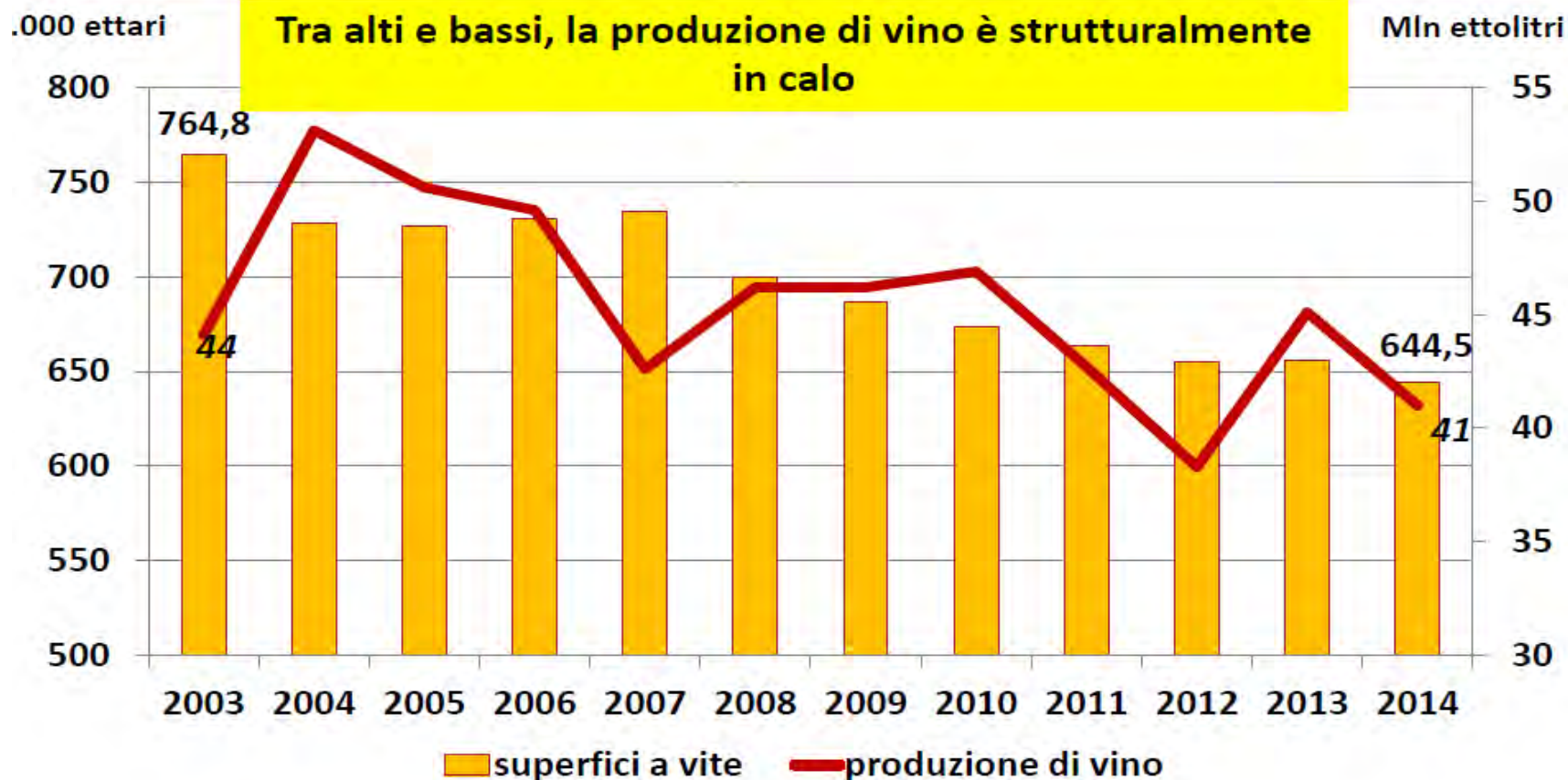
HI m	2010	2011	2012	2013	2014	2015E	2016E	2017E	Media
Italy	44.7	40.6	38.3	45.0	39.7	48.6	50.1	39.3	43.5
France	44.4	50.8	41.5	42.1	46.5	47.0	43.5	36.7	44.9
Spain	35.4	33.4	31.1	45.3	39.5	37.7	39.3	33.5	36.7
Germany	6.9	9.1	9.0	8.4	9.2	8.9	9.0	8.1	8.9
Portugal	7.1	5.6	6.3	6.2	6.2	7.0	6.0	6.6	6.4
Russia	7.6	7.0	6.2	5.3	4.9	5.6	5.6	5.6	5.9
Romania	3.3	4.1	3.3	5.1	3.8	3.5	3.3	5.3	4.1
Hungary	1.8	2.8	1.8	2.6	2.6	3.0	1.9	2.9	2.6
USA	20.9	19.1	21.7	23.6	23.7	21.7	23.6	23.3	21.5
China	13.0	13.2	13.5	11.1	11.1	11.5	11.4	11.4	12.1
Australia	11.4	11.2	12.3	12.3	11.9	11.9	13.0	13.9	12.2
Argentina	16.3	15.5	11.8	15.0	15.2	13.4	9.4	11.8	13.8
Chile	8.8	10.5	12.6	12.8	10.5	12.9	10.1	9.5	10.3
South Africa	9.3	9.7	10.6	11.0	11.5	11.2	10.5	10.8	10.3
Other	29.5	33.1	31.5	35.2	28.8	29.5	28.7	28.0	34.0
Total	260	266	251	281	265	273	266	247	265

Fonte: I numeri del vino e OIV

Produzione vini DOC in ettolitri/1000

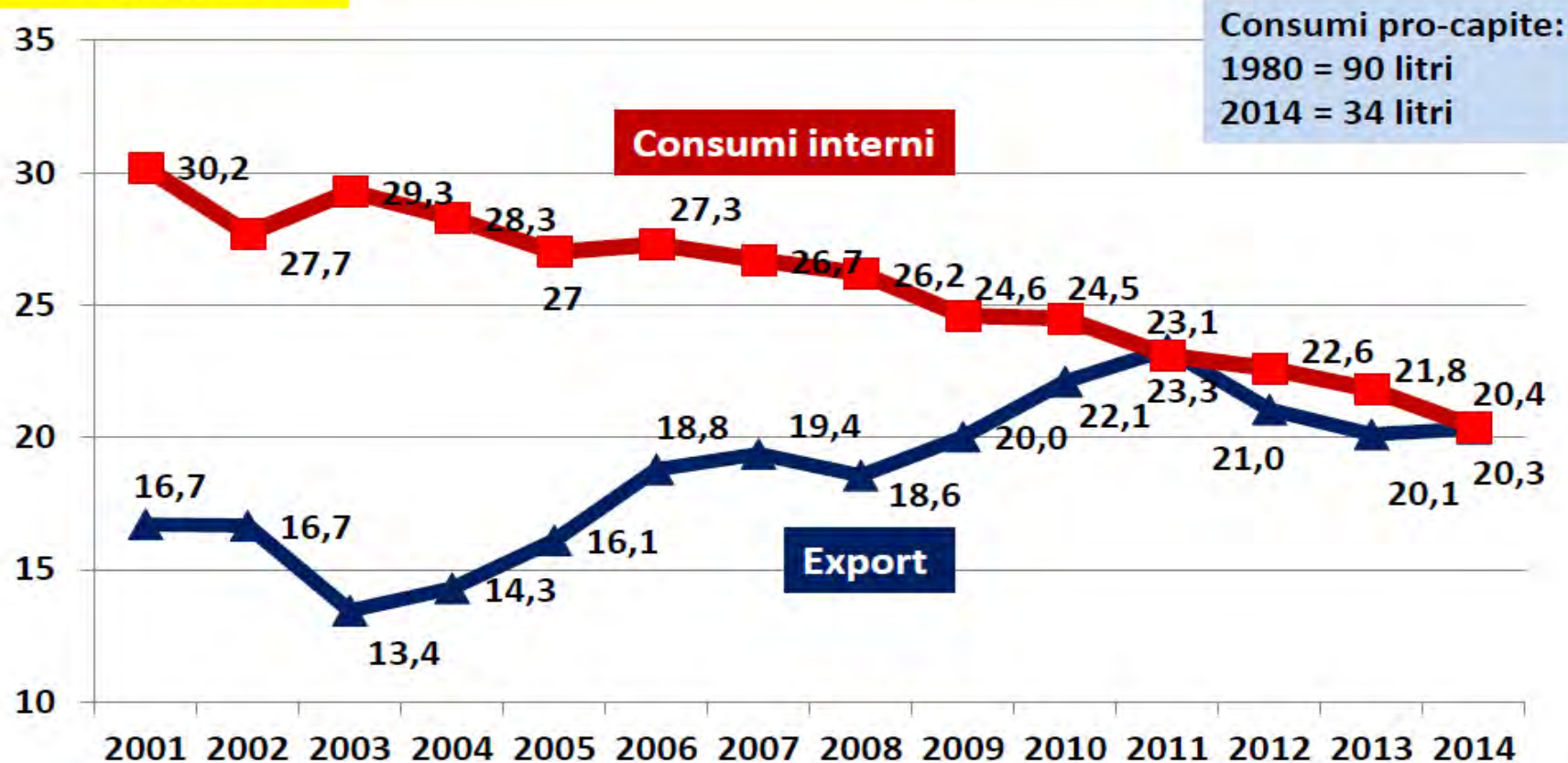


Superfici e produzione di vino in Italia



I consumi di vino in Italia e la necessità di esportare

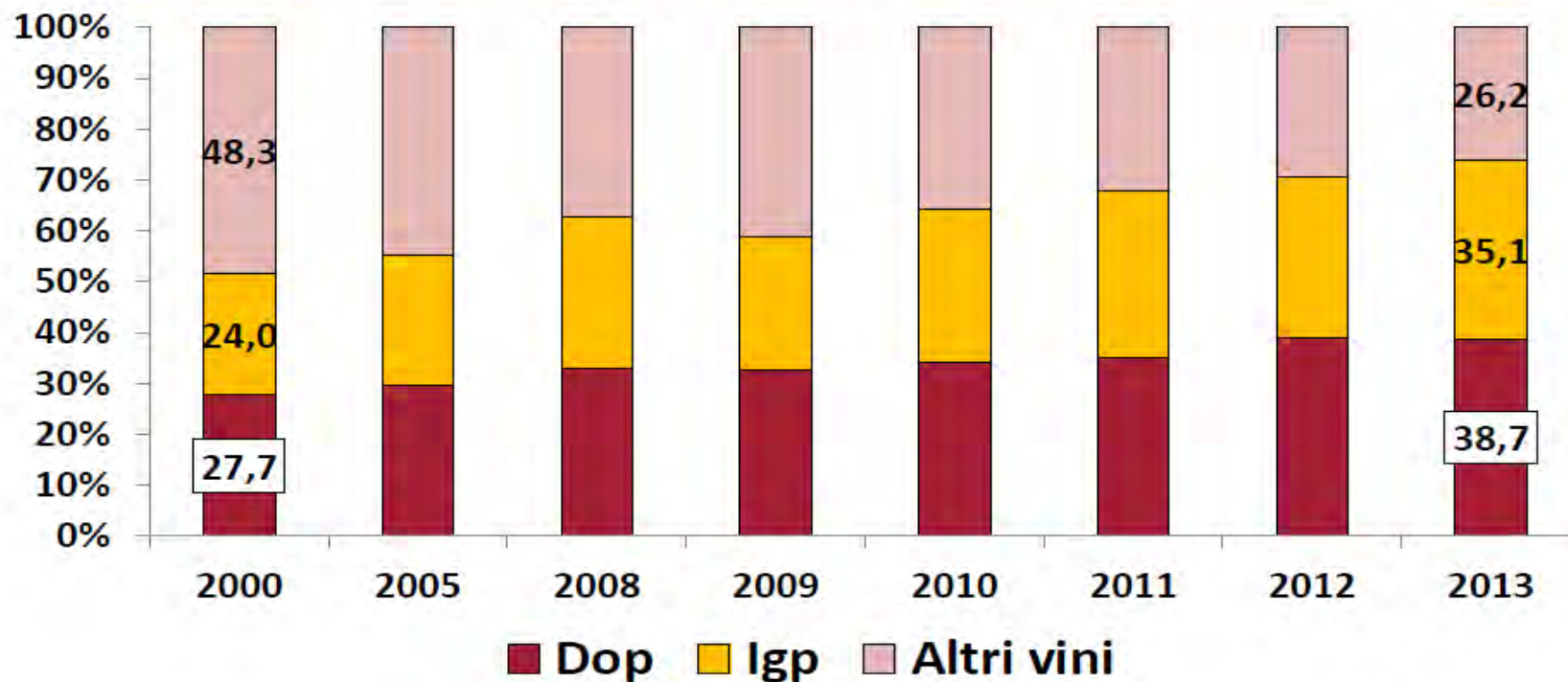
Milioni di ettolitri



La produzione di vini Dop-Igp/1

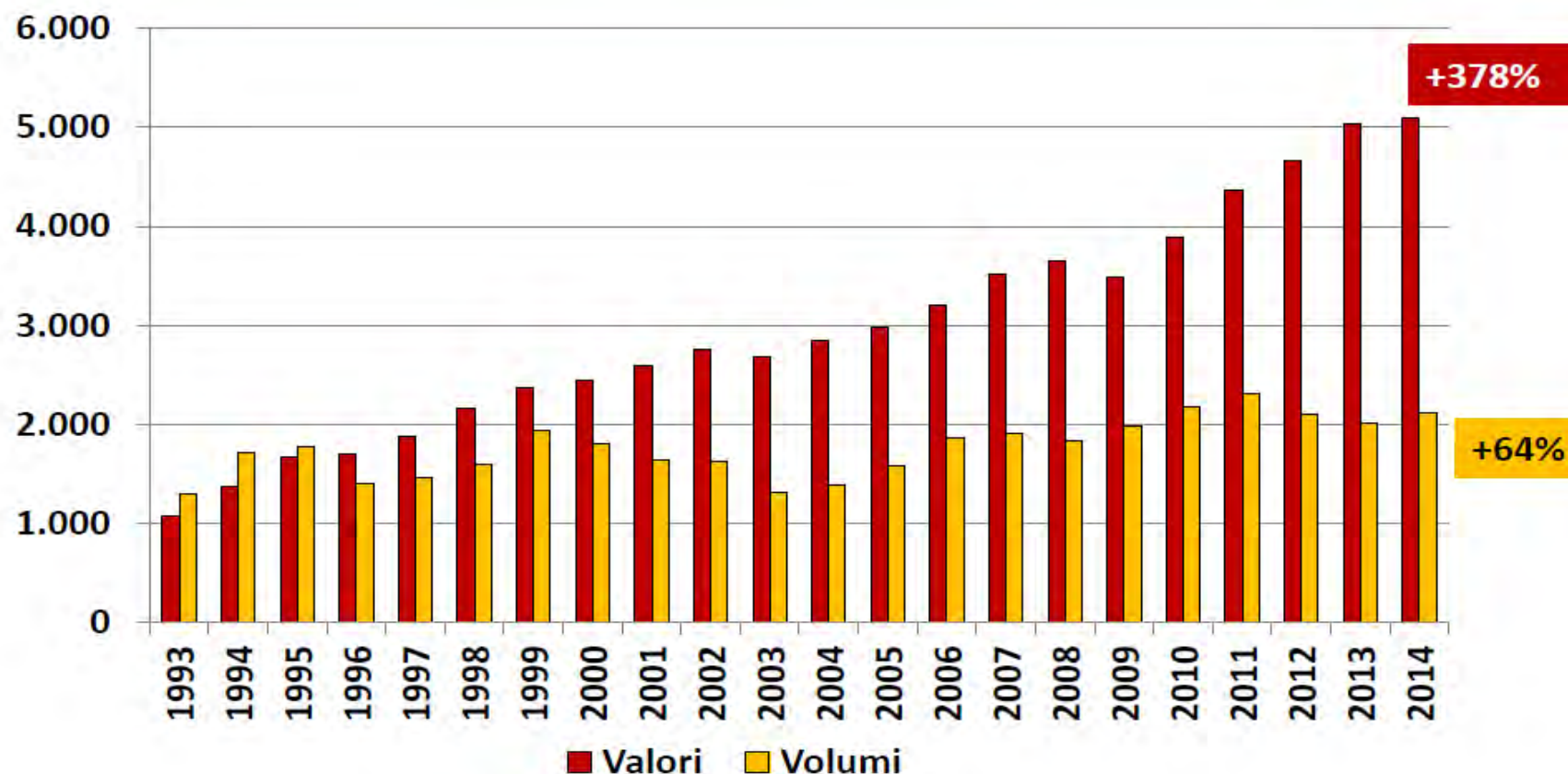
(% totale)

**Cresce il “peso” delle produzioni Dop e Igp sul totale nazionale
(405 DOP + 118 IGP)**



La crescita dell'export di vino italiano/1

(Milioni €, Milioni di litri e variazione 2014/1993)



«Italy» Vineyard 2016:
651.863 ha
(we were up to 1.000.000
25 years ago)

Wine consumption per
head is 35L/year (100
L/head 30 years ago)

Average farm size: from
0.91 a 1,65 ha. Still
very small!



‘Terroir’ ? (Not
enough..)

We also need.....

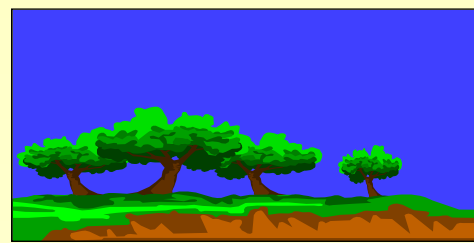
“Remunerative”
yield

We also need...



Cost
reduction

We also need...



Environmental
sustainability



Local vs. International Cultivars

	<i>LOCAL</i>	<i>INTERNATIONAL</i>
<i>ITALY</i>	<i>65%</i>	<i>35%</i>
<i>FRANCE</i>	<i>20%</i>	<i>80%</i>
<i>SPAIN</i>	<i>60%</i>	<i>40%</i>
<i>GREECE</i>	<i>70%</i>	<i>30%</i>
<i>PORTUGAL</i>	<i>95%</i>	<i>5%</i>
<i>GERMANY</i>	<i>40%</i>	<i>60%</i>
<i>AUSTRIA</i>	<i>50%</i>	<i>50%</i>
<i>EST-EUROPA</i>	<i>40%</i>	<i>60%</i>
<i>ARGENTINA/CIL</i>	<i>20%</i>	<i>80%</i>
<i>NORD AFRICA</i>	<i>-</i>	<i>100%</i>
<i>NORD AMERICA</i>	<i>10%</i>	<i>90%</i>
<i>BRASILE</i>	<i>-</i>	<i>100%</i>
<i>AUSTRALIA/N.Z.</i>	<i>-</i>	<i>100%</i>

Distributions vs altitude



High hill

10%

Low hill

59%

Flat land

31%

Vineyards vs. size



Ha	%
< 1	84,3
1-2	9,2
2-3	3,0
3-5	2,0
5-10	1,0
10-20	0,3
20-30	0,1
> 30	0,1

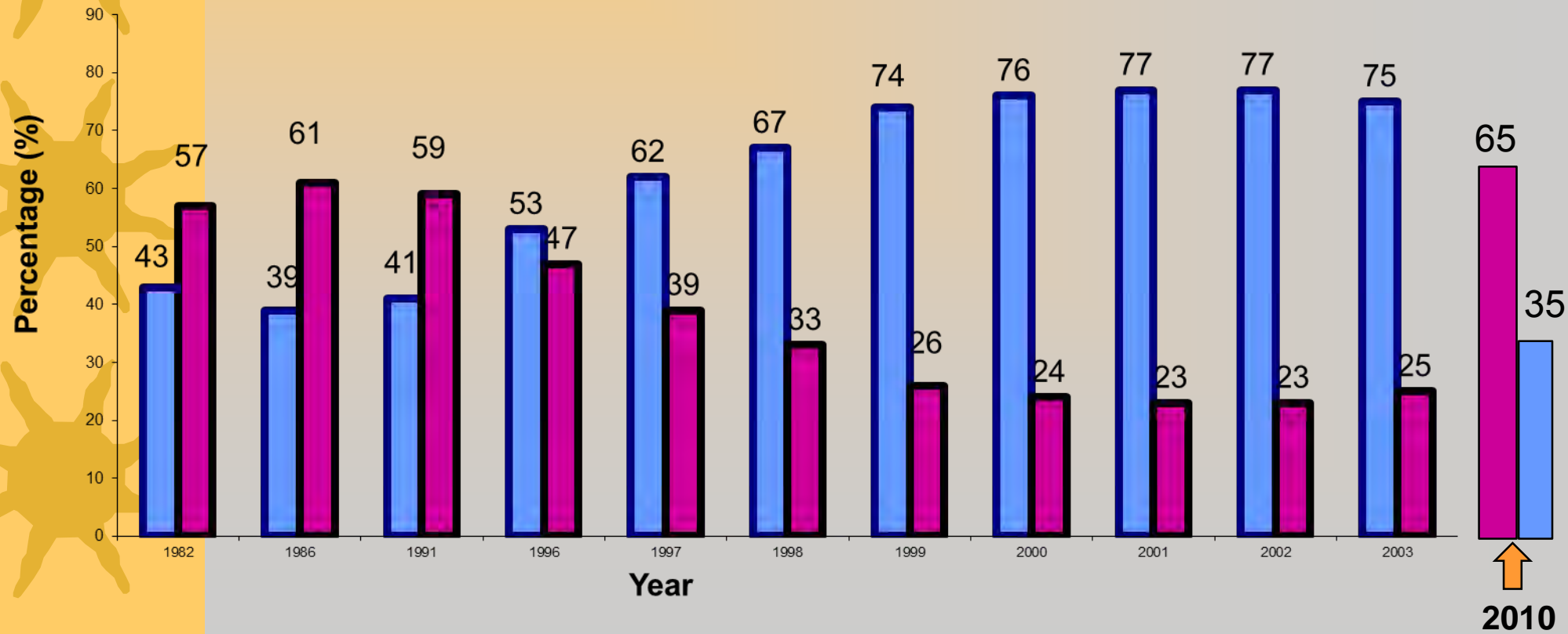
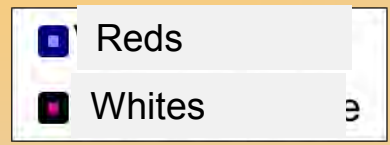
Produzione di vino in Italia per regione

	2013	2014	2015	var. 2015/14	Quota su prod. tot.
	(.000 hl)	(.000 hl)	(.000 hl)	%	%
Veneto	10.068	10.459	10.539	0,8%	21,4%
Puglia	10.683	7.581	8.699	14,7%	17,7%
Emilia Romagna	9.100	7.912	8.140	2,9%	16,5%
Sicilia	6.150	3.962	5.069	27,9%	10,3%
Piemonte	2.945	2.853	2.827	-0,9%	5,7%
Abruzzo	2.946	2.877	2.735	-4,9%	5,6%
Toscana	2.447	2.678	2.669	-0,3%	5,4%
Friuli Venezia Giulia	1.459	1.377	1.636	18,8%	3,3%
Trentino Alto Adige	1.879	1.202	1.401	16,6%	2,8%
Lombardia	1.594	1.348	1.171	-13,1%	2,4%
Lazio	1.181	1.022	1.088	6,4%	2,2%
Marche	1.018	895	980	9,5%	2,0%
Campania	753	372	742	99,2%	1,5%
Sardegna	602	458	543	18,4%	1,1%
Umbria	377	477	508	6,5%	1,0%
Molise	260	150	210	40,2%	0,4%
Calabria	140	103	117	13,6%	0,2%
Basilicata	104	61	86	41,2%	0,2%
Liguria	35	40	41	2,3%	0,1%
Valle D'Aosta	18	18	14	-19,3%	0,0%
Totale Italia	53.759	45.846	49.216	7,3%	100,0%

Fonte: WineMonitor su dati AGEA, Artea, Ripartizione Agricoltura della provincia Autonoma di Bolzano



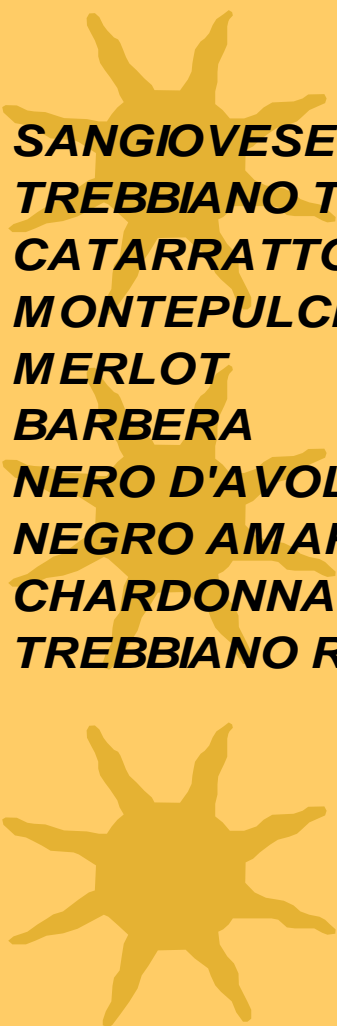
Cutting sells: evolution over time in Italy: reds vs whites.





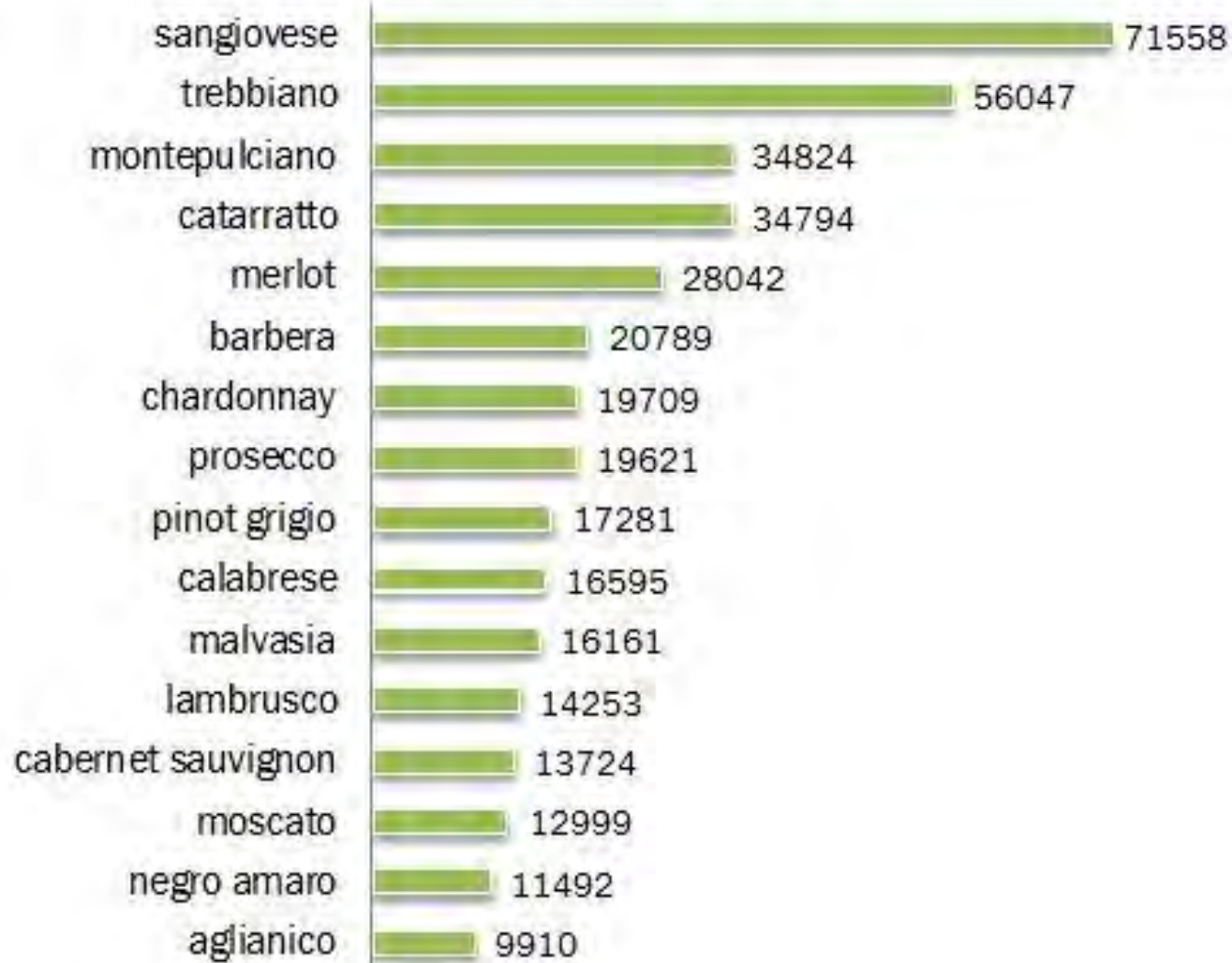
ITALY: Main cultivated cultivars

(Total acreage about 651.863 Ha - ISTAT 2010)

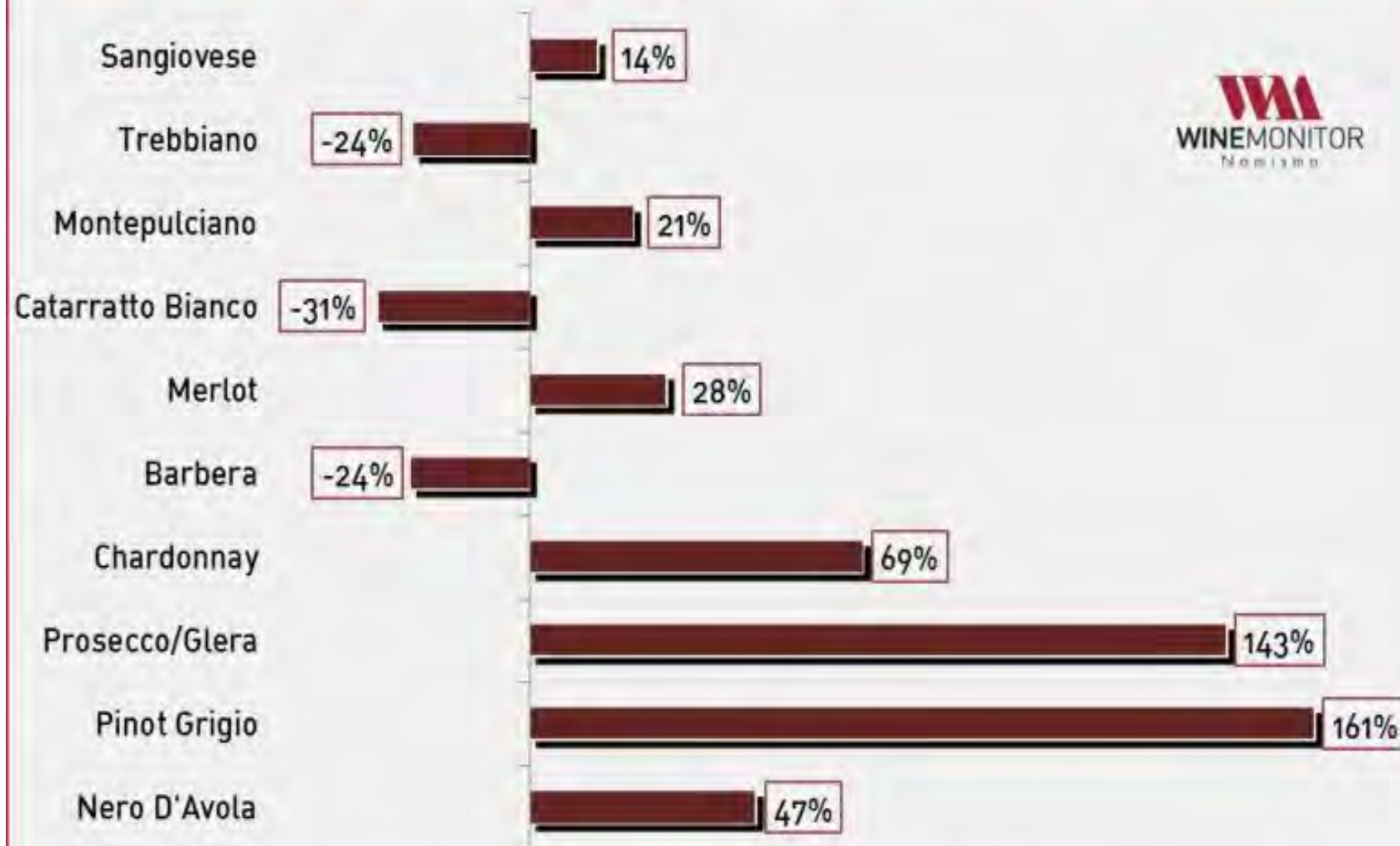


	<i>SUP</i>			<i>SUP</i>	
SANGIOVESE	70.289	1 (1)	PROSECCO	16.145	11 (17)
TREBBIANO T.	38.356	2 (3)	CABERNET S.	15.893	12 (18)
CATARRATTO	37.841	3 (2)	MOSCATO BIANCO	11.729	13 (9)
MONTEPULCIANO	31.093	4 (4)	GARGANEGA	11.310	14 (11)
MERLOT	24.141	5 (6)	PRIMITIVO (Zinfandel)	11.133	15 (19)
BARBERA	21.275	6 (5)	AGLIANICO	10.530	16 (13)
NERO D'AVOLA	18.445	7 (12)	PINOT GRIGIO	10.053	17 (24)
NEGRO AMARO	16.598	8 (8)	MALVASIA B.	8.637	18 (15)
CHARDONNAY	16.520	9 (10)	SIRAH	7.138	19 (75)
TREBBIANO R.	16.285	10 (7)	330 more	266.755	266.755

I maggiori vitigni in Italia nel 2010 (rielaborazione, ettari)

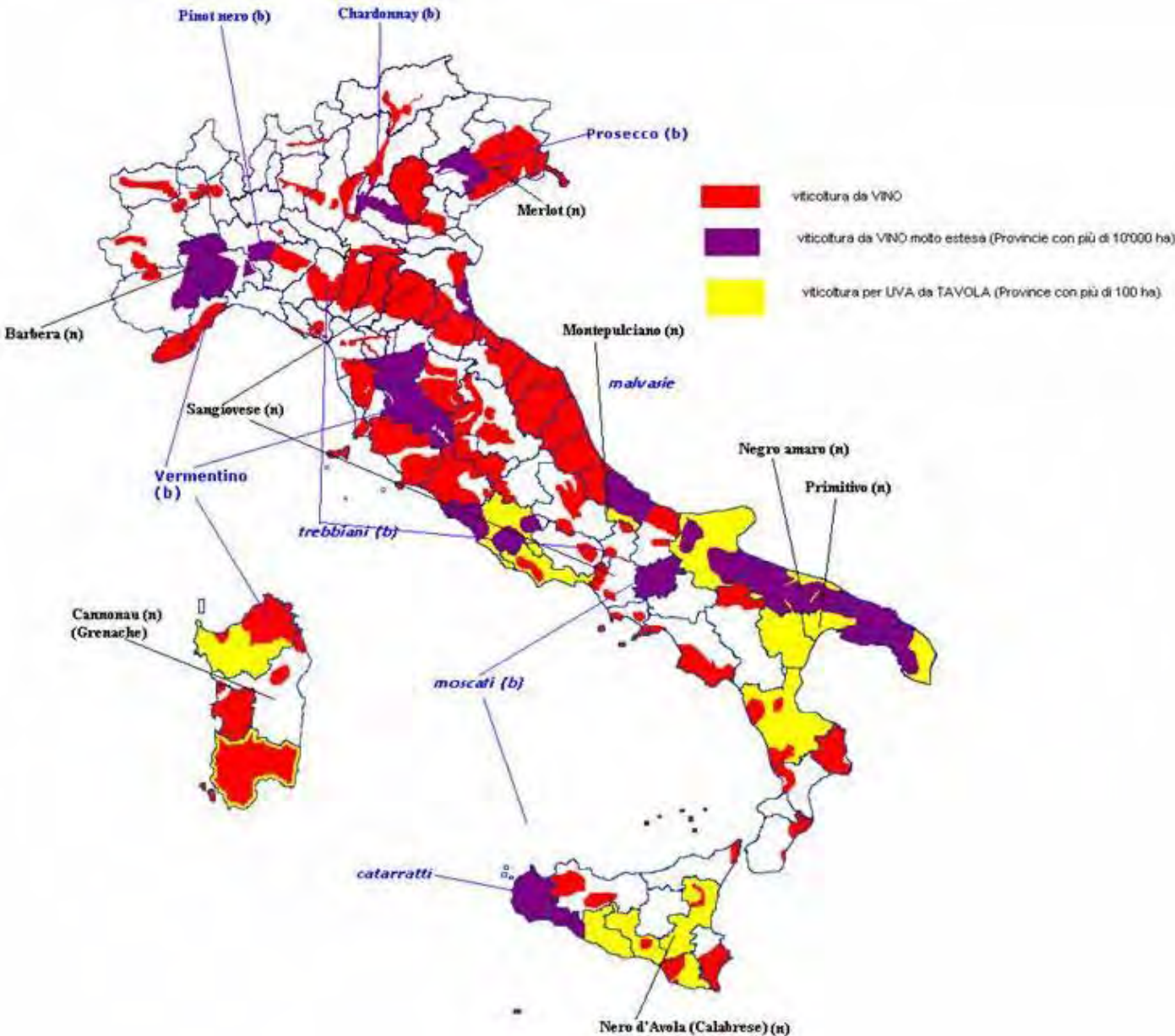


TOP10 varietà di uva da vino coltivate in Italia - variazione superfici 2010/2000



Fonte: WineMonitor su dati Wine Economics Research Centre, University of Adelaide

ITALIA: distribuzione geografica della viticoltura (zone vinicole a D.O.C. (Denominazione di Origine Controllata, rispetto ai confini delle Province – Vercesi 2006); in blu i principali vitigni bianchi, in nero quelli rossi).



Migliaia: i vitigni coltivati

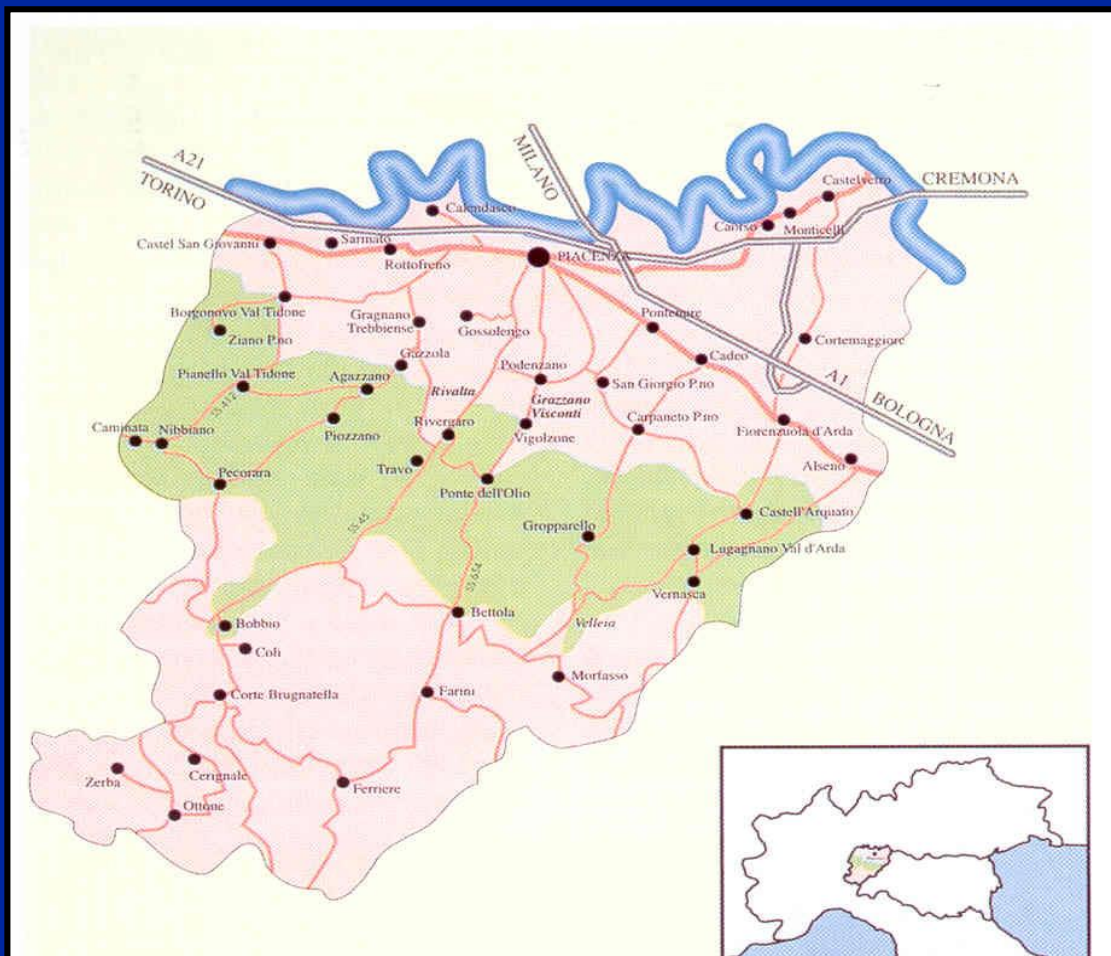
Centinaia: le zone viticole e i modi di allevare la vite

Decine: le tipologie enologiche prodotte.

Compongono un'enorme variabilità di situazioni e problematiche colturali.



Vineyard surface: $\approx 5,800$ Ha
Wine: 217,638 HL



Barbera



Croatina

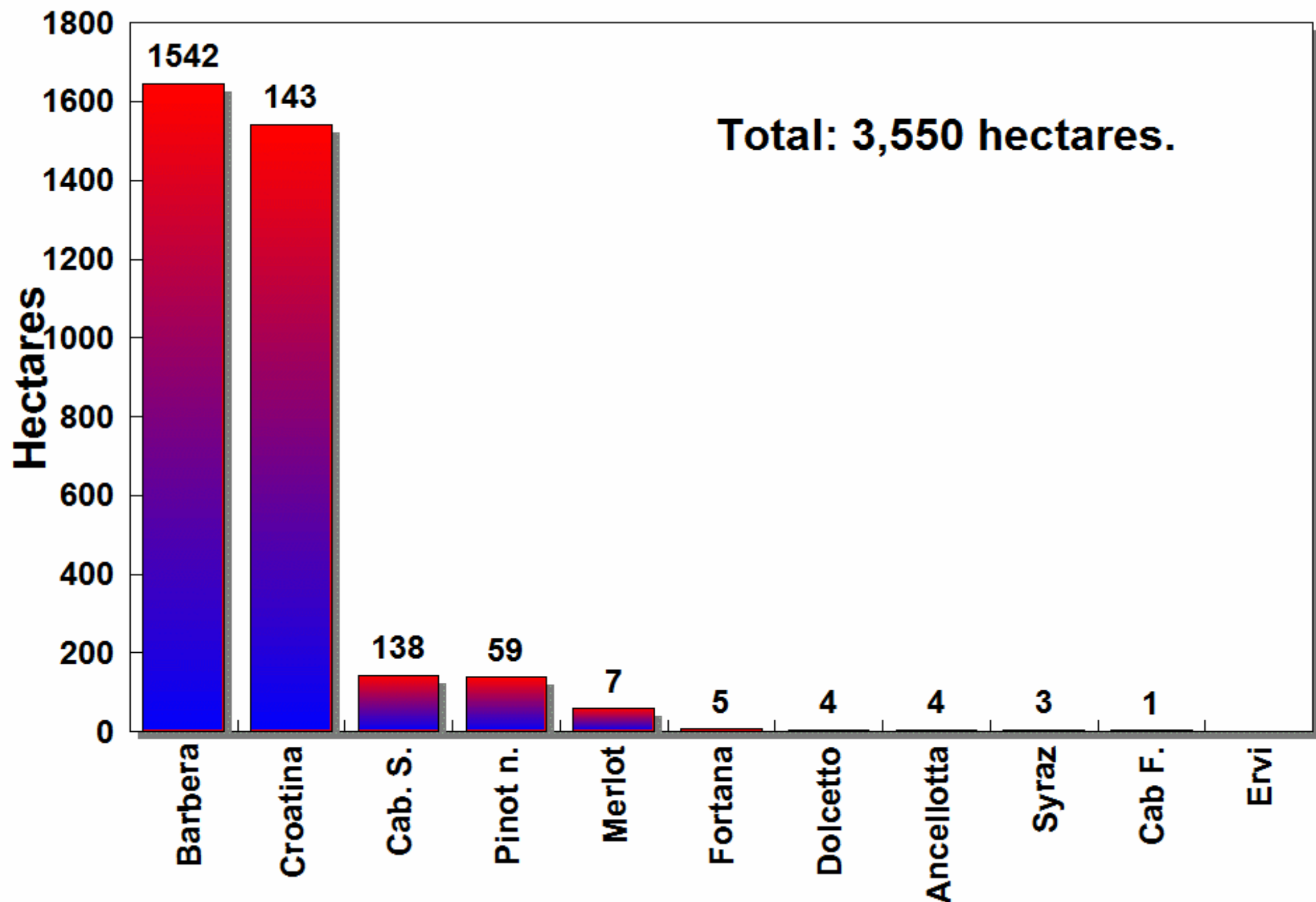


Malvasia

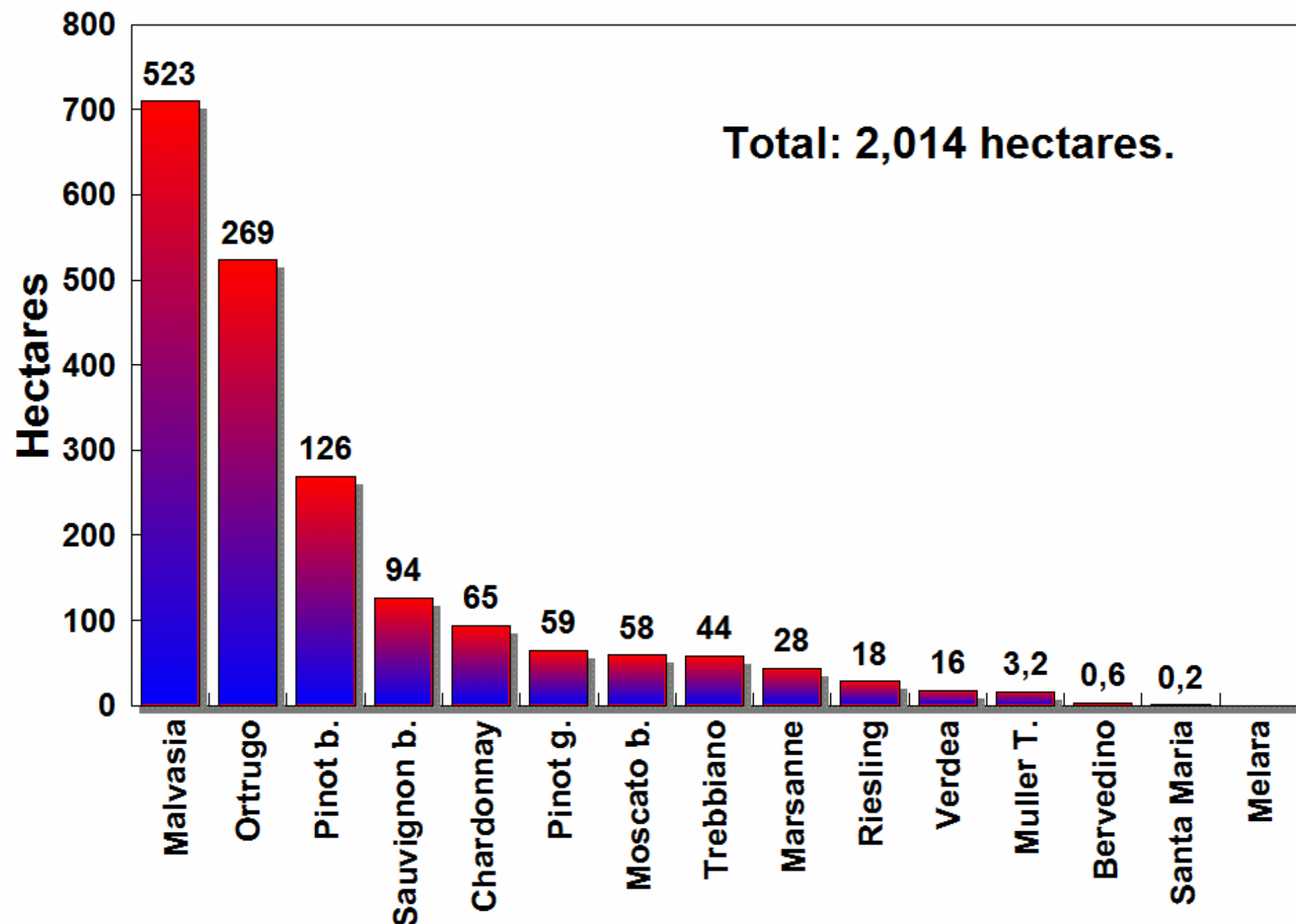


Ortrugo

Distribution of reds in the Colli Piacentini area



Distribution of whites in the Colli Piacentini area



Gutturnio

Tipologia	vivace
Vitigno	60% barbera, 40% bonarda
Colore	rosso rubino
Profumo	vinoso e piacevolmente fruttato
Sapore	asciutto, pulito e morbido
Metodo di lavorazione	vinificato in metodo tradizionale con macerazione che varia dai 5 ai 7 giorni
Gradazione alcolica	variabile tra i 13 e i 13,5 gradi
Abbinamenti consigliati	salumi e primi piatti, particolarmente indicato con i tradizionali tortelli di ricotta con la coda
Temperatura di servizio	temperature di cantina tra 15° e 17° C

