Arsial

Lazio Region Agency
for Agricultural Development
and Innovation

Conservation and Valorisation of Agrobiodiversity in Lazio Region

Regional Act n. 15
dated 1st March 2000
"Protection of autochtonous genetic resources of agricultural interest"

Introduction

The expression "agricultural biodiversity", or "agrobiodiversity", is used to indicate the entire heritage of plant, animal and microbial genetic resources as a result of biological mechanisms and natural selection in the long period of evolution; these resources have been accumulated since the beginning of agriculture, about 10,000 years ago, by generations of farmers that domesticated, selected, and transferred, from different geographical areas, all those species useful for supplying mankind.

Thanks to the heterogeneity of its landscape, due to its rough horography and to a set of quite variable bioclimatic factors, Italy is one of the richest country in flora and fauna, which is biodiversity, in the entire European continent.

Its central position in the Mediterranean, together with a more ancient and extended presence of man than elsewhere, has allowed the overlap of a number of flora and fauna components whose evolution has been very deeply affected by the action of man. Even more than in other countries, this diversity of land layouts has allowed the establishment and conservation of a large variety of cultivated plants and domestic animals well adapted to the different agroecosystems that have developed in the millennia.

The Lazio Region itself, is located centrally in the Italian peninsula, and is characterised by a complex morphology and by a great bioclimate variability. Because of all the peculiarities described above, many authors agree on considering the Lazio Region very rich in biodiversity.

Since the second half of '900, in our country, as in the rest of the world, the development of an intensive type of agriculture and animal rearing has favoured the spreading of new plant cultivars and breeds of zootechnical interest, characterised by a greater yield and uniformity of genetic characters. This together with the undergone deep changes in rural and agroforest ecosystems caused a significant decrease in biodiversity. The progressive loss of diversity of species and breed/variety level is called "genetic erosion".

The loss of biodiversity is always a loss of wealth in our environment because the loss of species and traditional varieties implies the loss of landscapes, of production systems, of know-how and of local cultures.

Agriculture and in particular ecosustainable agriculture, cannot leave aside the identification and conservation of this genetic heritage which is threatened with extinction, though perfectly adapted to the environment in which it is conserved.

Therefore its protection is extremely important both for the economic and cultural enhancement of traditional agricultural and animal productions, and for the conservation of the rural and agro-forest landscape.

Moreover, considering the fast evolution of climatic conditions, this genetic heritage represents a precious reserve from which to draw on genes from new selection programmes aimed by ecosustainability. Ecosustainable agriculture and livestock rearing have to be suitable for more and more difficult environmental conditions

A law for the protection of agro biodiversity in Lazio

Within the policies of development, promotion and protection of agroecosystems and quality productions, based on the indications of the Convention on Biodiversity (CBD, Rio de Janeiro 1992), implement by Italy with the Act no.124 dated 14/04/1994, has issued the Regional Act no.15 dated 1 March 2000 "Protection of autochthonous genetic resources of agricultural interest".

The Regional Law protects all species, races, populations, ecotypes, clones, and cultivars, including the wild species of the cultivated plant species, as well as the animal breeds and populations of zootechnical interest:

- that are autochthonous, i.e. are original to Lazio or have been introduced and have integrated into the agroecosystem of Lazio at least for the past fifty years;
- that are of agricultural interest i.e. are used for agricultural, zootechnical, agro-forest;
- for which there is an economic, scientific, environmental, and cultural interest;
- that are threatened with genetic erosion caused by abandonment or by genetic hybridisation with the introduction of new, more productive, resistant cultivars or animal races.

Moreover the Region also protects all genetic resources that have disappeared from the regional territory but are currently conserved in experimental institutions, botanical gardens, public and private genetic collections and banks, also in other Regions and countries.
The Act entrusts ARSIAL (Regional Agency for Agricultural Development and Innovation in Lazio) with the management of the two operating tools with which protection is implemented: the Regional Voluntary Register and the Conservation and Safety Network.

Regional Voluntary Register

The Regional Voluntary Register is the official repertoire of the Lazio Region, where the autochthonous genetic resources of agricultural interest at risk of genetic erosion are registered subject to the opinion of two Scientific Commissions, one for the Plant Sector and one for the Animal Sector.
In the Register, available on line on ARSIAL's website, are documented the morphological characteristics and the historical and technical information concerning every genetic resource.
The registration may be carried out through ARSIAL initiative or subsequently throughout the Regional Committee proposal, by public or scientific institutions, by private organizations or by a single citizen proposal. The registration form, is available on ARSIAL's website, it must be submitted to ARSIAL which will record the genetic resource in the Register, without charging.
The genetic resources can be withdrawn from the Register, whenever they do not fulfil the law specifications any longer.

GENETIC RESOURCES REGISTERED IN THE RVR

(1th May 2010)

n. 172 plants and n.26 animals

TREES	N°	HERBACEOUS	N°	ANIMALS	N°
Apricot	2	Strawberry	1	Cow	1
Azzeruolo	1	Garlic	2	Ass	4
Chestnut	1	Tomato	3	Horse	**7**
Cherry (sweet)	14	Pepper	1	Goat	4
Apple	**36**	Zucchini	1	Sheep	2
Pomegranate	4	Celery	1	Pig	3
Hazelnut	3	Artichoke	2	Chicken	1
Olive	13	Fennel	1	Rabbit	1
Pear	23	Bean	**15**	Crayfish	1
Peach	4	Chickpeace	1	Carpione	1
Plum	4	Lentil	3	Troute	1
Wine grapes	28	Emmer	2		
Table grapes	4	Corn	1		
Cherry (sour)	1				
	138		**34**		**26**

Rural Development Program of the Region of Lazio (RDP) 2007-2013 and agricultural biodiversity protection measures

Every year the RDP genetic resources lists are updated with knew resources registered on the Regional Voluntary Register, so to grant the economic support provided by the two measures, Action 214.8 – Animal Agricultural Biodiversity Protection and Action 214.9 – Plant Agricultural Biodiversity Protection, to those who want to cultivate or breed the protected genetic resources.

ENTITY OF THE GRANTS TO FARMERS THAT COLTIVATE/BREED OR MOLTIPLICATE ON FARM, *IN SITU*, THE PROTECTED VEGETABLES AND ANINALS GENETIC RESOURCES

CEREALS: 250-300* Euro/ha
HORTICULTURE CROPS: 500-600* Euro/ha
TREE-PLANTS: 800-900* Euro/ha
SINGLE TREE: 70-90* Euro/plant
Up to a maximum of 5 tree-plants per variety

ANIMALS: 200 Euro/UBA
Up to a maximum of 400 Euro/ha

*The maximum amount given to who cultivates ***in situ*** protected local varieties to produce seeds and/or multiplication materials, following a specific **Disciplinary** worked out by **ARSIAL** together with the **Servizio Fitosanitario Regionale.**

Conservation and Safety Network

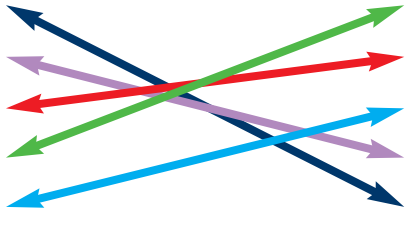
Anyone that owns, grows, or breeds plants or animals registered in the Regional Voluntary Register may become a member of the Conservation and Safety Network managed and coordinated by ARSIAL. Also other organizations which can become members of the network are: municipalities, universities, research institutions, botanical gardens, national parks, nurseries, individual farmers, and associations of farmers.
The Network aspires in the development of an economic benefit that should make the active conservation of protected genetic resources possible.
The aims of the Conservation and Safety Network can be summarised as follows:

- to support *in situ* and *on farms* conservation of protected genetic resources, cultivating and the breeding of them on farms, the distribution area where they have been selected;
- where possible to favour the reintroduction or extension of culture or breeding of protected genetic resources;
- to assign to farmers or "guardian" breeders, under the strict control of ARSIAL, the multiplication of genetic resources that they themselves have conserved up to present day, by providing them the necessary assistance to enhance the techniques for the multiplication and propagation of material;
- to control the exchange of the propagation material produced and to make it available both to the farmers that apply for it for cultivation or livestock rearing, and for scientific purposes such as genetic selection and improvement;
- to apply cultivation or livestock rearing models, studied on the basis of those adopted by tradition, that should exalt the quality and productivity of the protected genetic resources;
- to coordinate the subjects included in the Network in order to promote the economic and cultural enhancement of the genetic resources, protected by law, through the establishment of protection associations, consortia or protected trademarks and its involvement in wine and food fairs.

N° Members of the Conservation and Safety Network per District

ANIMAL RESOURCES' MEMBERS

- **Roma: 154**
- **Rieti: 144**
- **Viterbo: 57**
- **Frosinone: 51**
- **Latina: 31**



PLANT RESOURCES' MEMBERS

- **Frosinone: 69**
- **Viterbo: 48**
- **Latina: 38**
- **Rieti: 20**
- **Roma: 7**

TOTAL MEMBERS FOR ANIMAL GENETIC RESOURCES: 437
TOTAL MEMBERS FOR PLANT GENETIC RESOURCES: 182

Agricultural autochthonous genetic resources census

In order to know, to protect and to increase the value of the autochthonous genetic heritage of Lazio Region, ARSIAL is carrying out a census on the entire regional territory of plant and animal resources threatened by genetic erosion.

The census activity consist in genetic resources recognition that have been classified and kept in scientific institutions' collections in Italy and abroad; in a bibliographic research, including the examination of archives to verify the historical autochthony of the resource found; and in an active search on the entire territory for the genetic resources in a state of abandonment.

Local population is involved in the research and directly involved in the census and in the rediscovery of the autochthonous genetic heritage they have, with all the traditions linked to it. The census in progress, includes, through ethnographic methods, a deepening of the social-cultural knowledge linked to biodiversity, making possible its potential economic valuation and the risk related to the loss of biodiversity and culture. Interviews on farms, give the possibility to collect audio-visual documentation on traditions and on the culture of small local communities of farmers resource keepers

"Piazza del popolo", Roma, 1890

Monte S. Biagio (LT) 2007 Capra Bianca Monticellana

The technical-scientific census approach provides a description and a classification of the resources found. All the genetic plant and animal resources found are accurately described in their morphologic, physiologic and genetic characteristics, also through molecular analysis, together with the environmental characteristics of the agroecosystem in which they have been conserved. Information will be gathered on the distribution area of cultivation and on the agronomic practices traditionally used.

Plants propagation material is collected for comparative research studies in nursery, for the classification of the variety found and for its conservation in *ex situ* Collection Fields and in ARSIAL's Germoplasm Bank.

ARSIAL also takes care of the evaluation of the TGA (Autochthonous Genetic Types) population entity, of the breed standards definition and its registration in the National Books of Italian Autochthonous Breeds.

The research activity is carried out in collaboration with different scientific institutions.

Census and characterisation of fruit trees germplasm: the activity is carried out in collaboration with the Plant Production Department of Tuscia University, Viterbo and with CRA – FRU (Centro di Ricerca per la Frutticoltura – Rome).

Census and characterisation of grapevine germplasm: the activity is carried out in Lazio Region's project "Agricultural Quality", for the valorisation of regional quality productions, and in collaboration with CRA-VIT (Centro di Ricerca per la Viticoltura – Conegliano Veneto).

Census and characterisation of olive germplasm: the activity is carried out in collaboration with C.R.A. - OLI (Centro di Ricerca per l'Olivicoltura and the Industria Olearia – Spoleto).

Home Garden
Valle dell'Aniene

Experimental Field
ARSIAL

Census and characterisation of crop germplasm: in range of Crop Seeds Operative Program – Lazio (financed by MiPAAF) and under the Scientific Supervision of two experts, ARSIAL has enhance the landraces (crop local varieties) census activity for their conservation and for on farm multiplication.

Census and characterisation of TGA animals (Autochthonous Genetic Types): The activity is carried out in collaboration with ConSDABI (Consorzio per la Sperimentazione, Divulgazione e Applicazione di Biotecniche Innovative).

To reduce the risk of animal and plant genetic heritage loss, to support the "active" conservation *in situ* and *on farm*, ARSIAL has started projects for their economic and cultural valorisation.

Ponzano Romano (RM)
2009
Cavallo
Maremmano
Tradizionale

Monte S. Biagio (LT)
2007
Capra Bianca
Monticellana

REGIONAL VOLONTARY REGISTER

GENETIC RESOURCES REGISTERED UP TO DATE 1ST MAY 2010

Animals	Species	Breed Name	Livestock Year Book/Genealogical Book
Equidae	*Equus caballus L.*	Cavallo Maremmano	Genealogical Book - ANAM
		Cavallo Maremmano Tradizionale	In stage of registration on the Livestock Year Book
		Cavallo Tiro Pesante Rapido (TPR)	Genealogical Book - ANACAITPR
		Cavallo del Cicolano	
		Pony di Esperia*	Livestock Year Book - AIA
		Cavallo Tolfetano	Livestock Year Book - AIA
		Cavallo Lipizzano	Genealogical Book - CRA
	Equus asinus L.	Asino dell'Amiata	Livestock Year Book - AIA
		Asino di Martina Franca	Livestock Year Book - AIA
		Asino dei Monti Lepini	In stage of registration on the Livestock Year Book
		Asino Ragusano	Livestock Year Book - AIA
Cattle	*Bos taurus L.*	Bovino Maremmano	Genealogical Book - ANABIC
Goates	*Capra hircus L.*	Capra Bianca Monticellana	Livestock Year Book - ASSONAPA
		Capra Grigia Ciociara	Livestock Year Book - ASSONAPA
		Capra Capestrina	Livestock Year Book - ASSONAPA
		Capra Fulva	In stage of registration on the Livestock Year Book
Shep	*Ovis aries L.*	Pecora Sopravvissana	Genealogical Book - ASSONAPA
		Pecora Quadricorna	
Pigs	*Sus domesticus L.*	Suino Casertana	Livestock Year Book - ANAS
		Suino Nero del Reatino	Livestock Year Book - Suino Apulo–Calabrese - ANAS
		Suino Nero dei Monti Lepini	Livestock Year Book - Suino Apulo–Calabrese - ANAS
Courtyard Animals	*Gallus gallus L.*	Pollo Ancona	
	Oryctolagus cuniculus L.	Coniglio Leprino di Viterbo	
Fish	*Austropotamobius pallipes L.*	Gambero Nostrano di fiume	
	Salmo fibreni L.	Carpione del Fibreno	
	Salmo macrostigma L.	Trota Macrostigma	

Capra Grigia Ciociara

Capra Fulva

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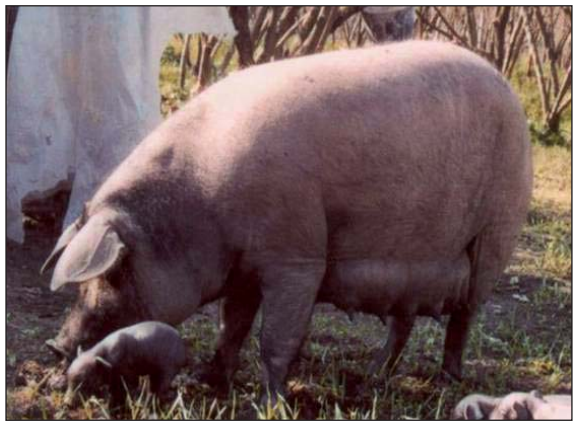
Agenzia Regionale per lo Sviluppo e l'Innovazione dell'Agricoltura del Lazio

	Consistence, N° reproduction female in EU	Distribution area for *in situ* breeding
	2394	LAZIO
	118	LAZIO
	3175	province di VITERBO, ROMA, LATINA, RIETI
	23	provincia di RIETI
	1012	LAZIO
	1132	province di VITERBO, ROMA, LATINA, RIETI
	4067	LAZIO
	622	province di VITERBO, ROMA, RIETI
	309	province di VITERBO, LATINA, RIETI
	4	province di LATINA, FROSINONE, ROMA
	1256	provincia di RIETI
	5242	LAZIO
	3000	province di FROSINONE, LATINA
	119	province di FROSINONE, LATINA
	1000	province di LATINA, FROSINONE
	200	province di LATINA, ROMA
	4330	LAZIO
	300	provincia di FROSINONE
	421	province di LATINA, FROSINONE
	191	provincia di ROMA, LATINA, FROSINONE, RIETI
	40	provincia di ROMA, LATINA, FROSINONE
	300	provincia di ROMA
		LAZIO
		Alto Lazio
		Bacino del Fibreno
		Bacino del Fibreno



Suino Nero Casertano

Suino Nero Reatino

Suino Nero dei Monti Lepini

Capra Bianca Monticellana

Pecora Quadricorna

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Agenzia Regionale per lo Sviluppo e l'Innovazione dell'Agricoltura del Lazio

PLANT GENETIC
Fruit tree

	Variety	Conservation *in situ* distribution area
Apple(*Malus domestica Bork*)	Agre di Sezze[(a)]	Lazio
	Agre di Viterbo[(a)]	Lazio
	Appia[(a)]	Lazio
	Bebè[(a)]	Poggio Mirteto (RI)
	Calvilla[(a)]	Lazio
	Capo d'Asino[(a)]	Lazio
	Cerina (Zitella, Gelata)[(m)]	Lazio
	Cipolla[(a)]	Lazio
	Cocoine[(a)]	Lazio
	Dolce di Sezze[(a)]	Lazio
	Francesca[(a)]	Lazio
	Francesca di Castelliri[(a)]	Castelliri e Sora (FR)
	Mbriachella[(a)]	Provincia di Roma e Rieti
	Nana[(a)]	Lazio
	Paoluccia[(a)]	Lazio
	Paradisa[(a)]	Lazio
	Pianella (Rosa)[(a)]	Lazio
	Pontella[(a)]	Lazio
	Rosa[(a)]	Lazio
	Rosa gentile[(a)]	Provincia di Roma
	Rosa piatta ciociara[(a)]	Provincia di Frosinone
	S. Giovanni(a)	Provincia di Viterbo
	Spugnaccia[(a)]	Provincia di Viterbo
	Velletrana[(a)]	Subiaco e Velletri (RM)
	Verdona[(a)]	Provincia di Rieti
	Verdonica[(a)]	Provincia di Rieti
	Zuccherina o Gelata[(a)]	Lazio
	Fragola[(a)]	Lazio
	Gaetana[(a)]	Lazio
	Maiolina[(a)]	Lazio
	Prata(a)	Lazio
	Rosetta o Rosone[(a)]	Lazio
	S. Agostino[(a)]	Lazio
	Sublacense[(a)]	Provincia di Roma
	Tonnorella[(a)]	Lazio
	Limoncella[(m)]	Lazio
Pear (*Pyrus Communis* L.)	Abitir[(a)]	Alatri (FR) e limitrofi
	De lu Prete[(a)]	Grisciano (RI) e limitrofi
	Del Principe[(a)]	Soriano al Cimino (VT)
	Monteleone[(m)]	Castiglione in Teverina, Bolsena, Acquapendente (VT)
	Angina o Ancina[(m)]	Province di: Roma e Latina
	Baccelli[(a)]	Genazzano (RM) e limitrofi
	Barocca - Invernale di S. Vito[(a)]	Genazzano (RM) e limitrofi
	Biancona[(a)]	Province di: Roma e Latina
	Bottiglia[(m)]	Alatri (FR)
	Campana[(a)]	Borbona (RI)
	Cannella[(a)]	Grisciano (RI)
	Castrese[(a)]	Province di: Roma e Latina
	Cocozzola (Cucuzzara, Zucchina)[(a)]	Provincia di Roma
	Di Posta[(a)]	Provincia di Frosinone
	Di S. Cristina (Peruzza)[(a)]	Bolsena (VT)
	Fegatella[(a)]	Province di: Roma e Latina
	Pero-melo[(a)]	Province di: Roma e Latina
	Rossa di Maenza[(a)]	Maenza (LT) e limitrofi
	Sellecca[(a)]	Alatri, Ferentino e limitrofi (FR)
	Spadona di Castel Madama[(a)]	Castel Madama (RM) e limitrofi
	Spina di Valle Imperiale[(a)]	Province di: Roma e Latina
	Spina (Spinacarpi, Coccia d'Asino, Casentina)[(m)]	Canneto Sabino (RI), Palombara Sabina (RM)
	Trentonce[(a)]	Borbona (RI)
	Tunnella[(a)]	Province di: Roma e Latina

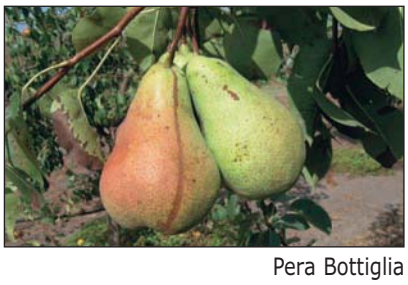

Mela Bebe


Mela Limoncella


Mela Cerina


Mela Rossa di Alatri


Mela Mbriachella


Pera Bottiglia

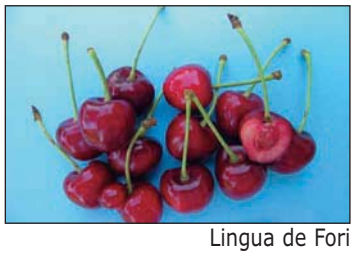
Genetic erosion threat :
(a)→ High
(m)→ Medium
(b)→ Low

RESOURCES

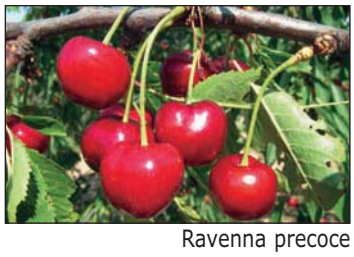
Germplasm

Arsial
Agenzia Regionale per lo Sviluppo e l'Innovazione dell'Agricoltura del Lazio

Variety		Conservation *in situ* distribution area
Apricot (*Prunus armeniaca* L.)	Di Monteporzio (m)	Frascati, Monteporzio Catone,Colonna, Montecompatri (RM)
	S. Maria in Gradi -AL1 (a)	Provincia di Viterbo
Azzeruolo (*Crataegus azarolus* L.)	Azzeruolo Rosso (m)	Lazio
Chestnut (*Castanea sativa* Mill.)	Marrone Premutico (Primatico, Primaticcio) (m)	Provincia di Viterbo e Comune di Manziana (RM)
Cherry-sweet (*Prunus avium* L.)	Bella di Pistoia (a)	Province di Rieti, Viterbo e Roma
	Biancona (a)	Province di Rieti, Viterbo e Roma
	Buonora (a)	Province di Rieti, Viterbo e Roma
	Core (Durona) (a)	Province di Rieti, Viterbo e Roma
	Crognolo (a)	Province di Rieti, Viterbo e Roma
	Graffione (m)	Province di Rieti, Viterbo e Roma
	Maggiolina (a)	Province di Rieti, Viterbo e Roma
	Morona (a)	Province di Rieti, Viterbo e Roma
	Ravenna a gambo corto (a)	Province di Rieti, Viterbo e Roma
	Ravenna a gambo lungo (a)	Province di Rieti, Viterbo e Roma
	Ravenna precoce (a)	Province di Rieti e Roma
	Ravenna tardiva (a)	Province di Rieti e Roma
	Petrocca (a)	Montelibretti e limitrofi
	Lingua de Fori (a)	Montelibretti e limitrofi
Pomegranate (*Punica granatum* L.)	Di Gaeta MG1 (a)	Provincia di Latina
	Di Gaeta MG2 (a)	Provincia di Latina
	Di Formia MG3 (a)	Provincia di Latina
	Di Formia MG4 (a)	Provincia di Latina
Hazelnut (*Corylus avellana* L.)	Barrettona (m)	Provincia di Viterbo
	Casamale o nostrale (Comune di Sicilia) (a)	Provincia di Viterbo
	Rosa (Nocchia R.) (a)	Provincia di Viterbo
Peach (*Prunus persica* L.)	Ala (a)	Velletri (RM) e limitrofi
	Reginella Pesca Uovo (Early Crawford) (a)	Provincia di Roma e Viterbo
	Reginella II (a)	Provincia di Roma
	Tardiva di San Vittorino (a)	Tivoli (RM) e limitrofi
Plum (*Prunus insititia* L.)	Coscia di Monaca di Ponzano Romano (m)	Ponzano Romano (RM)
	Di Gallinaro (m)	Sora (FR)
	Recinella (a)	Giuliano di Roma e limitrofi (RM)
	S. Giovanni (m)	Arce (FR)
Cherry-sour (*Prunus cerasus* L.)	Nana dei Castelli (a)	Castelli Romani (RM)


Lingua de Fori


Graffione


Ravenna precoce


Bella di Pistoia


Morona


Pera Abitir


Albicocco di S. Maria in Gradi


Albicocco di Monteporzio


Pera Uncino


Pesca Reginella I


Pesca Reginella II

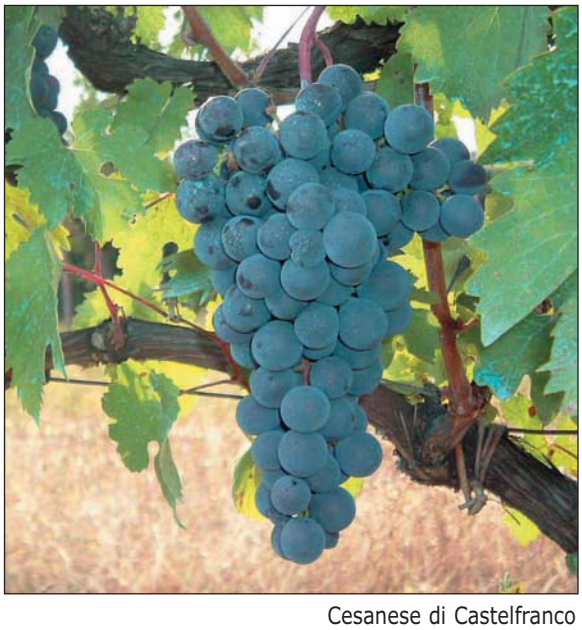
PLANT GENETIC

Grapevine

	Variety	Conservation *in situ* distribution area
GRAPEVINE (*Vitis vinifera* L.)	**Wine registered in the Regional Register of Wine Varieties**	
	Abbuoto n. (m)	Provincie di Viterbo, Roma, Latina
	Aleatico n. (b)	Provincie di Viterbo, Roma, Latina, Rieti
	Bombino bianco b. (b)	Lazio
	Bombino nero n. (m)	Province di Roma, Frosinone
	Cannaiola di Marta n. (m)	Marta, Bolsena, Tuscania (VT)
	Capolongo b. (m)	Provincia di Frosinone
	Greco b. (m)	Lazio
	Greco bianco b. (m)	Provincie di: Viterbo, Roma, Latina
	Greco nero n. (m)	Provincie di: Viterbo, Roma, Latina
	Lecinaro n. (m)	Provincia di Frosinone
	Maturano b. (Motulano) (m)	Provincia di Frosinone
	Moscato di Terracina (b)	Province di: Roma, Latina, Frosinone
	Nero Buono n. (b)	Province di: Latina, Roma
	Olivella nera n. (m)	Provincia di Frosinone
	Pampanaro b. (m)	Provincia di Frosinone
	Passerina b. (b)	Province di: Roma, Frosinone
	Pecorino b. (m)	Provincia di Rieti
	Rosciola r. (m)	Provincia di Roma
	Verdello b. (b)	Province di: Viterbo, Rieti
	Wine in a registration stage in the Regional Register of Wine Varieties	
	Albarosa (a)	Grottaferrata
	Angelica (a)	Frosinone
	Nerone (a)	Agosta, Canterano, Cervara di Roma, Gerano, Marano Equo, Rocca Canterano, Subiaco
	Nostrano (a)	Piglio (FR)
	Uva dei vecchi (a)	Montefiascone (VT)
	Cesanese di Castelfranco (a)	Rieti
	Maturano nero (Motulano) (a)	Frosinone
	Pedino (a)	Montefiascone (VT)
	Romanesco (a)	Montefiascone (VT)
	Uva Mecella (a)	Pecosolido (FR)
	Table Grapevine	
	Pellegrina (m)	Lazio
	Pizzutello bianco b. (den. locali: Pizzutello di Tivoli, Dito di Donna) (b)	Provincie di: Roma, Latina
	Pizzutello nero (a)	Province di: Roma e Latina

Genetic erosion threat:
(a)→ High
(m)→ Medium
(b)→ Low

additional 10 autochthonous grapevine varieties are in characterization



Cesanese di Castelfranco

Uva dei vecchi

Germplasm

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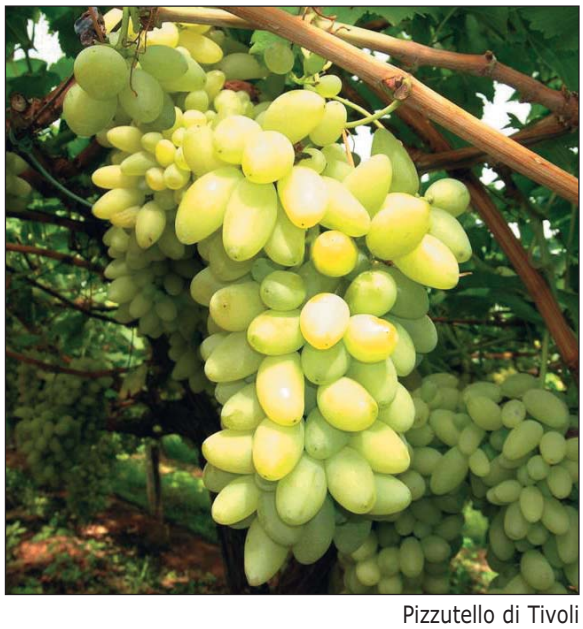
dell'Agricoltura del Lazio

Uva Mecella

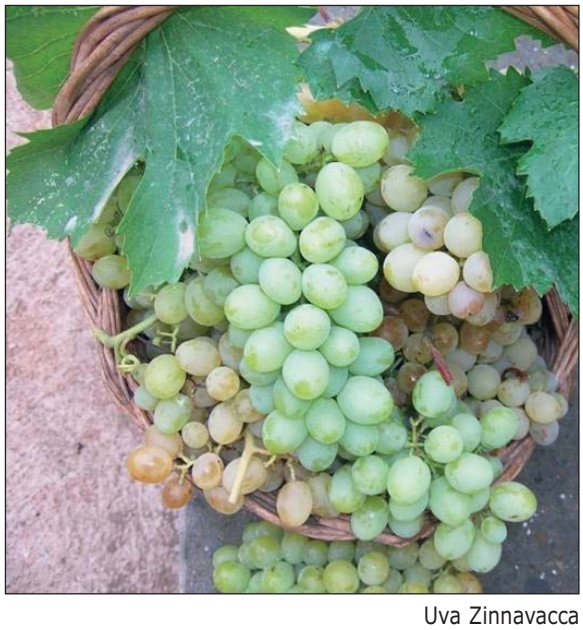
Uva Angelica

Pizzutello nero



Pizzutello di Tivoli

Uva Albarosa



Uva Zinnavacca

Olive Germ

Variety		Conservation *in situ* distribution area
Olive (*Olea Europea* L.)	Oliva dei Monti [a]	Monti Lucretili
	Palmuta [a]	Tivoli, S Polo dei Cavalieri, Marcellina e limitrofi
	Rappaiana [a]	Tivoli, Marcellina e limitrofi
	Romana [m]	Tivoli, Marcellina e limitrofi
	Roscetta Gagliarda [a]	Tivoli, Marcellina e limitrofi
	Rosciola Nostrana [a]	Tivoli, Marcellina e limitrofi
	Rotonda di Tivoli [a]	Tivoli, Marcellina e limitrofi
	Salvia cl. Montelibretti 6 [m]	Montelibretti, palombara Sabina, Neroli (RM)
	Sbuciasacchi [a]	Tivoli, Marcellina e limitrofi
	Sirole cl. Soratte 1 [b]	Civitella S.Paolo, Fiano Romano, Filacciano, Nazzano, Ponzano Romano, Rignano, S. oreste, Torrita Tiberina (RM)
	Marina [m]	S. Donato Val Valcomino, Alvito, Gallinaro, Settefrati (FR)
	Minutella Casarè [m]	Priverno, Sonnino, Itri (LT)
	Vallanella [m]	Priverno, Sonnino, Itri (LT)

Genetic erosion threat:
(a)→ High
(m)→ Medium
(b)→ Low

additional 10 autochthonous olive varieties are in characterization

Oliva dei Monti

plasm

Arsial
Agenzia Regionale
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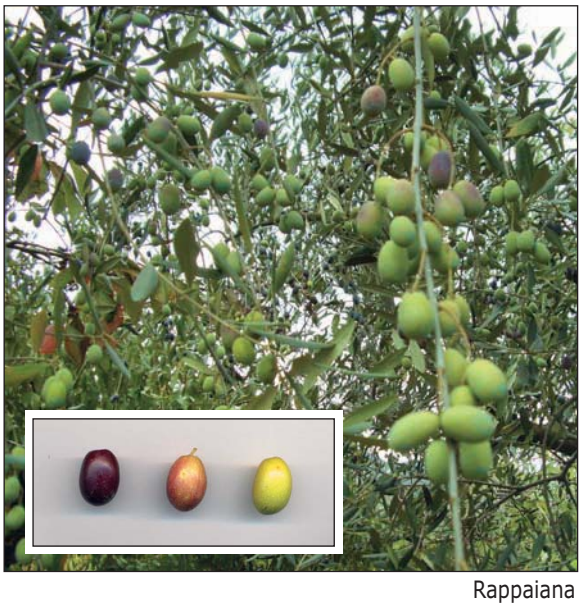
dell'Agricoltura del Lazio

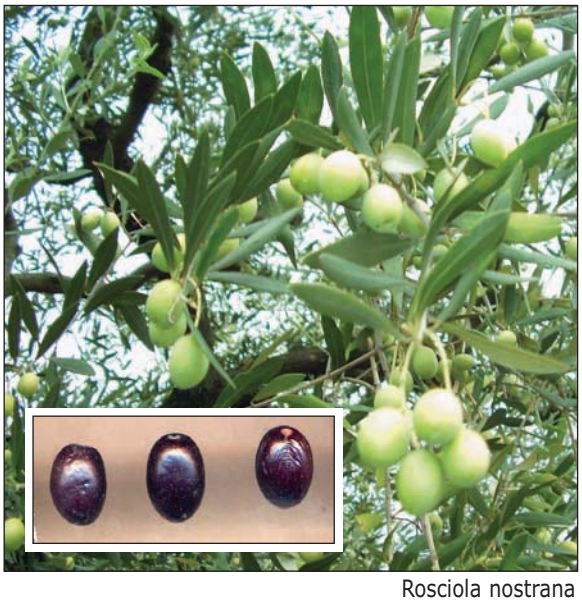


Rappaiana

Romana

Olivo Rotondo di Tivoli

Sbuciasacchi



Rosciola nostrana

Palmuta

PLANT GENETIC

Herbaceous

CULTURE	Species	Landraces	Genetic erosion threat	Conservation *in situ* distribution area
COMMON BEAN	*Phaseolus vulgaris* L.	Fagiolo a Pisello	High	Colle di Tora (RI)
		Fagiolina Arsolana	High	Arsoli, Marano Equo, Vivaro Romano, Riofreddo, Vallinfreda, Vallepietra (RM)
		Fagiolo Cioncone	High	
		Fagiolo Regina di Marano Equo	Medium	
		Fagiolo Cappellette di Vallepietra	High	
		Fagiolo Romanesco di Vallepietra	High	
		Pallino di Vallepietra	High	
		Fagiolo Ciavattone piccolo	High	Provincia di Viterbo
		Fagiolo di Gradoli o del Purgatorio	Medium	
		Fagiolo Giallo	High	
		Fagiolo Solfarino	High	
		Fagiolo Verdolino	High	
		Fagiolo Cannellino di Atina	Basso	Atina, Casalattico, Casalvieri, Gallinaro, Picinisco, Villa Latina (FR)
		Fagiolo Borbontino	Medium	Borbona (RI)
SPAIN BEAN	*Phaseolus coccineus* L.	Fagiolone di Vallepietra	High	Arsoli, Marano Equo, Vivaro Romano, Riofreddo, Vallinfreda, Vallepietra (RM)
LENTIL	*Lens culinaris* L.	Lenticchia di Onano	Medium	Onano (VT)
		Lenticchia di Rascino	Medium	Fiamignano e Petrella Salto (RI)
		Lenticchia di Ventotene	Medium	Ventotene (LT)
CICKPEA	*Cicer arietinum* L.	Cece di Canepina	High	Canepina (VT)
STRAWBERRY	*Fragaria vesca* L.	Fragolina di Nemi	High	Nemi e comuni limitrofi
TOMATO	*Lycopersicum esculentum* L.	Pomodoro Scatolone di Bolsena	High	Bolsena (VT)
		Pomodoro Spagnoletta di Formia e Gaeta	Medium	Itri, Gaeta, Formia, Minturno, Castelforte, Spigno Saturnia, SS Cosma e Damiano (LT)
		Pomodoro da secca di Minturno	High	Minturno, Formia e Castelforte (LT)
PEPPER	*Capsicum annum* L.	Peperone Cornetto di Pontecorvo	Low	Pontecorvo, Esperia, S. Giorgio a Liri, Pignataro Interamna, Villa S. Lucia, Piedimonte S. Germano, Aquino, Castrocielo, Roccasecca, San Giovanni Incarico (FR)
ZUCCHINI	*Cucurbita pepo* L.	Zucchino di Cerveteri tipo Romanesco	High	Cerveteri (RM)
CELERY	*Apium graveolens* L.	Sedano Bianco di Sperlonga	Low	Fondi e Sperlonga (LT)
FENNEL	*Foenicum vulgare* L.	Finocchio di Tarquinia	High	Tarquinia, Monte Romano, Montalto di Castro e Tuscania (VT), Allumiere e Civitavecchia (RM)
ARTICHOKE	*Cynara cardunculus* var. *scolymus* L.	Carciofo Campagnano	Medium	Provincie di: Roma, Vitrerbo e Latina
		Carciofo Castellamare	Medium	Provincie di: Roma, Vitrerbo e Latina
GARLIC	*Allium sativum* L.	Aglio Rosso di Castelliri	Medium	Castelliri e Isola Liri (FR)
		Aglio Rosso di Proceno	Medium	Proceno (VT)
EMMER	*Triticum dicoccum* Schrank.	Farro dell'alta Valle del Turano e della Valle dell'Aniene		Cinto Romano, Riofreddo, Vallinfreda e Vivaro (RM)
		Farro dell'Alta Valle del Tronto	Medium	Leonessa e Amatrice (RI)
MAIZE	*Zea mays* L.	Mais Agostinella	High	Vallepietra (RM)

In range of Crop Seeds Operative Program 600 of about 50 crop species indications have been found. Throw this indication 271 accessions (seeds donated by farmers) have been collected and about 100 morph-physiologically characterized.
Currently are in characterization 82 accessions:

garlic	(2)	strawberry	(1)	zucchini	(2)
rapa-broccoletto	(16)	lentil	(2)	red clover	(1)
chickpea	(1)	maize	(11)	alfalfa	(4)
cicerchia	(3)	tomato	(11)		
bean	(24)	pumpkin	(4)		

RESOURCES

Germplasm

Aglio Rosso di Castelliri

Pomodoro Scatolone di Bolsena

Mais Agostinella

Zucchino di Cerveteri

Fasciolone di Vallepietra

Carciofo Campagnano

Sedano Bianco di Sperlonga

Lenticchia di Ventotene

Farro dell'Alta Valle del Tronto

Finocchio di Tarquinia

Peperone Cornetto di Pontecorvo

Soil biomonitoring

Beyond the activities related to the application of the Regional Act 15/2000, in 2005 a programme on **soil biological fertility and microbial diversity monitoring** of Lazio Region has started, in collaboration with CRA-RPS "Centro di Ricerca per lo Studio delle Relazioni tra Pianta e Suolo". The study of soil biodiversity is basic to understand agricultural earth capability, its concerning parameters for its determination are nowadays the less known and monitored.

Since 1992, when the International Convention on Biodiversity (CBD) was signed, which in Art. 8 the importance of microbial diversity importance is underlined, many initiatives have started to actuate a soil biomonitoring programme. In 2006 the E.U. has issued a main theme Strategy for soil protection (COM 2006, n. 232) where the main aspects are biologic and genetic soil erosion.

The characterisation of soil biodiversity is developed throw the following points:

a) basic and biochemical sampling and physical-chemical analysis for soil biologic fertility determination;

b) molecular analysis for structure and composition study of microbial communities;

c) microbiologic examination for the identification of bacterial strains characteristic of local cultivations soil;

The results of this research will achieve to the following objects:

a) creation of a Data Base on soil biomonitoring of Lazio Region;

b) implementation of a soil biological fertility "basic" map, so to allow the individuation of the main risk areas threatened with fertility and/or biodiversity loss;

c) sites biomonitoring interested by cultures local varieties;

d) identification of soil microbial communities and of soil bacteria strains characteristic of local culture;

e) isolation and collection ex situ of "typical" autochthonous microorganism strains.

REGIONAL ACT N°15 DATED 1ST MARCH 2000

PROTECTION OF AUTOCHTHONOUS GENETIC RESOURCES OF AGRICULTURAL INTEREST

Regional Act N°15 dated 1st March 2000
Protection of autochthonous genetic resources of agricultural interest

Art. 1 *(Subject)*

1. As part of its policy of development, promotion, and protection of the agroecosystems and quality production, the Regione Lazio favours and promotes the protection of autochthonous genetic resources of agricultural interest, including wild plants that mixed with cultivated species, such as spices, races, varieties, populations, cultivars, ecotypes, and clones for which there is an economic, scientific, environmental, or cultural interest, threatened by genetic erosion.

2. For the purposes of sub-section 1, autochthonous are also those species, races, varieties, and cultivars of foreign origin that have been introduced in the regional territory for least fifty years, and having integrated into the agroecosystem of Lazio, have taken up such specific characteristics as to arouse an interest in their protection.

3. Moreover, species, races, and varieties that have disappeared from the Region and are kept in botanical gardens, breeding farms, experimental institutions, public or private genetic banks, and research centres of other regions or countries, the reintroduction of which there is an interest to promote, can also be the subject of protection according to this law.

Art. 2 *(Regional Voluntary Register)*

1. The Regional Voluntary Register is established for the protection of the genetic heritage. It is subdivided into two sections: the animal section and the vegetable section. The register includes species, races, varieties, populations, cultivars, ecotypes, and clones of regional interest according to article 1.

2. The Register described in subsection 1 is managed by the Regional Agency for Agricultural Development and Innovation in Lazio (ARSIAL).

3. Within six months of this act coming into force, the Regional Council shall determine the modalities for the keeping of the Regional Voluntary Register, and for entering the species and varieties as described in article 1, taking into account the following criteria:

a) the Regional Voluntary Register, which is made up of an animal section and a vegetable section, is organised in such a way as to take into account the technical characteristics of existing analogous tools at the national and international level, so as to make it as homogeneous and comparable to other structures as possible;

b) for accessions to be registered in the Regional Voluntary Register according to article 1, sub-section 1, they must be identifiable by a minimum number of characters defined for each individual entity;

c) lenrolment in the Regional Voluntary Register is free of charge and is carried out by ARSIAL, subject to thr favourable opinion of the competent technical scientific board according to article 3.

d) enrolment will be made ex-officio on the initiative of ARSIAL, in other words upon the proposal of the Regional Council, scientific bodies, public bodies, private organisations and associations and individual citizens;

e) specific historical-technicalscientific documentation will be annexed to the application for enrolment;

f) ithe material enrolled in the Regional Voluntary Register may be cancelled by ARSIAL, subject to the favourable opinion of the competent technical-scientific board according to article 3, if the requisites according to article 1 subsection 1, are no longer valid.

Art. 3 *(Technical-scientific boards)*

1. A technical-scientific board for the animal sector and a technicalscientific board for the vegetable sector are established to carry out the tasks pertaining to this Act.

2. The technical-scientific board for the animal sector is made up of the following elements:

a) an official of the competent regional department in genetic animal resources in agriculture;

b) an ARSIAL official competent in genetic animal resources in agriculture;

c) a farmer that owns animal material whose protection is provided for by this act, representing the agricultural world;

d) five experts from the scientific and academic world competent in genetic animal resources in agriculture.

3. The technical-scientific board for the vegetable sector is made up of the following elements:

a) two officials of the regional department competent in the genetic resources of herbaceous, arboreal, and forest plants of agricultural interest;

b) two ARSIAL officials competent in the genetic resources of herbaceous, arboreal, and forest plants of agricultural interest;

c) a farmer that owns herbaceous, arboreal, or forest material whose protection is provided for by this act, representing the agricultural world;

d) ten experts from the scientific and academic world competent in the genetic resources of herbaceous, arboreal, and forest plants of agricultural interest;

4. The boards in sub-sections 2 and 3 remain in office for a term of five years and elect the Chairman of the Board among them.

5. As regards designation and appointment of the members of the board according to subsections

2 and 3, payment of an attendance counter for each session, and refunding of travelling expenses and possible mission allowance, the regional legislation in force on the matter will apply.

6. Through its offices, ARSIAL will provide the necessary technicaloperational support for the running of the boards as of sub-sections 2 and 3.

Art. 4 *(Conservation and Safety Network)*

1. The protection and conservation of autochthonous genetic resources of agricultural interest, enroled in the Regional Voluntary Register according to article 2, is implemented through a Conservation and Safety Network, hereafter referred to as Network, which is managed and coordinated by ARSIAL. The members of the Network may be the Communes, consortia of mountain communities, experimental institutions, research centres, agricultural universities, associations of interest, and single or associated farmers.

2. The Network is in charge of the conservation in situ or in a farm of the genetic material of regional interest as defined in article 1, and of the propagation of such material with the aim of making it available to those agricultural operators that should request it, either for purposes of cultivation or selection and improvement.

3. ARSIAL prepares the lists by province of the sites in which the conservation is carried out according to sub-section 2 and transmits them every year to the involved Communes, who shall

see to the information relating to the existence of the sites themselves.

4. The farmers included in the Network may sell a reasonable quantity of seeds produced by them. This quantity shall be established for each entity at enrolment in the Regional Voluntary Register. Moreover, the farmers included in the Network may resow the seeds within the farm.

5. Farmers, bodies, research centres, agricultural science universities, and associations that own protected vegetable or animal material according to this Act, not members of the Network, are obliged to supply ARSIAL with a part of their living material for propagation, in order to guarantee the conservation of genetic information in other sites.

Art. 5 *(Heritage of genetic resources)*

1. Without prejudice to the right of ownership on each plant or animal enrolled in the Register as of article 2, the heritage of the genetic resources of these plants and animals belongs to the indigenous local communities, within which the benefits must be distributed equally, according to article 8j of the Rio Convention on Biodiversity (1992), ratified with Act no. 124 dated 14th February 1994.

Art. 6 *(Sectorial plan of action)*

1. Every three years, by the 30th June the Region shall approve a sectorial plan of action, in which the guidelines for the activities applicable to the protection of autochthonous genetic resources of agricultural interest are established.

2. In the sectorial plan mentioned in subsection 1, the Region shall:

a) favour public and private initiatives that tend to conserve autochthonous biodiversity of agricultural interest, and to propagate the knowledge and innovations for the use and upgrading of autochthonous materials and products, whose protection is guaranteed by this Act;

b) directly take up specific initiatives aimed at the protection, improvement, propagation, and upgrading of the autochthonous genetic resources;

c) provide for specific initiatives to give incentives to farmers that are members of the Conservation and Safety Network.

3. Within the sectorial plan described in sub-section 1 and in application of it, for each year in the three-year period, the Region shall prepare an annual operative programme for the implementation of planned activities and initiatives, specifying among other things the available economic resources, the amount of each subsidy as well as the beneficiaries, the modalities of access and distribution of the benefits, the priority areas of intervention, and the forms of control on the initiatives that have been carried out.

4. All the operators that are members of the Network and all the farmers that produce on the market autochthonous material of agricultural interest singled out in the Regional Voluntary Register are beneficiaries of the subsidies provided for by the operative programmes.

5. The annual operative programmes are implemented by ARSIAL and are controlled and monitored by the regional department competent in agriculture.

Art. 7 *(Prohibitions and penalties)*

1.The use of genetically modified organisms is banned in the protected natural areas of the region, in the areas of interest to the community, the country, and the region, singled out by resolution of the Regional Council no. 2146 dated 19th March 1996, in the sites included in the list as of article 4, sub-section 3, and in the zones neighbouring the above areas for at least 2 km.

2. The following penalties are applicable in the event of violations of the provisions established by this Act:

a) a fine of between 1 and 6 million Italian Lire for whoever infringes the ban under sub-section 1;

b) a fine of between 500 thousand and 3 million Italian Lire for whoever infringes the ban under article 4, sub-section 5;

c) a fine of up to 1 million Italian Lire for violations not expressly provided for.

3. Violations are established according to Act no. 689 dated 24th November 1981 and further amendments and supplementation, governed by Regional Act no. 30 dated 5th July 1994.

4. The Communes competent by territory are entrusted with the surveillance and imposition of the penalties under sub-section 2. The sums from the inflicted fines shall be distributed between Region and Communes according to the provisions of article 182, sub-section 2 of the Regional Act no. 14 dated 6th August 1999.

Art. 8 *(Suspensive clause and cumulation ban)*

1. The subsidies provided for by this Act come into force when notice is published on the Official Bulletin of the Region (BUR) that the compatibility test of the Commission of the European Communities has been passed according to articles 87 and 88 of the Treaty establishing the European Community.

2. The subsidies granted according to this Act are not to be combined with others provided for the same initiatives by other State and Regional Acts. 2003

Art. 9 *(Financial provision)*

1. The charges relating to this Act fall within the annual allocations provided for in favour of ARSIAL in Regional balance sheets.

Note:(1) Published on the Official Bulletin of the Lazio Region no. 9 dated 30th March 2000.

Notes

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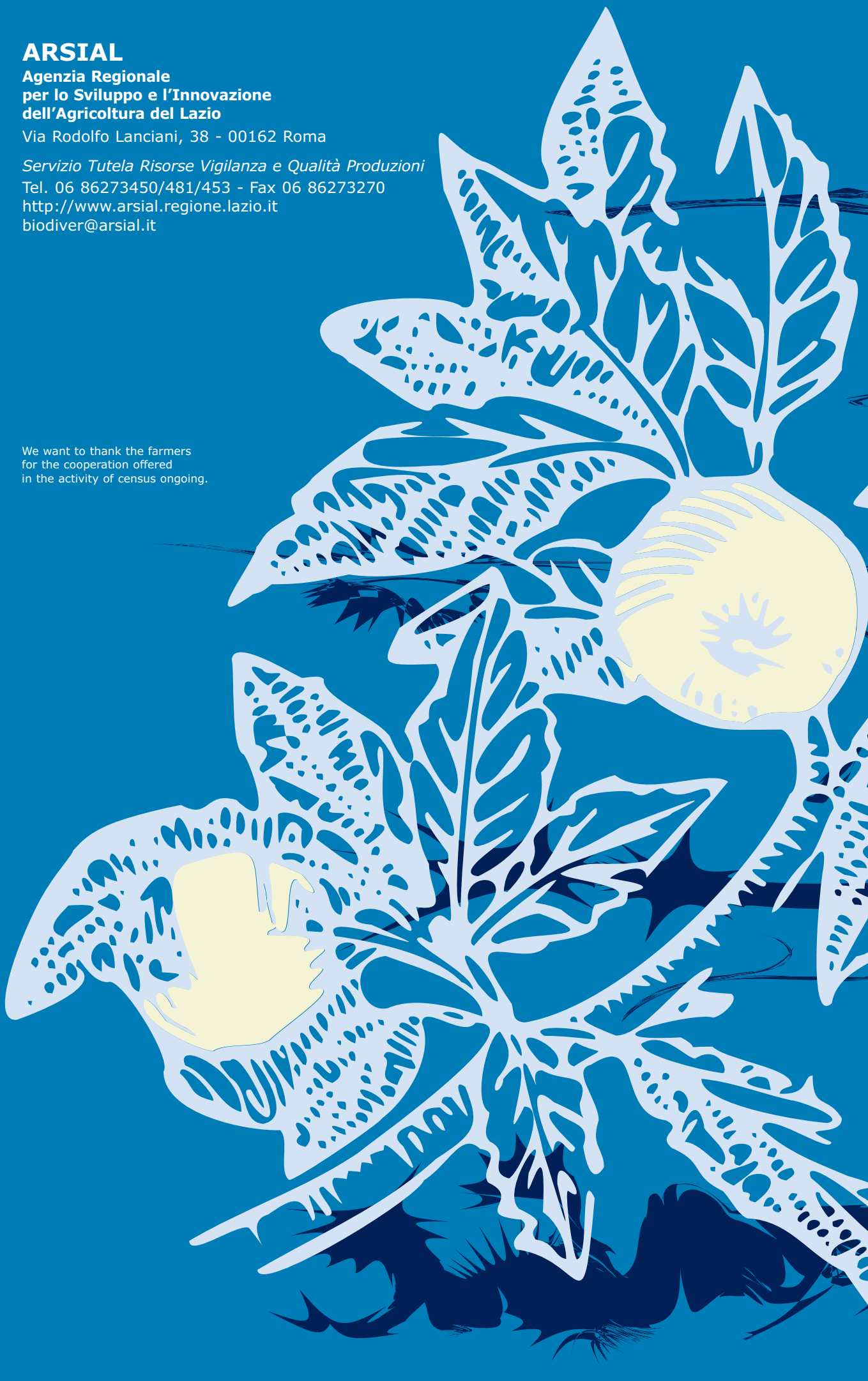
We want to thank the farmers
for the cooperation offered
in the activity of census ongoing.



Editing e Printing: Beniamini GD&P Roma - Italy • Printed in May 2010