

Iran

Ebrahimi Y.

in

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Improvement of the citrus sector by the setting up of the common conservation strategies
for the free exchange of healthy citrus genetic resources

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Iran

Project team

- Mr. Y. EBRAHIMI, National Project Representative, Citrus Research Institute of Iran, Ramsar

Importance of citriculture

Citrus is one of the most important fruit crops in Iran where it is widely distributed. Local citrus varieties are very old but, due to frost problems, most of them have been replaced since 30's by new varieties introduced from abroad. Unfortunately, severe diseases are now crippling the citrus industry in Iran and the production/ha is very low and it is sufficient only for domestic consumption.

Farmers are interested in increasing their productions while consumers are interested in high-quality fruit at a reasonable price and, as a result, the Government is trying to establish a citrus improvement programme.

Citrus distribution map



Citrus varieties

Species/Varieties	Cultivated areas	Area (Ha)	Yield/Ha (q)
Oranges	Caspian Sea belt, Southern inland	124891	160
<i>Common</i>			
<i>Navel</i>			
<i>Blood</i>			
Tangerines	Caspian Sea belt, Costal belt	44291	180
Limes and Lemons	Costal belt, inland	57864	194
Grapefruits		2313	210
Sour oranges		4064	140
Others		1511	113
Totale		46900	

Citrus phytosanitary problems

Pathogens		Diseases		References
Virus and virus-like				
CVV		Inf.variegation/Crinkly leaf	X	Farahbaksh, 1996
GiLRV		Leaf rugose		
CPsV	X	Psorosis	X	Bové, 1995; Yassale and Zadpahah, 2000
SDV		Satsuma dwarf	X	Farahbaksh, 1996
CTLV		Tatterleaf/Citrange stunt		
CTV	X	Tristeza	X	Bové, 1995; Alavi <i>et al</i> , 2000
CVEV		Vein enation/Woody gall	X	Bové, 1995
		Concave gum	X	Bové, 1995
		Cristacortis	X	Bové, 1995
		Impietratura	X	Bové, 1995
CEVd	X	Exocortis	X	Todeh Falah <i>et al</i> , 2000
CCaVd		Cachexia	X	Bové, 1995
CVds		Citrus viroids		
		Chlorotic dwarf disease		
		Gummy bark		
Fungus				
<i>Phytophthora sp</i>	X	Phytophthora gummosis	X	Farahbaksh, 1996
<i>Fusarium sp</i> , <i>Roselinia sp</i>		Root rot		
<i>Phoma tracheiphila</i>		Mal secco		
Bacteria and Bacteria-like				
<i>Pseudomonas syringae</i>		Blast and Black pit		
<i>X. axonopodis pv citri</i>		Citrus canker	X	Ebrahimi, 2001
<i>Candidatus L. asiaticus</i>		Greening		
<i>Candidatus L. africanum</i>				
Nematodes				
Tylenchulus semipenetrans	X		X	Farahbaksh, 1996
Pratylenchus vulnus				
Phytoplasmas				
<i>Spiroplasma citri</i>		Stubborn	X	Bové, 1995
		Witches’ broom	X	Ebrahimi, 2001

X= present in the country

Citrus germplasm

Location	Date of creation	N° of accessions*	Characterization		
			morphological	trueness-to-type	sanitary
National					
Development Organization (Kerman province)	1971	72	Partially	Partially	Partially
Minab Experiment Station (Hormozgan province)					
Caspian Sea citrus stations					

Citrus germplasm list

Varieties/Species	
Sweet oranges	Seminole tangelos
Frost navel	Wekiwa tangelo (tangelo x grapefruit)
Parent navel	Grapefruits and Grapefruit hybrids
Atwood early	Frost Marsh
Skaggs bonanza	J.B.C. Marsh
Mars early	Shambar
Salustiana	Redblush
Hamlin	Red
Pineapple	Shaddock
Parson Brown	Lemons
Moro blood	Frost Lisbon
Tarocco	Caver's Lisbon
Frost Valencia	Limoneira Lisbon
Olinda Valencia	Cascade Eureka
Campbell Valencia	Frost Eureka
Dalaman navel	Allen Eureka
Cadenera.	sweet
Mandarins and mandarin - like	Burneo
Robinson	Others
Osceola	Eustio limequats
Lee	Bouquet de fleurs sour orange
Fortune	Nagamim kumquat
Fairchild	Santarosa
Fremont	Taroudan
Willing	South African sour lime
Kara (satsuma x king)	Lyddengurgh sweet lime
Batangas	Thornless common lime
Honey	Tunis sweet
Ponkan	Millsweet lime
Dancy	Limonette de Marrakech
Murcott	Tavares limequat;
Cadoux	Hairy. 103
Clementine	Hairy 57
Wase satsuma	Pink seedless
Murcott	Bergamot
Ortanique	Grasse Bouquetier
Carvaihal	Double-flowered Bouquetier
Kinnow	Soft-fruited Bouquetier
Temple tangor	Granit
Minneola	Large-flowered Bouquetier sour orange
Orlando	

Citrus programmes

Programmes	Proposed	Running	Legislation
Clonal and sanitary selection		1997	-
Monitoring, eradication and control of quarantine pests	Programme for the control of citrus tristeza, Witches' broom of lime, citrus canker	1999	-
Certification	Varietal certification programme		-
Quarantine		1998 - present	National law
Others			-

Public and private institutions working in citrus

Institutions or others	Location	Type of activity	Personnel		Facilities
			Number	Qualifications	
Public					
Citrus Research Institute of Iran	Ramsar	Research Conservation of germplasm	17	15 researchers 2 technicians	Diagnosis lab. Experimental field
Research Laboratory	Tonekabon	Research Diagnosis	5	3 researchers 2 technicians	-
Plant pests and diseases research Inst	Teheran	Research Diagnosis	5	2 researchers 3 technicians	-
Plant protection and extension service		Extension	3	3 technicians	-

Financial Table

Project steps	Facility/instruments/activity	Units	Cost (€)
Inventory	GPS	4	20.000
	GIS	2	16.000
Conservation for characterization	Planting and equipments for the conservation field	3 Ha	75.000
Genetic and agronomic characterization	Laboratory equipments and running materials	1	200.000
Physiological WUE characterization	Laboratory equipments and running materials	2	100.000
Sanitary assessment	Laboratory equipments and running materials	1	100.000
	1 Indexing greenhouse, equipments (benches, shade etc...) and running materials	200 m ²	200.000
	1 Insectproof greenhouse	300 m ²	120.000
Sanitation	Equipments for <i>in vitro</i> laboratory	1	100.000
	1 thermotherapy chamber	1	30.000
	1 conditioned greenhouse	200 m ²	100.000
Conservation <i>in vitro</i>	Equipments for <i>in vitro</i> laboratory	1	100.000
Conservation <i>in vivo</i>	1 Insectproof greenhouse	800 m ²	320.000
Assessment of pomological traits	Planting conservation field	1.5 Ha	45.000
Training	Short-courses		200.000
	Stages		300.000
	Technical visits		120.000
	Travel expenses		120.000
Missions and part time personnel			150.000
Supply	Transport vehicle	3	90.000
	Books, publications, CD		3.000
	Personal computer and printer	3	9.000
General expenses			251.800
TOTAL			2.769.800

Agreement

Official country agreement to the project on "Improvement of the citrus sector by setting up common conservation strategies for the free exchange of healthy citrus plant genetic resources"



AREEO



Islamic Republic of Iran

Ministry of Agriculture

Agricultural Research, Education and Extension Organization

March 7, 2001

Dr. Anna Maria d'Onglia
International Center for Advanced Mediterranean
Agronomic Studies
Via Ceglie 9-70010 Valenzano (Bari)
Fax: +39 080 4606206

Dear Dr. d'Onglia:

Pursuant to our letter of February 27, 2001 wherein we had expressed our approval in the implementation of the project on "Improvement of the citrus sector in the Mediterranean by the setting up of a common conservation strategies for the free exchange of healthy citrus plant genetic resources" now we would like to nominate Mr. Younnes Ebrahimi, Director General of "Citrus Research Institute" to act as the contact person from this Organization.

Your kind cooperation is greatly appreciated.

Best regards.

Sincerely yours,

Dr. M. Mohsenin
Director General
Dept. of International Scientific
and Research Affairs (AREEO)

رونوشت:

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AREEO



Islamic Republic of Iran

Ministry of Agriculture

Agricultural Research, Education and Extension Organization

February 27, 2001

→ **Dr. Anna Maria d'Onghia**
International Center for Advanced Mediterranean
Agronomic Studies
Via Ceglie 9-70010 Valenzano (Bari)
Italy
Fax: +39 080 4606206

Dear Dr. d'Onghia:

At the outset we wish to thank you for sending a copy of general proposal of a common project on "Improvement of the citrus sector in the Mediterranean by the setting up of a common conservation strategies for the free exchange of healthy citrus plant genetic resources", for the sustainable utilization of healthy citrus genetic resources, in order to meet the industry needs and to protect the environment.

In reply we wish to inform you that we have perused through the proposal and hereby would like to express our approval in the implementation of the project.

Wishing your center every success in its implementation.

Best regards and kind wishes.

Sincerely yours,


Abbas Keshavarz
Deputy Minister of Agriculture
and Head of Agricultural Research,
Education and Extension Organization

CC: Mr. Y. Ebrahimi

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