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## RESEARCH ON AVOCADO IN ITALY

F. Calabrese, M. Azzena, F. Barone, G. Continella, R. D'Ascanio, P. Deidda, A. De Michele, O. Inero, B. Mincione, G. La Rosa, S. Martelli, F. Monastra, G. Ondradu, M. Pala, M. Poiana, A. Rotundo, G. Russo, G. Terranova, A. Testoni.

Project "Tropical and Subtropical fruit trees species" Mi.R.A.A.F. - Via di Fioranello, 52 - 00134 Roma.

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### Abstract

The Italian Ministry of Agriculture and the Sicilian Regional Government have promoted two projects to try avocado in several areas of southern Italy. Experimental orchards have been established in Sicily (7), Calabria (2), Sardinia (2) and Basilicata (1).

Many varieties are under observation. The most promising seem to be: Reed, Hass, Gwen (group A), and Bacon (group B).

In Sicily, Calabria and southern Sardinia suitable areas for avocado are located along the coast, where lemon is grown. But, in some of these areas, low temperatures during flowering affect fruit-set.

Another serious obstacle to grow avocado in Sicily is the poor quality (high chlorine content) of some irrigation water.

At the present only 13-15 hectares of commercial orchards exist in Sicily.

### Introduction

Avocado was first introduced in Sanremo (Italian Riviera) by prof. Calvino, in 1909. Later on, several introductions followed and a few avocado trees have been grown here and there for ornamental purpose.

In Italy, at present there is a decline of the lemon culture, due to commercial reasons. Avocado could partially replace lemon along the coast of Sicily and other southern regions of Italy.

The Italian avocado consumption is one of the lowest in Europe (only 25-30 g per capita) and the fruit are totally imported (mainly from Israel and Spain). This import could be reduced by a local production, but farmers do not seem to be interested in such culture. It is also due to the fact that there is a lack of knowledge on the behaviour of the varieties and their management.

This is the reason why the Italian Ministry of Agriculture along with the Sicilian Region Government have launched two research projects to evaluate the possibility of growing avocado in some coastal areas of southern Italy.

## Material and method

Several experimental orchards have been located in different regions: Sicily (7), Calabria (2), Sardinia (4), Campania, Basilicata, Lazio (1) (fig. 1)

Institutions which deal with these projects are listed in tab. 1.

The varieties tested are reported in tab. 2.

Observations are carried out on biology, cultural practices, productivity, fruit characteristics, storability, processing, pest and disease. Micropropagation is also studied.

## Results

First results show a better behaviour of Reed, Hass, Gwen (A) and Bacon (B). Main constrains are: water salinity (mainly in Sicily) and low temperature during the flowering period (the early blooming varieties, such as Fuerte, are the most damaged). The delay in reaching a competitive commercial production (4-5 years) and a low yield per hectare are other important factors to take into account for commercial growing.

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**Tab. 1 - Research Units in Tropical and Subtropical Projects in Italy**

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I.S.F. - Roma <i>F. Monastra, O. Insero</i>	Istituto Sperimentale per la Frutticoltura of Roma (Mi.R.A.A.F.) Via di Fioranello, 52 - 00040 Ciampino Aeroporto
I.S.A. - Acireale <i>G. Terranova, G. Russo</i>	Istituto Sperimentale per l'Agrumicoltura of Acireale (Mi.R.A.A.F.)
I.C.A. - Palermo <i>A. De Michele, F. Calabrese, F. Barone</i>	Istituto Coltivazioni Arboree - University of Palermo
I.C.A. - Catania <i>G. La Rosa, G. Continella</i>	Istituto Coltivazioni Arboree - University of Catania
I.C.A. - Sassari <i>M. Azzena, P. Deidda</i>	Istituto Coltivazioni Arboree - University of Sassari
I.M.T.A.F. Reggio Calabria <i>B. Mincione, M. Poiana, A. Rotundo</i>	Istituto di Microbiologia e Tecnologia Agraria e Forestale University of Reggio Calabria
I.V.T.P.A. - Milano <i>A. Testoni</i>	Istituto Sperimentale per la Valorizzazione tecnologica dei prodotti Agricoli of Milano (Mi.R.A.A.F.)
C.R.A.S. - Cagliari <i>M. Pala</i>	Centro Regionali Agrario Sperimentale of Cagliari
Regione Basilicata <i>R. D'Ascanio, S. Martelli</i>	Azienda Agraria Sperimentale Pantanello - Metaponto (MT)
C.I.F. - Cagliari <i>G. Ondradu</i>	Consorzio Interprovinciale per la Frutticoltura of Cagliari

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Tab. 2 - Cultivars								
Cultivar	Working units							
	ISF Roma	ISA Acireale	ICA Palermo	ICA Catania	ICA Sassari	CRAS Cagliari	Regione Basilicata	CIF Cagliari
Anaheim	x	x		x			x	x
Bacon	x	x	x	x			x	x
Basuarda	x						x	
Booth 7	x						x	
Booth 8	x							
ColinV-33	x							
Collins							x	
Duke		x						
Ettinger			x			x		
Fuerte	x	x	x	x	x	x	x	x
Gwen			x					
Hall	x						x	
Hass	x	x	x	x	x	x	x	x
Horshim			x			x		
Irit			x			x		
Jim			x			x		
Nabal		x						
Nowels	x	x		x		x	x	x
Orotava	x	x	x	x	x		x	x
Pinkerton	x		x		x		x	
Reed	x		x		x		x	x
Regina	x				x			x
Rincon				x			x	x
Santana			x					
Sciler						x		
Sharwil			x					
Simmonds	x						x	
Stewart			x					
Susan			x					
Utado	x						x	
Whitsel			x					
Wurtz						x		
Zutano	x	x	x	x			x	x

The storeability of fruits is evaluated by I.V.T.P.A. of Milano and processing by I.M.T.A.F. of Reggio Calabria.

Fig. 1 - Location of the experimental orchards in Italy

