

# The Other Iran, with a focus on Horticulture



Dr. Naser Askari

Assistant Professor in Ornamental Plant Physiology and Micropropagation, University of Jiroft, Iran.

# Geography of Iran

**Continent**

**Asia**

**Area**

**1,648,195 km<sup>2</sup>**

• **Land**

**99.27%**

• **Water**

**0.73%**

**Coastline**

**2,440 km**

**Borders**

**5,894 km**

**Population**

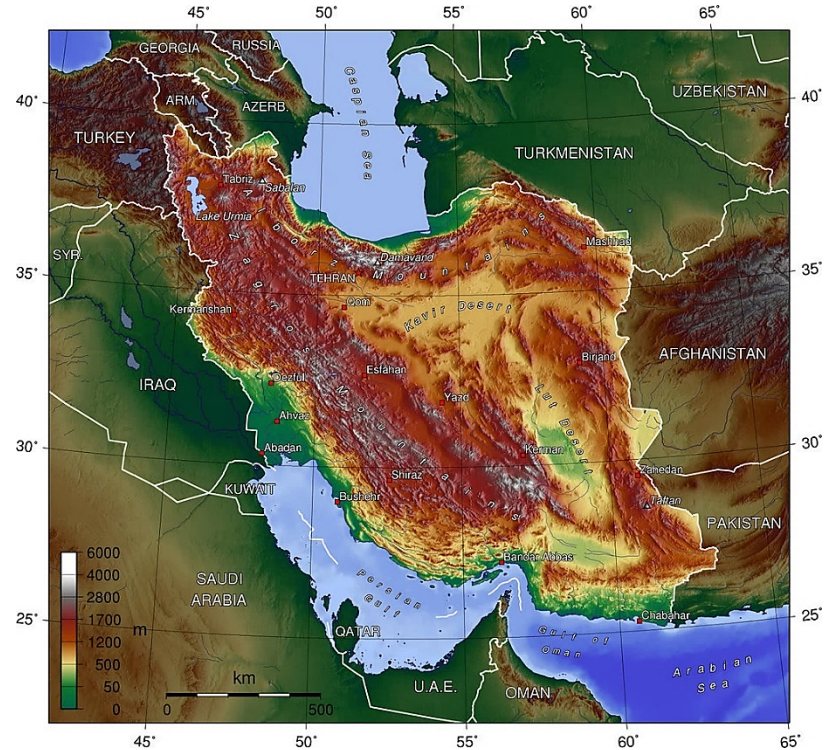
**80 million**



# Topography of Iran

**Highest point**      Damavand  
5,610 m

**Lowest point**      Caspian Sea  
-28 m





# Ecological Zones of Iran

Iranian habitats support about **8000 species** of flowering plants (belonging to **167 families** and **1200 genera**), of which almost **1700** are endemic.





# Iran Climates



# Average precipitation in depth in Iran

(Iran's area) 28% <100 mm

47% 100-250 mm

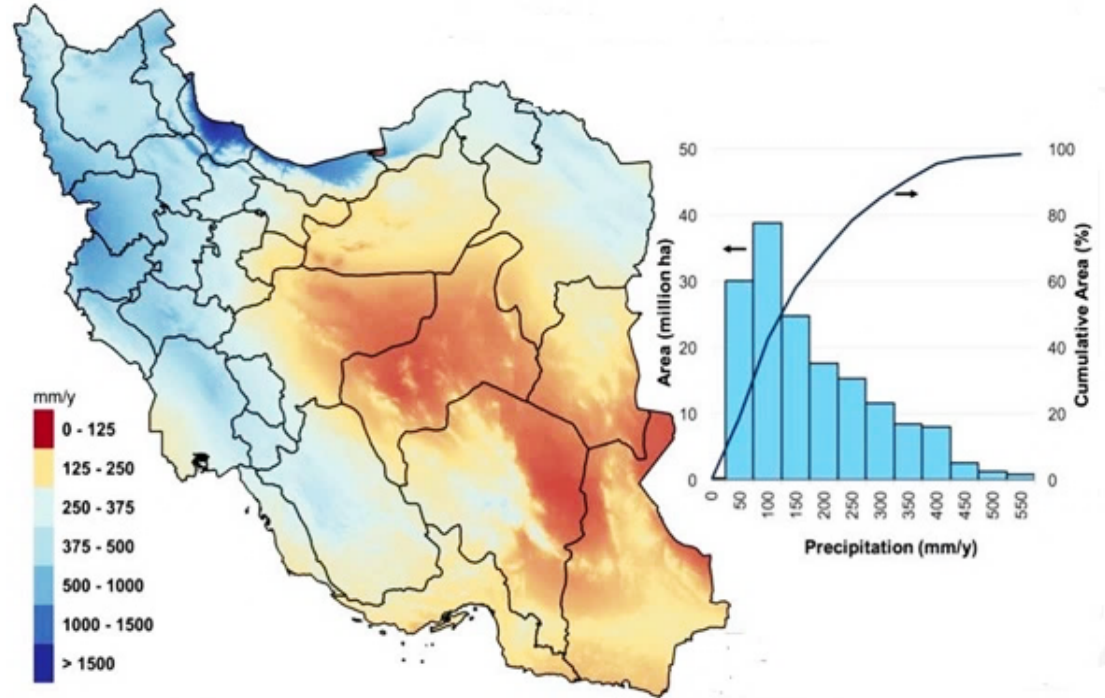
16% 250-500 mm

8% 500-1000 mm

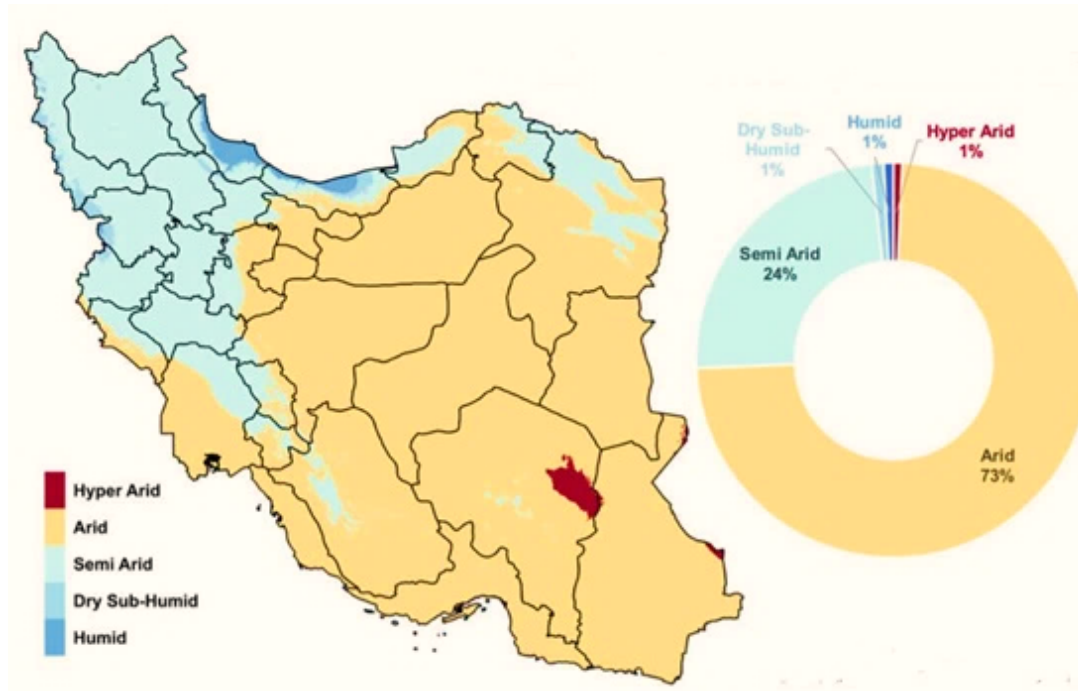
1% > 1000 mm

**Mean: 228 mm**

(1/3 world average)

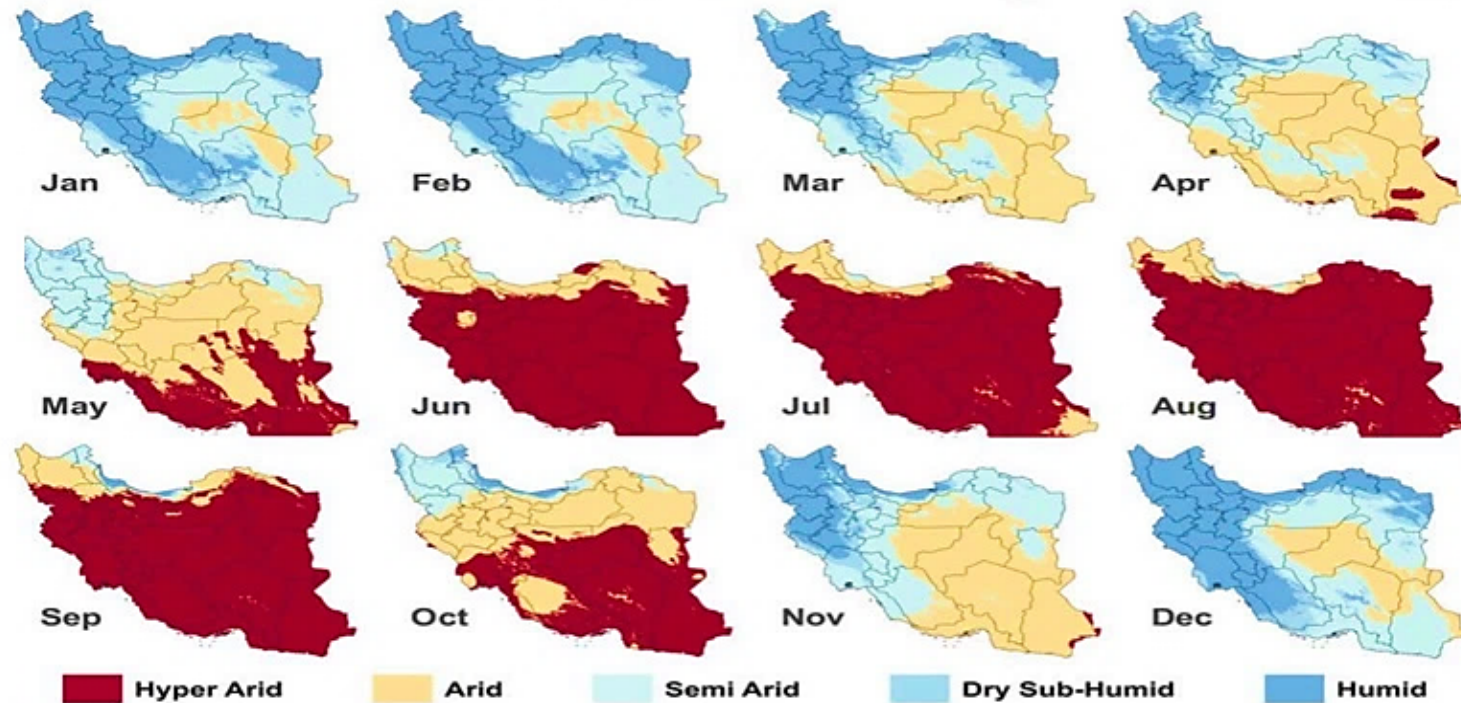


# The long-term mean annual aridity index of Iran





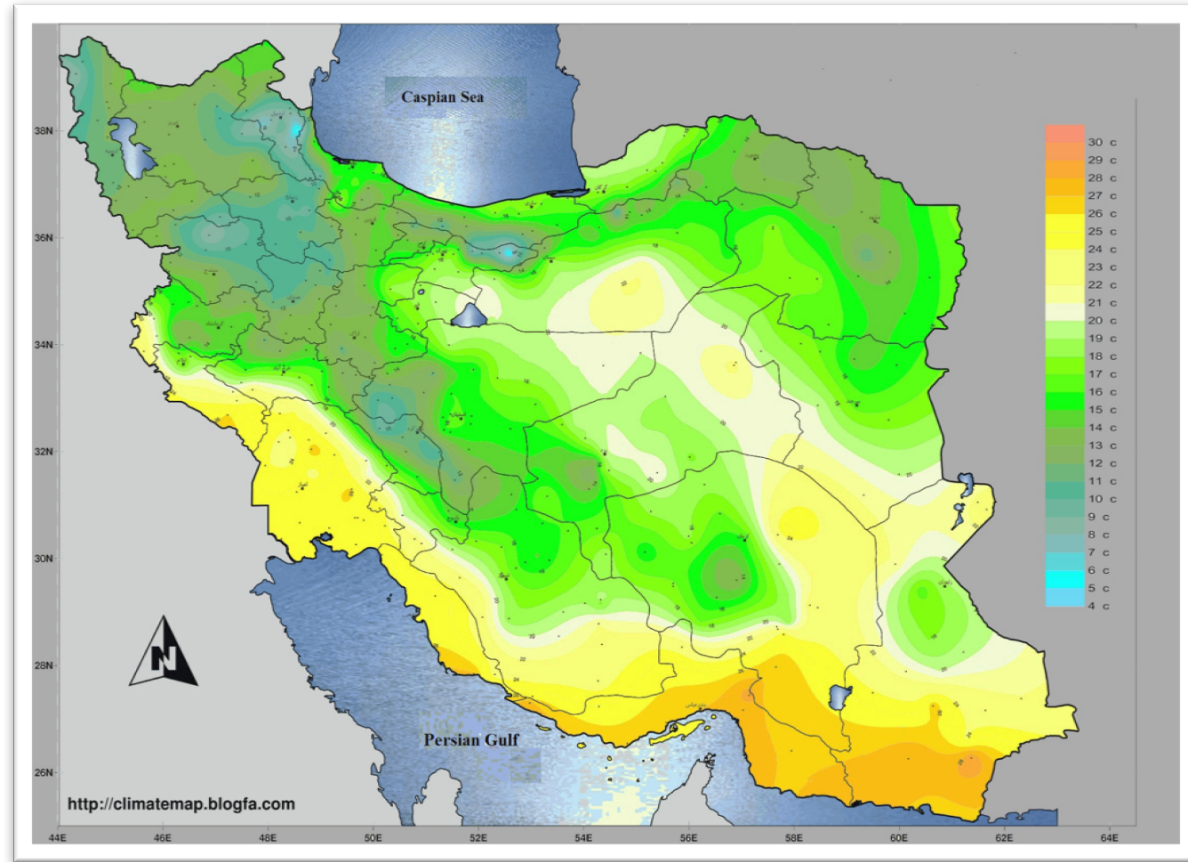
# Maps of Monthly Aridity in Iran



# Annual Average temperature in Iran

**Minimum:** Northeast 4 °C

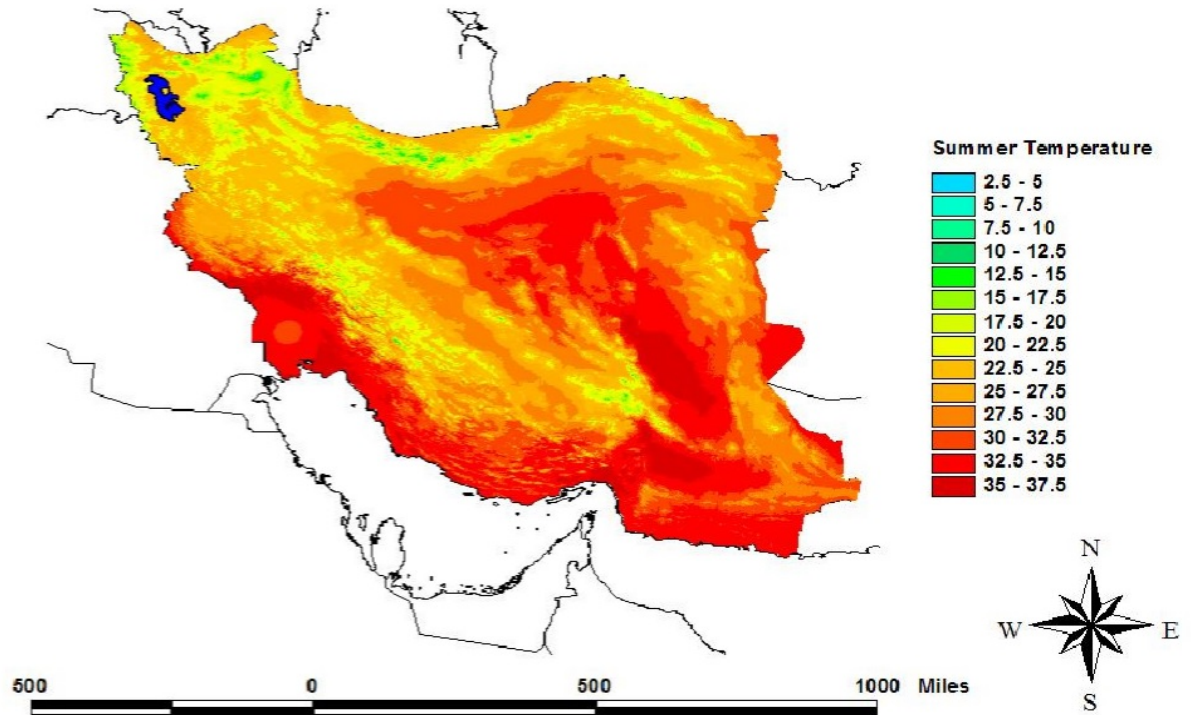
**Maximum:** Southeast 30 °C



# Average Temperature in Summer

**Minimum:** 2.5°C

**Maximum:** 37.5°C

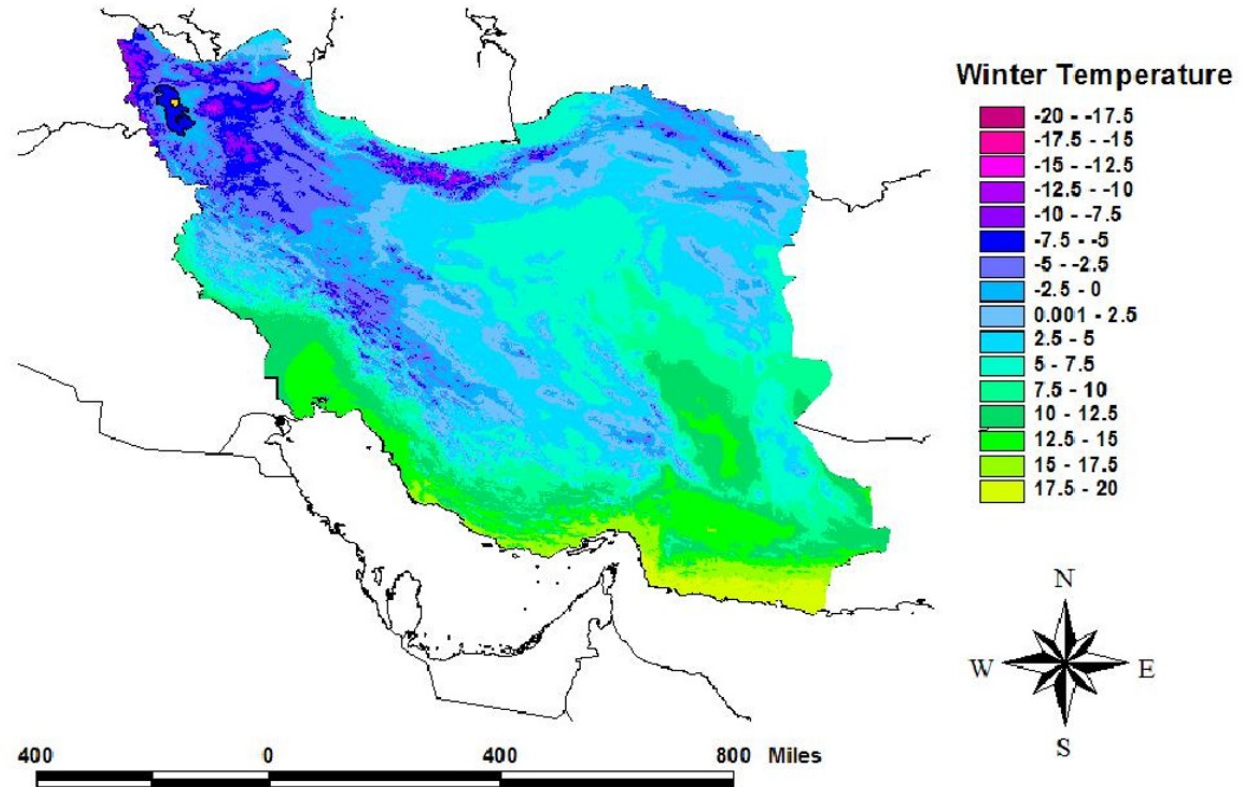




# Temperature in Winter

**Minimum:** -20 °C

**Maximum:** 20 °C

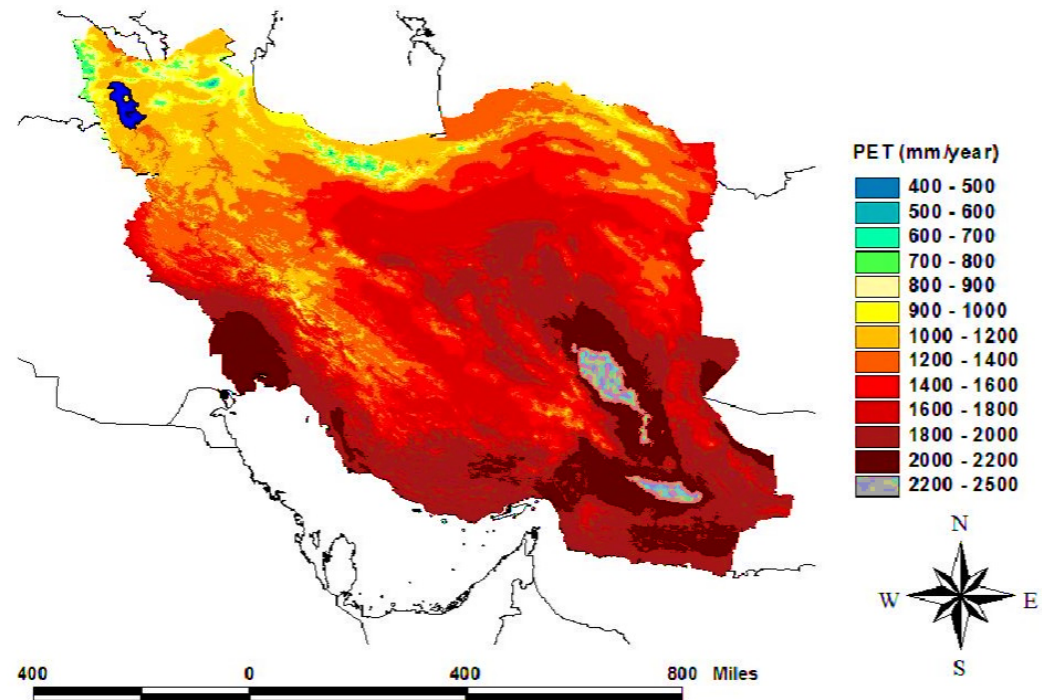


# Annual Potential Evapotranspiration (PET) in Iran

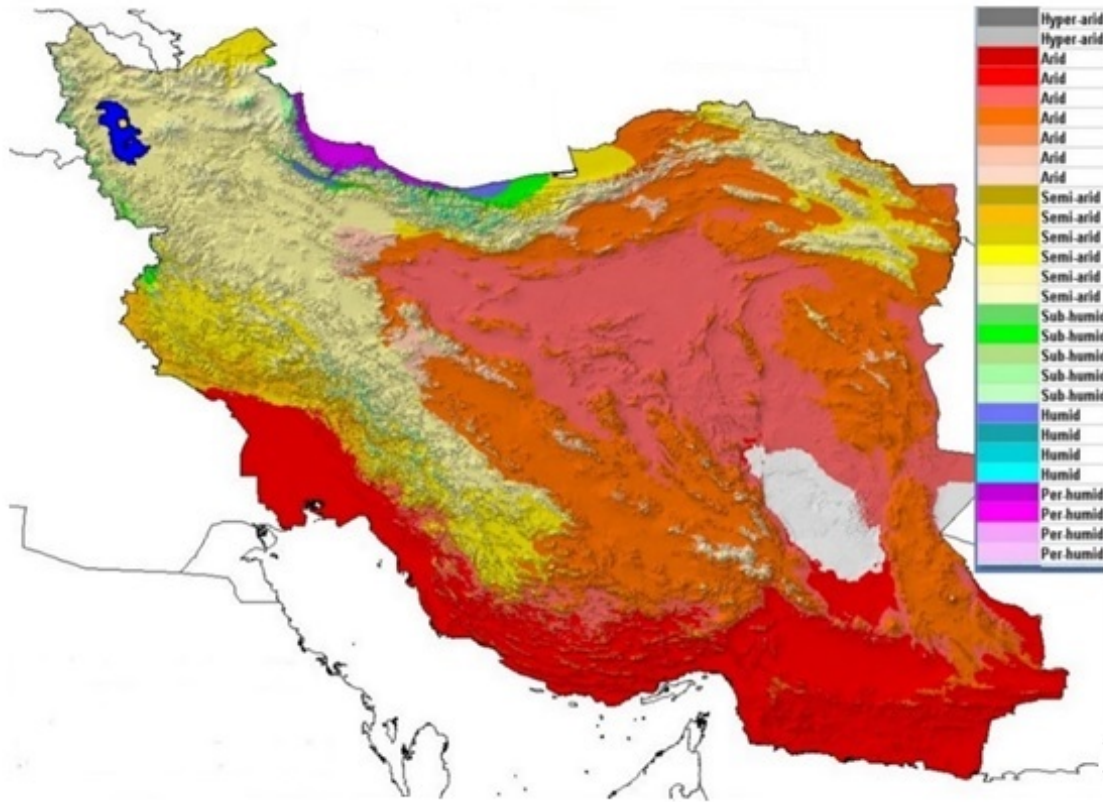
**Minimum:** 230 mm

**Maximum:** 3627 mm

**Mean:** 2100 mm (3 fold world average).



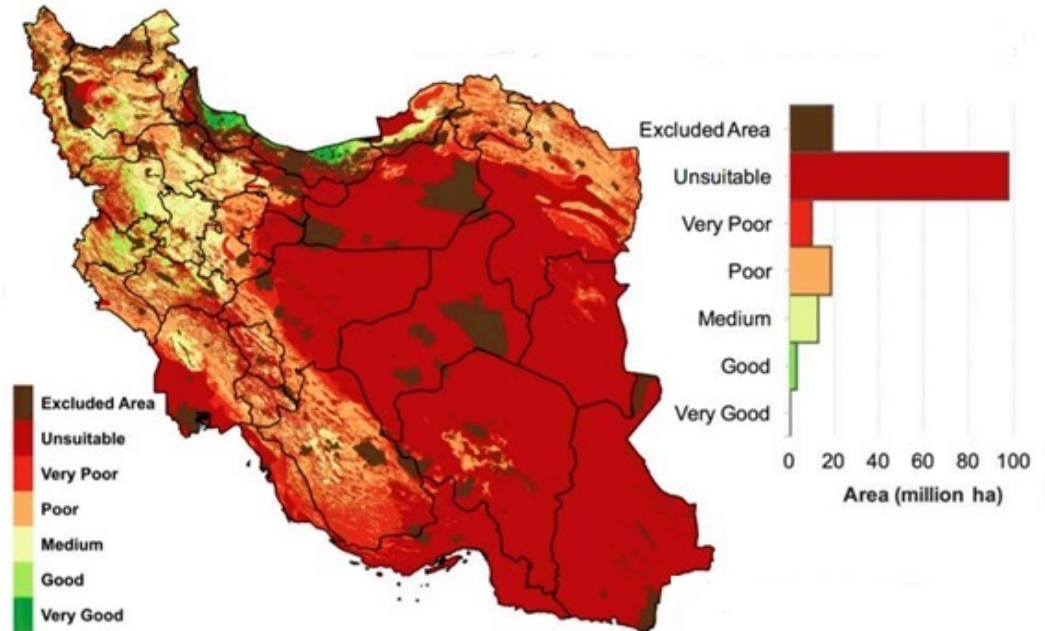
# Agro-Climatic Zoning





# Iran's agricultural land suitability

**Very Good 0.6 (0.4%)**  
**Good 3.6 (2.2%)**  
**Medium 12.8 (7.9%)**  
**Poor 18.5 (11.4%)**  
**Very Poor 10.2 (6.3%)**  
**Unsuitable 97.4 (60%)**  
**Excluded areas 19.3 (11.9%)**



# Iranian Provinces







# Horticulture in Iran



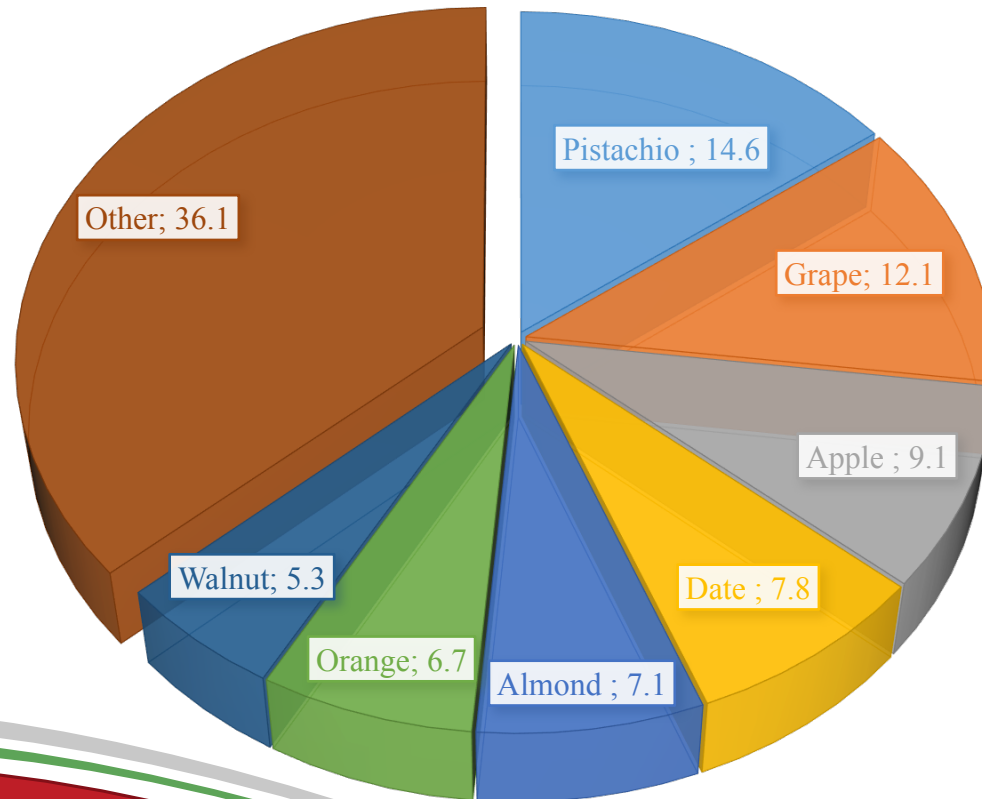


# Fruits Production in Iran

# Fruits

- ❖ 8<sup>th</sup> world major fruits producer
- ❖ 19 million tonne fruit production (per year)
- ❖ Rich genetic resources
- ❖ High quality production
- ❖ 60 different fruits are producing in Iran
- ❖ 2,600,000 ha horticultural field

# Main Fruits of Iran (Area in %)



# Exporting fruits in 2014

Crop	Weight (Tonne)	Value (US Dollar)
Apple	434,000	188,000,000
Pistachio	184,000	1,650,000,000
Date	168,000	227,000,000
Kiwifruit	93,000	43,000,000
Pomegranate	14,000	12,000,000
Citrus	11,000	5,700,000
Almond	2,710	240008



# Iran's Fruit production Ranking in the world (FAO,2013)

Crop	Ranking	Crop	Ranking
Pistachio	1	Cherry	3
Pomegranate	1	Almond	3
Apricot	2	walnut	3
Date	3	Apple	3

# Production of Main Fruits of Iran

Crop	Area (ha)	Production (tonne)
Apple	240,000	3.5 million
Grape	300,000	2.9 million
Almond	215000	165000
Hazelnut	23,000	22,000
Walnut	145,000	234,000
Pomegranate	86,000	1.2 million
Fig	57,000	87,000
Kiwifruit	12,000	297,000
Citrus	322,000	4.4 million
Barberry	16000	19000

# Pistachio



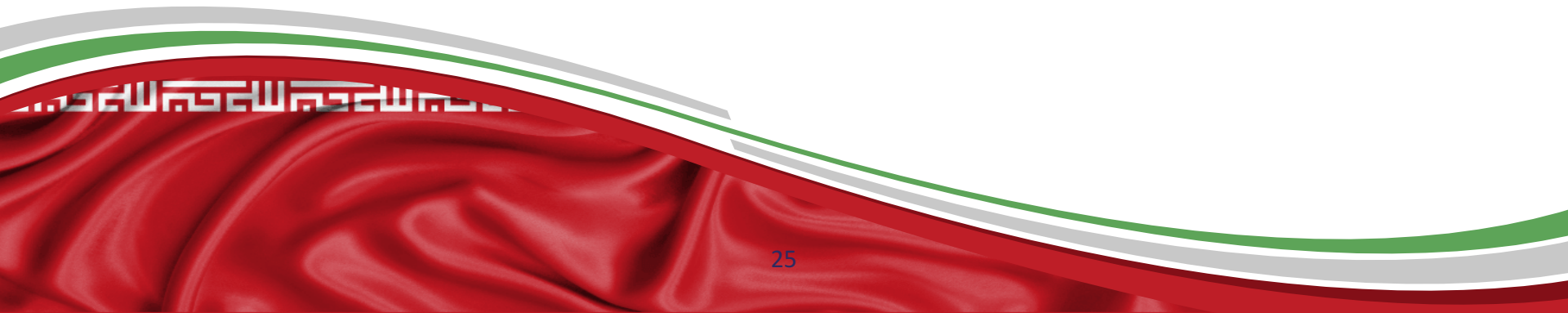
- Area (ha)  
397,000
- Production:  
250,000 tonne

# The oldest world pistachio tree in Iran (1500 years old)





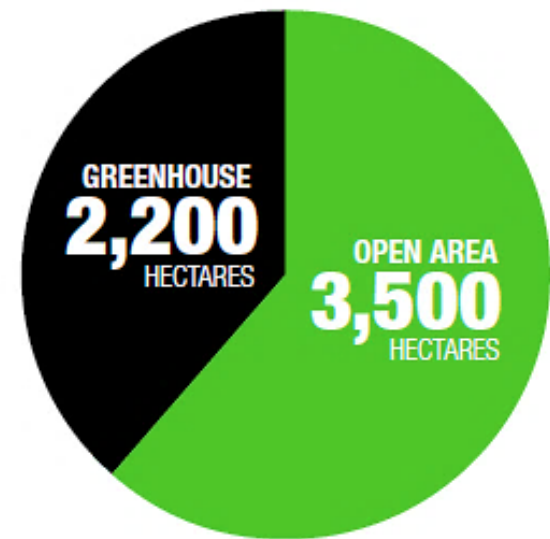
# Ornamental Plants Production in Iran



# Production Figures

- ❖ 10,000 flower and plant nurseries
- ❖ 3,500 hectares in outdoor production
- ❖ 2,200 hectares (Greenhouse) (95% plastic tunnels and 5% glasshouses).

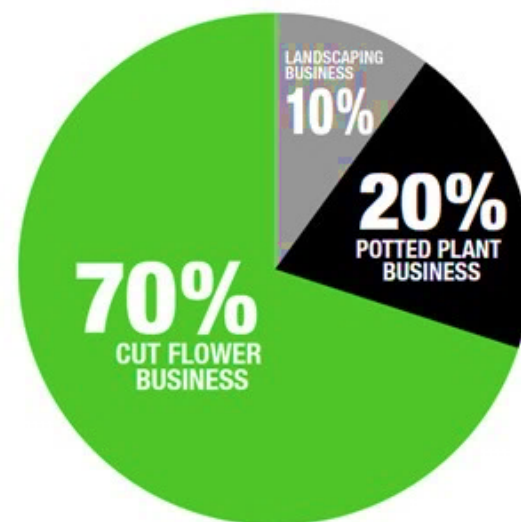
Figure 1. Total area for ornamentals in 2016, open and greenhouse.



# Main Greenhouse Products

Figure 2. The type of ornamental horticulture businesses in Iran in 2016.

- ❖ Cut flowers (1800 ha)
- ❖ Potted plants (300 ha)
- ❖ Young plants (100 ha)



# Ornamental Crops

- ❖ Most common cut flowers in Iran: **Gladiolus**, **Rosa**, **Polianthus**, **Dianthus** and **Chrysanthemum**.
- ❖ According to official data, nearly 30-40% of the ornamental plant wholesale business is running via cut flower wholesale markets.





# Transport

- ❖ Iran is a large country and transport is one of the most important issue for all growers.
- ❖ Transportation costs are not too expensive (approximately less than 10% of total cost)



# Tehran Flower Market





# Modern Style Greenhouse







# Medicinal Plants Production in Iran

# Production of high quality medicinal plants in Iran

## Kurdistan, Marivan



Rainfall: 1200 mm  
Altitude: 1700 m  
Average Tem.: 10 °C



## Khorassan



Rainfall: 120 mm  
Altitude: 1300 m  
Ave. Tem.: 25 °C  
(-10 to 45 °C)

## Kermanshah



Rainfall: 450 mm  
Altitude: 1200 m  
Ave. Tem.: 13 °C  
(-15 to 43 °C)

## Khuzistan, Dezful



Rainfall: 600 mm  
Altitude: 200 m  
Ave. Tem.: 32 °C  
(15-55 °C)



# Saffron (The first world producer)

Area: 92000 ha

Production: 351 tonne

Export In 2016:

178 tonne

Value: 264 million US

Dollar





# Damask rose

Area: 17 000 ha

Production: 320 000 tonnes



# Tea

- ❖ Area: 32000 ha
- ❖ Production: 193 000 tonne
- ❖ Export In 2016
- ❖ 14 000 tonne
- ❖ Value: 20 million US Dollar



# Tarragon



# Spearmint





# Peppermint



# Rosemary



# Pelargonium





**Malva silvestris**



**California poppy**



**Thymus vulgaris**



**Mellisa officinalis**



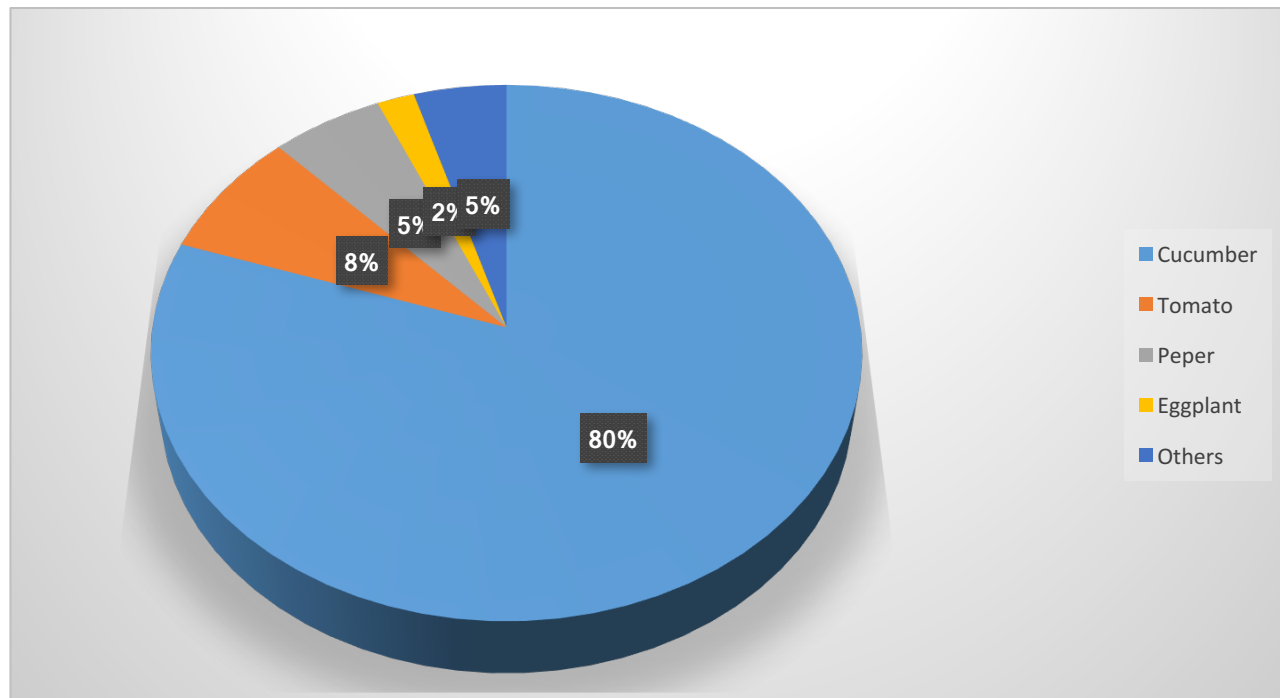
# Vegetable Production in Iran

# 5<sup>th</sup> world vegetable producer in 2014

- Vegetables Area 767 000 ha
- Production: 20 million tonne



# Vegetable Production in Greenhouse



# Special Thanks to:

- **Dr. Mehdi Massoumi**, EuroTiss, Tiel, The Netherlands.
- **Dr. Pejman Azadi**, The President of Iranian Ornamental Plant Society, Iran.
- **Dr. Mahmoud Hossein Nia**, Ministry of Agriculture of Iran, Horticulture Section, Iran.
- **Dr. Mahmoud Roozban**, Tehran University, Iran.
- **Dr. Korush Vahdati**, Tehran University, Iran.
- **Dr. Javad Hadian**, Shahid Beheshti University, Iran.
- **Kees Eigenraam**, Rhizopon, The Netherlands.
- **Dr. Geert-Jan De Klerk**, Wageningen University, The Netherlands.

