

# General status of vegetable sector in Turkey

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# Turkey's geographical position

- Between Asia and Europe
- Between Mediterranean Sea and Black Sea
- On the historical Silk Road and the origine of agriculture



- **Great climatic diversity**
- **Rich crop diversity**
- **Rich genetic resource**

# Some figures of the country

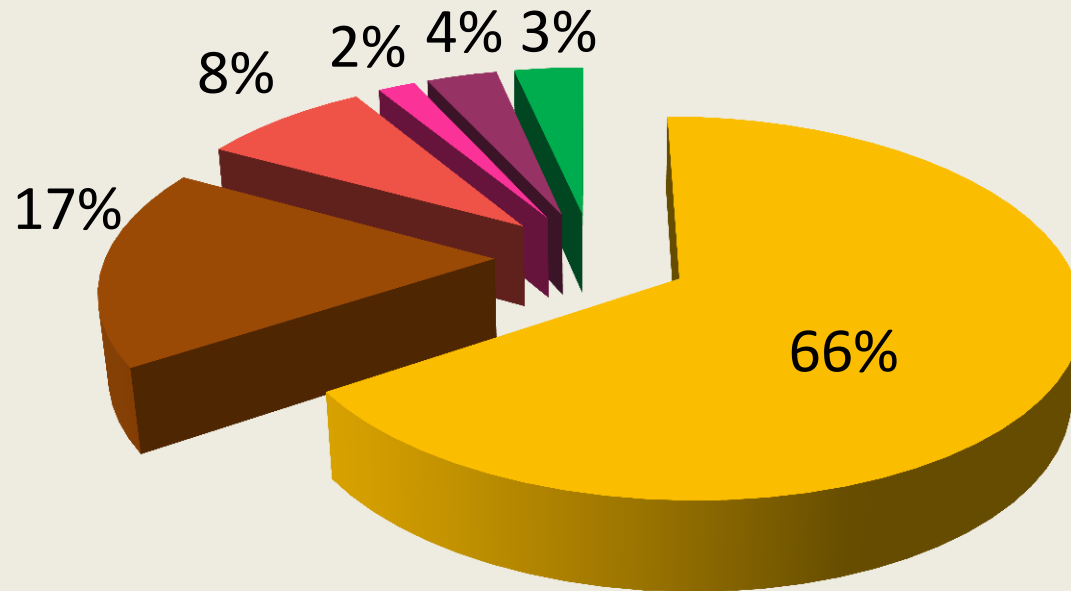
- Inhabitants : 77 millions
- Total area : 78 million ha
- Cultivated land : 28 million ha
- Population density : 100 per km<sup>2</sup>
- Population growth rate : 1.5%

# Economic importance of agriculture

- Rural inhabitant rate 31%
- Agricultural production value (billion USD) 62\*
- Crop production value (billion USD) 38
- Share in Gross Domestic Products 8.3%
- Share in employment 24%
- Share in export 11%

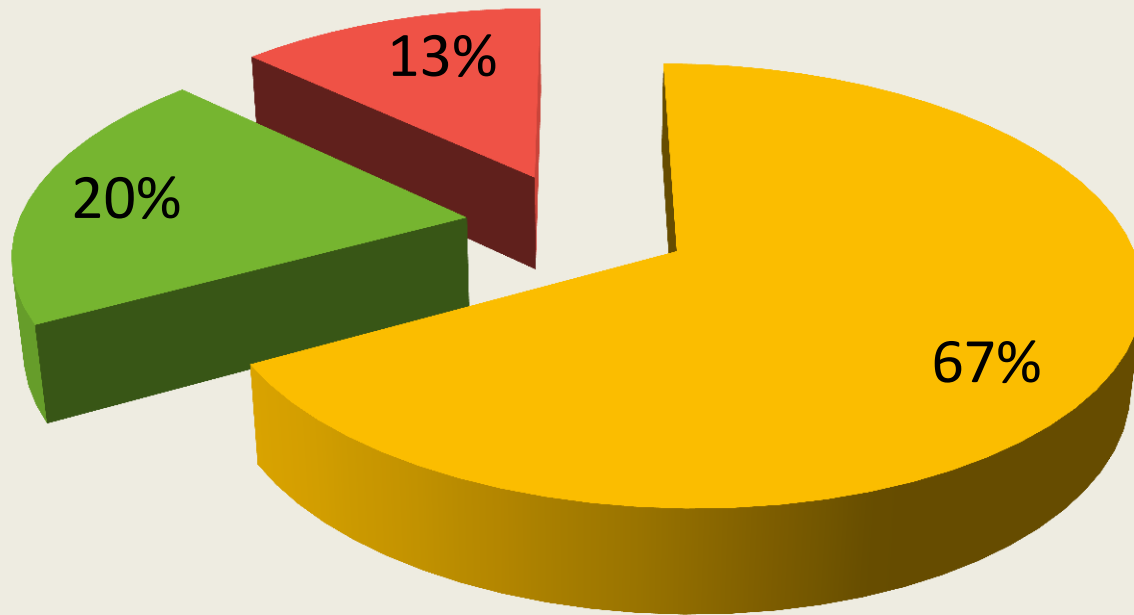
\* Ranked 7<sup>th</sup> in the World and 1<sup>st</sup> in Europe

# Land use of cultivated crops



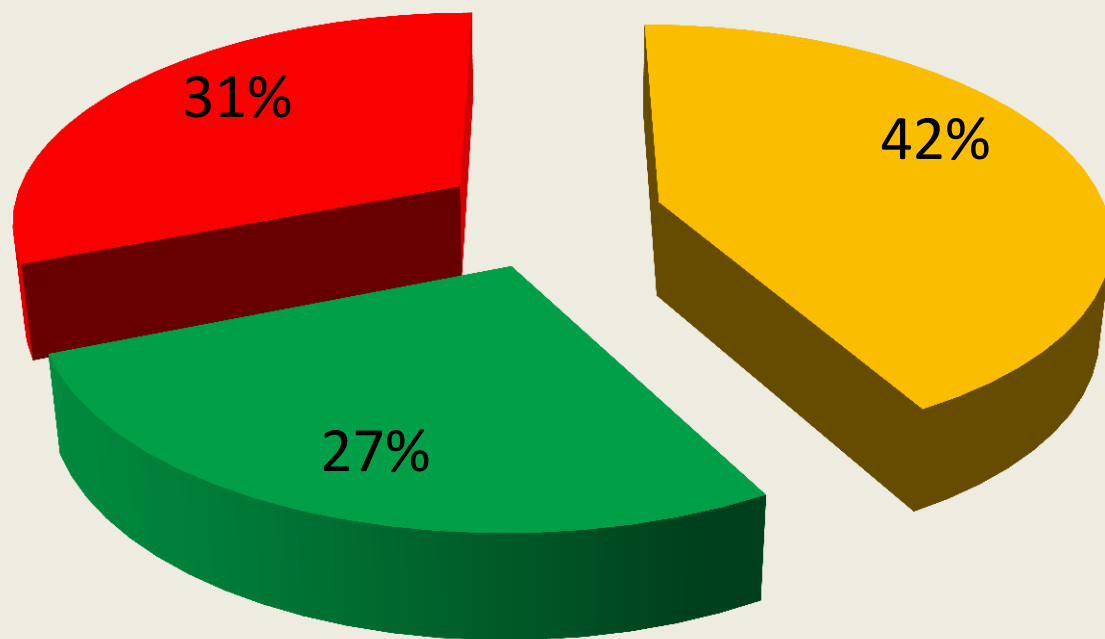
- field crops
- fallow
- fruit orchards
- vineyards
- olive orchards
- vegetables

# Shares in production



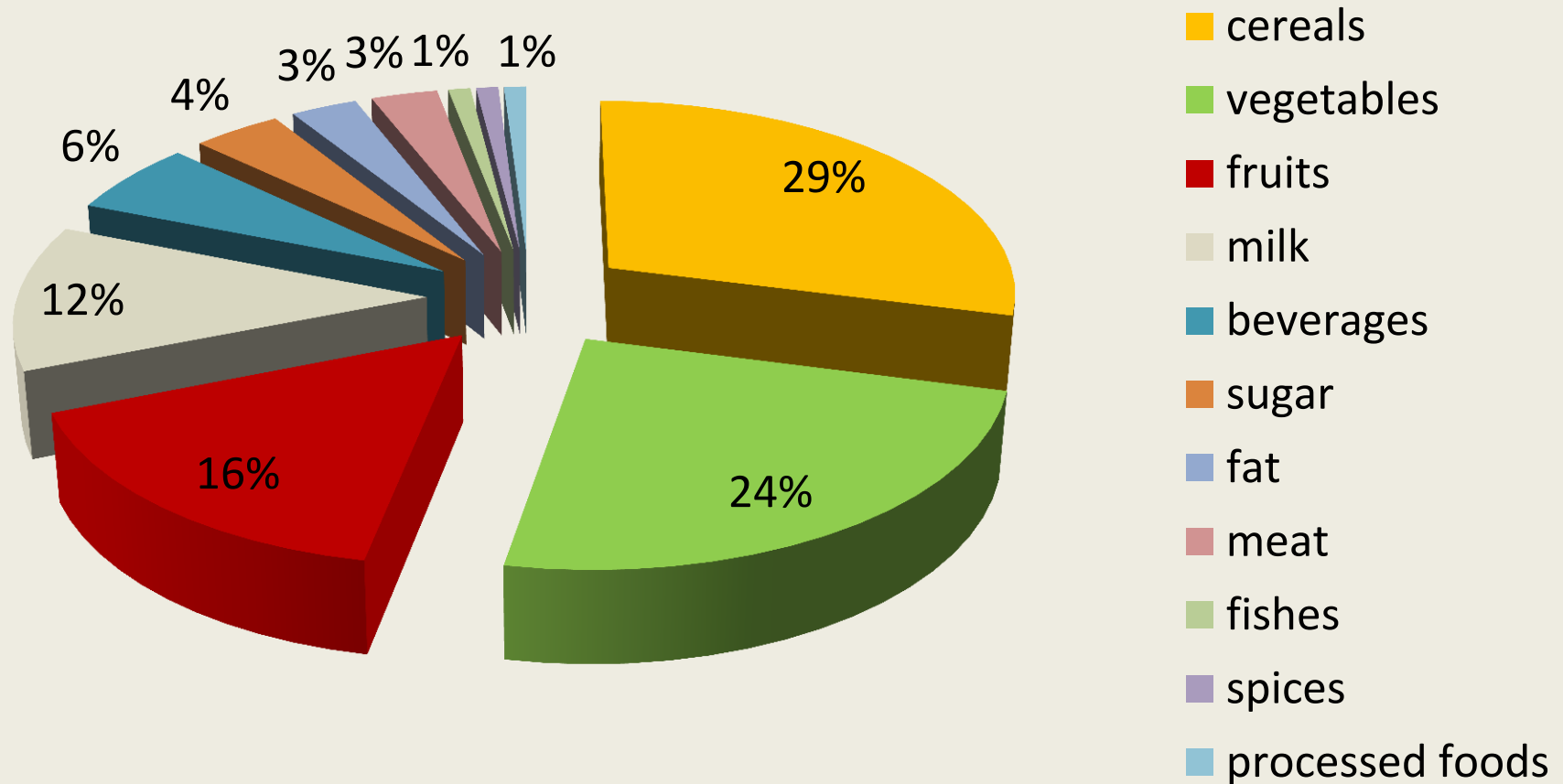
■ field crops    ■ vegetables    ■ fruits

# Shares in production values



■ field crops   ■ vegetables   ■ fruits

# Vegetables in Turkish people diet





# Vegetable production and productivity

| Years      | Area<br>(10 <sup>3</sup> ha) | Production<br>(million ton) | Yield<br>(ton/ha) |
|------------|------------------------------|-----------------------------|-------------------|
| 2000       | 793                          | 24.7                        | 31.1              |
| 2010       | 802                          | 25.8                        | 32.1              |
| 2013       | 808                          | 28.5                        | 35.2              |
| Last three | 803                          | 27.9                        | 34.7              |

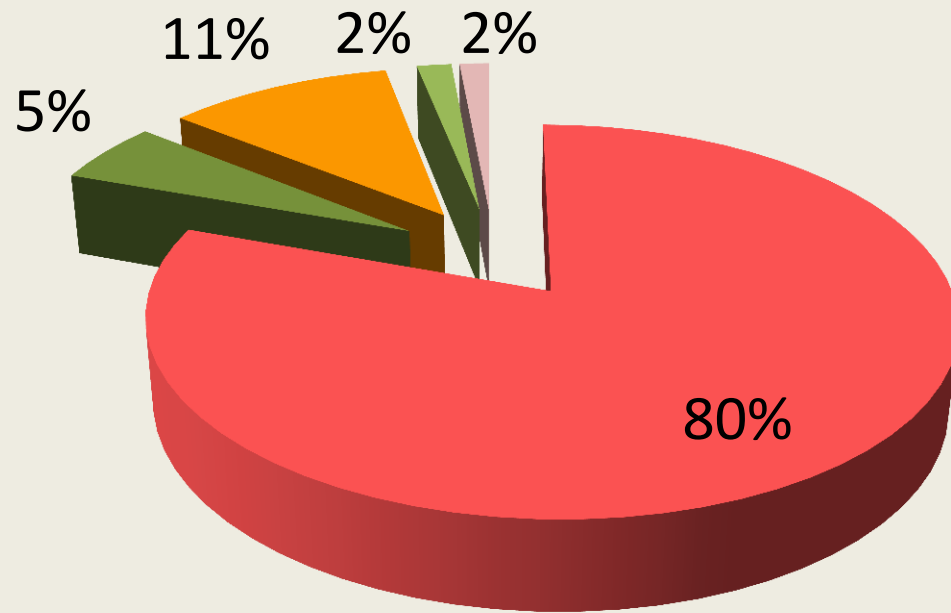
# Place of Turkey in the world

- 4<sup>th</sup> in total vegetable production
- 2<sup>nd</sup> in melon, watermelon and cucumber
- 3<sup>rd</sup> in pepper
- 4<sup>th</sup> in green bean, spinach and tomato
- 5<sup>th</sup> in eggplant
- 6<sup>th</sup> in bulb onion

# Sufficiency for domestic demand

- Production / Demand ratio : %107
- Consumption per capita per year :  $\geq 200$  kg
- Largely sufficient (even excessive) according to FAO and WHO standards (65 kg/capita/year)

# Distribution on crop groups



fruit bearing

leafy

root tuber

legumes

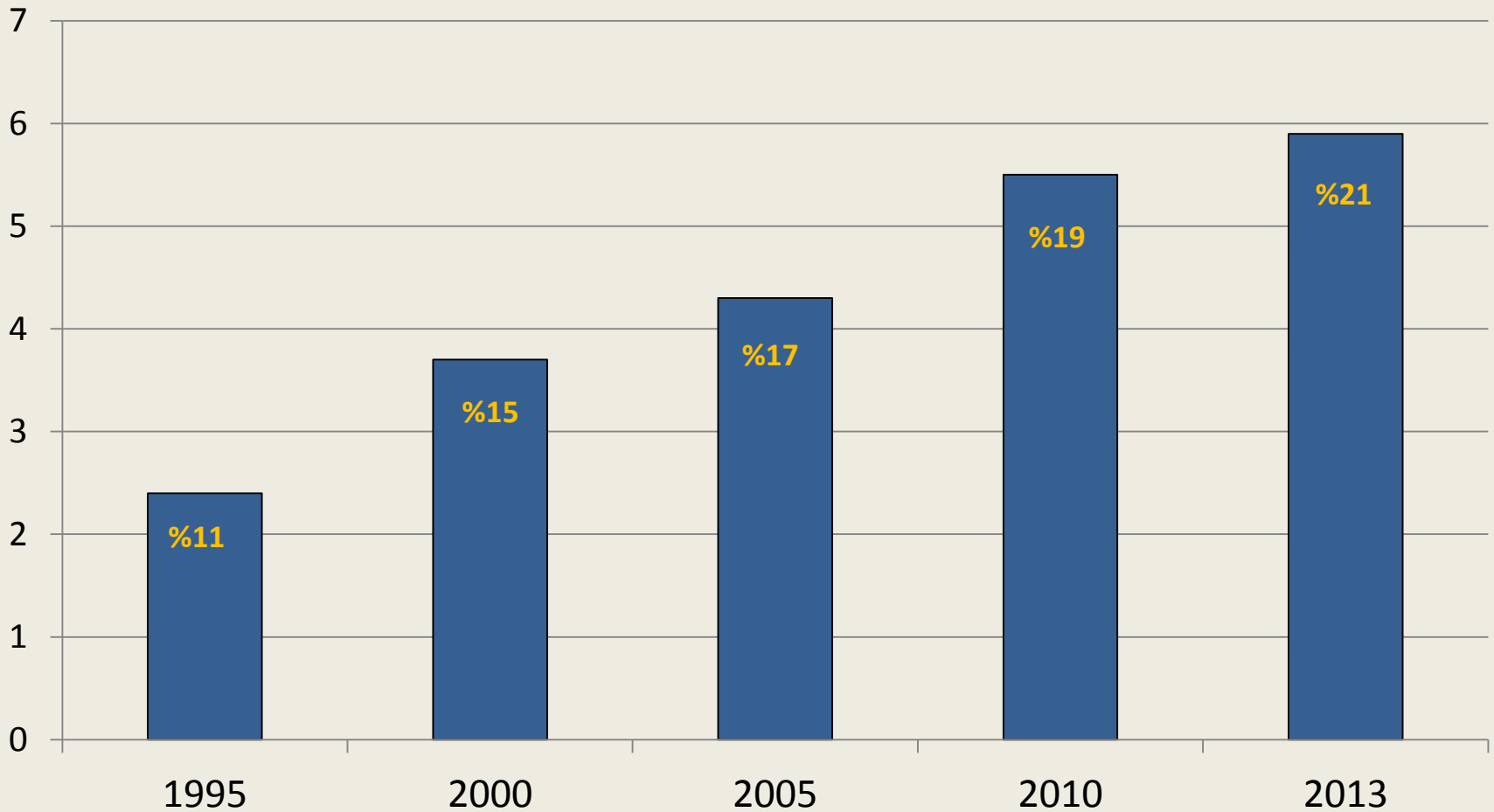
others

# Main crops (10<sup>3</sup> tons)

|               |        | <u>%</u> |
|---------------|--------|----------|
| • Tomato      | 11 820 | 41       |
| • Watermelon  | 3 887  | 14       |
| • Melon       | 1 700  | 6        |
| • Onion       | 1 905  | 7        |
| • Cucumber    | 1 755  | 6        |
| • Pepper      | 2 155  | 8        |
| • Eggplant    | 827    | 3        |
| • Cabbage     | 635    | 2        |
| • Green beans | 632    | 2        |
| • Carrot      | 570    | 2        |
| • Others      | 1 279  | 8        |
| • Total       | 28 450 | 100      |

# Undercover production

million tons



# Covered cultivation

Total area 61 000 ha

Yearly growth is 2%

- 53% greenhouses
- 47% plastic tunnels



# Old and new greenhouses

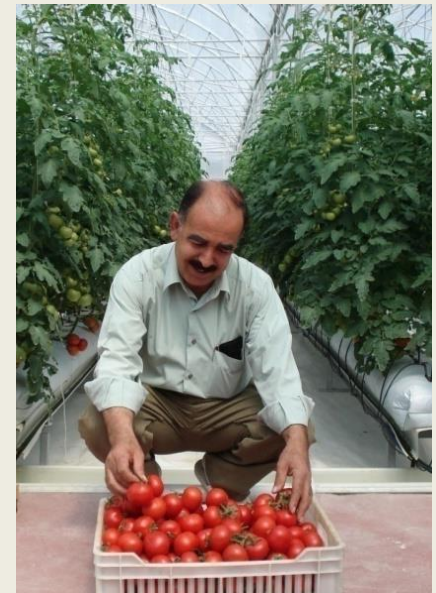




# Soiless culture



- A total of 1000 ha area (estimated)
- Used in big and modern heated greenhouses
- Preferred type is substrat culture
- Popular substrat are perlite, rockwool and cocopeat
- Mostly used in tomato and pepper crops

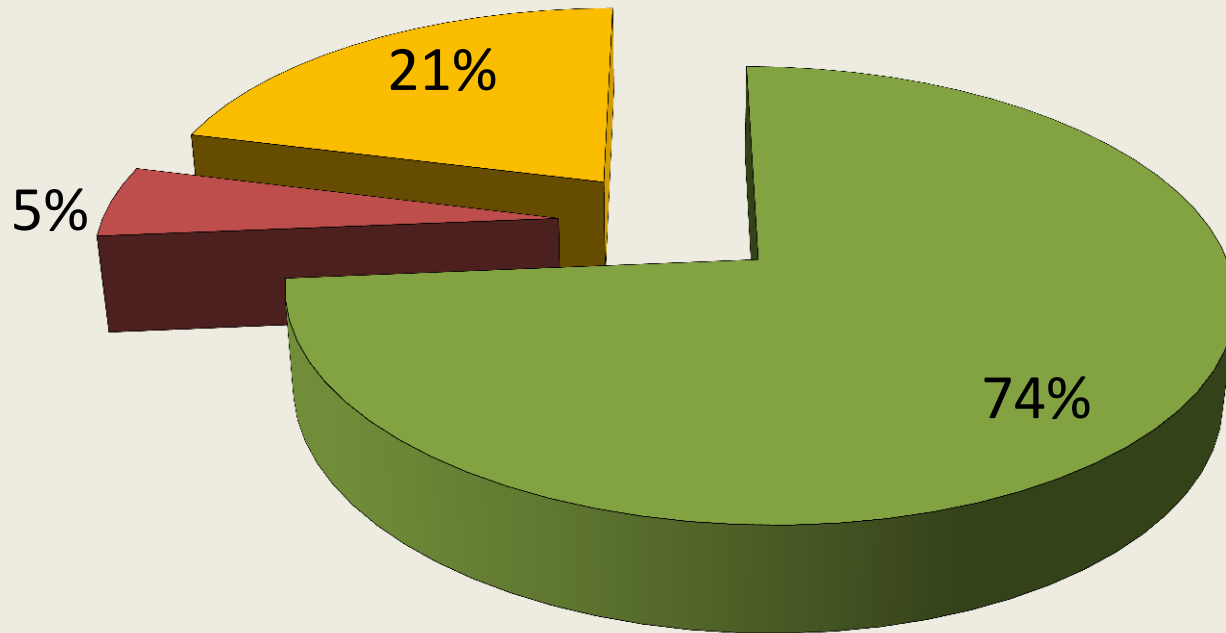


# Geothermal energy



- Total geothermal energy potential is 3 150 MWt
- Sufficient for heating 30 000 ha greenhouse
- Total greenhouse area heated by geothermal 150 ha (2%)
- Concentrated mostly in Eagean region

# Use of produced vegetables



■ fresh domestic ■ fresh export ■ transformation industry



# Farm sizes



| Sizes (ha) | % in total number | % in total area |
|------------|-------------------|-----------------|
| 2 ≥        | 33.3              | 5.6             |
| 2-5        | 31.4              | 16.0            |
| 5-10       | 18.5              | 20.6            |
| 10-20      | 10.8              | 23.8            |
| 20-50      | 5.8               | 22.8            |
| 50 ≤       | 0.5               | 6.8             |



# Transformation industry

- 35% of tomato production (3,7 million tons) is transformed
- 50% consumed in domestic market and 50% exported
- Most important product is tomato paste (70-80% of total)
- Remaining is diced, whole peeled, sauce, sun dried etc
- Especially sun dried tomato have a linear increase
- Other types of transformation are canning and deep-freezing in different vegetables, pickling especially in gherkin, as well as paprika in pepper



# Vegetable export

| Years               | Quantity<br>(tons) | Share in<br>production (%) | Values<br>(million USD) | Prices<br>(USD/ton) |
|---------------------|--------------------|----------------------------|-------------------------|---------------------|
| 2000                | 422                | 1.7                        | 112                     | 265                 |
| 2002                | 554                | 2.2                        | 139                     | 250                 |
| 2004                | 950                | 3.7                        | 216                     | 227                 |
| 2006                | 691                | 2.7                        | 341                     | 493                 |
| 2008                | 1052               | 4.1                        | 672                     | 638                 |
| 2010                | 1 200              | 4.7                        | 720                     | 600                 |
| 2012                | 1 077              | 4.1                        | 644                     | 597                 |
| 2013                | 1 243              | 4.5                        | 692                     | 556                 |
| 2014                | 1 167              | 4.4                        | 710                     | 608                 |
| <b>Last 3 years</b> | <b>1 205</b>       | <b>4.5</b>                 | <b>685</b>              | <b>583</b>          |

# Major exported products

- Tomato 57%
- Pepper 12%
- Cucumber and gherkin 9%
- Others (onion, watermelon. Gerkhin, carrot etc) 22%



# Exporting countries

|            |     |
|------------|-----|
| • Russia   | 38% |
| • Iraq     | 11% |
| • Bulgaria | 10% |
| • Germany  | 8%  |
| • Ukraina  | 7%  |
| • Romania  | 6%  |
| • Others   | 20% |





# Seed sector

- Commercial seed market volume : 750 million USD
- Certified seed utilization rate in vegetables : 30%
- Seed production : 1500 - 2750 tons
- Share of private sector in production : 99%
- A linear increase in breeding and variety development programs

# Young plant sector

- Start date : 1996
- Start date for grafted production : 2001
- Number of company member of YPU : 91
- Total young plant production capacity : 3.5 billions
- Total grafted young plant production : 120 millions



Source: Turkish Young Plant Producer Union (2013)

# Other growing technologies

- Irrigation and fertilization
- Pest and disease control
- Help to pollination
- Others



# Organic farming (2013)

- Number of farmers : 61 000
- Organically cultivated area : 460 000 ha
- Natural gathering area : 310 000 ha
- Total organic product : 1.6 million ton

# Organically produced vegetables

- Fresh

tomato, pepper, eggplant, potatoes, watermelon, cucumber, pumpkin, leek, garlic, spinach, onion, peas, celery, carrot, cauliflower, parsley

- Dried

tomato, mushroom

- Frozen

bulb onion, pepper, squash, tomato

# Concluding remarks

- Sufficiency in production ?
- Needs ?
- Ecological convenience and potential ?
- Marketing problems ?
- Export possibility ?
- Necessities ?

Thank you for your attention