



# HYDROPRONICS IN LEBANON

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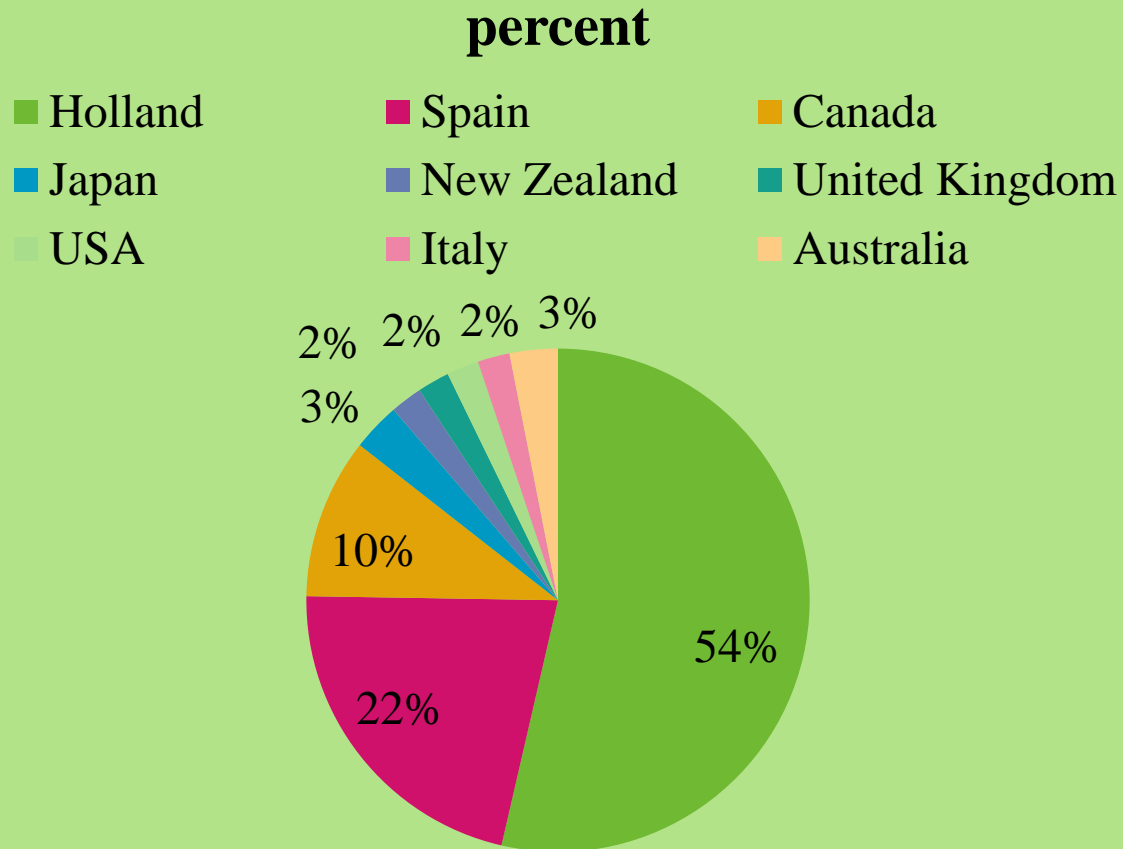
August 2019

# WHAT IS HYDROPONICS?

- Hydroponics crop production is based on growing in soil less medias such as water, coconut fiber (Coir), gravel, or rockwool.
- Hydroponics fertilizers are dissolved in water to meet the exact nutrient requirements of each crop at the correct salinity and pH level
- Grown under controlled environments in greenhouses



# GLOBAL HYDROPONICS PRODUCTION



# WATER SUPPLIES

❖ Water shortages by 2025 *could cut global crop yields by one one-third*, or the equivalent of the entire grain crops of the US and India combined.

IRISH TIMESIRISH TIMES

❖ The FAO has determined that, without changes in efficiency, *the world will require as much as 60% more water for agriculture to feed the additional 2 billion people* that are projected to be added to growing population of the world by 2030.”

ECONOMIST



# ADVANTAGES OF HYDROPONICS PRODUCTION

- ▶ High production in less area due to multiple vertical levels. It will result less climate control cost. (To chill 40000plants/1 000sq.m is much more feasible as chilling just 7000 plants/1 000 sq.m).
- ▶ Saving water consumption up to 80%; the system is close water circulation, so no any underground waste.



# ADVANTAGES OF HYDROPONICS PRODUCTION

- ▶ The production is about 30% faster than traditional way; the plant has exactly everything needed all over the time (water, nutriment, climate...).
- ▶ Excellent produce quality. Everything is under control that's cause less diseases and less pesticide usage.
- ▶ All year round production; the temperature, light hours and humidity are well controlled.



# ADVANTAGES OF HYDROPONICS PRODUCTION

- ▶ Saving labor cost; no need for plowing, harvesting and replantation are very easy to manipulate.
- ▶ Long shelf life in the market; crops can be harvested with roots that protect them from wilting.
- ▶ Produce premium packing; crops can be harvested with roots, so it is very attracting for consumers.






# SOIL vs. HYDROPONICS





# SOIL vs. HYDROPONICS

- Crop rotation not required
  - Hydroponics reduces the harmful effects of contaminating pathogens found in typical soil based production
  - Soil fumigants are not required
  - Pesticides and fungicides are kept to a minimum
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# WHY HYDROPONICS IN LEBANON?

## ➤ Geographic Advantage


- ✓ Central to a number of lucrative markets
- ✓ Freight cost advantages over other exporters
- ✓ Extended shelf life due to close proximity to lucrative markets

## ➤ Agro-Climatic

- ✓ Year round crop production potential
- ✓ Mild weather year round



# WHY HYDROPONICS IN LEBANON?

- High cost of land
  - Rapidly dwindling water resources
  - Lack of national food security
  - Increasing labor and production costs
  - Capacity to reduce imported produce
  - Increased availability of non seasonal produce items
  - Increased incomes for small scale greenhouse producers
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# The obstacles that limit the expansion of hydroponic in Lebanon

- Growers lack of know-how
- Lack of professional hydroponic companies
- Lack of cooperation and organization that help to spread this technique
- Financial difficulty and concern