

Present state of vegetable industry

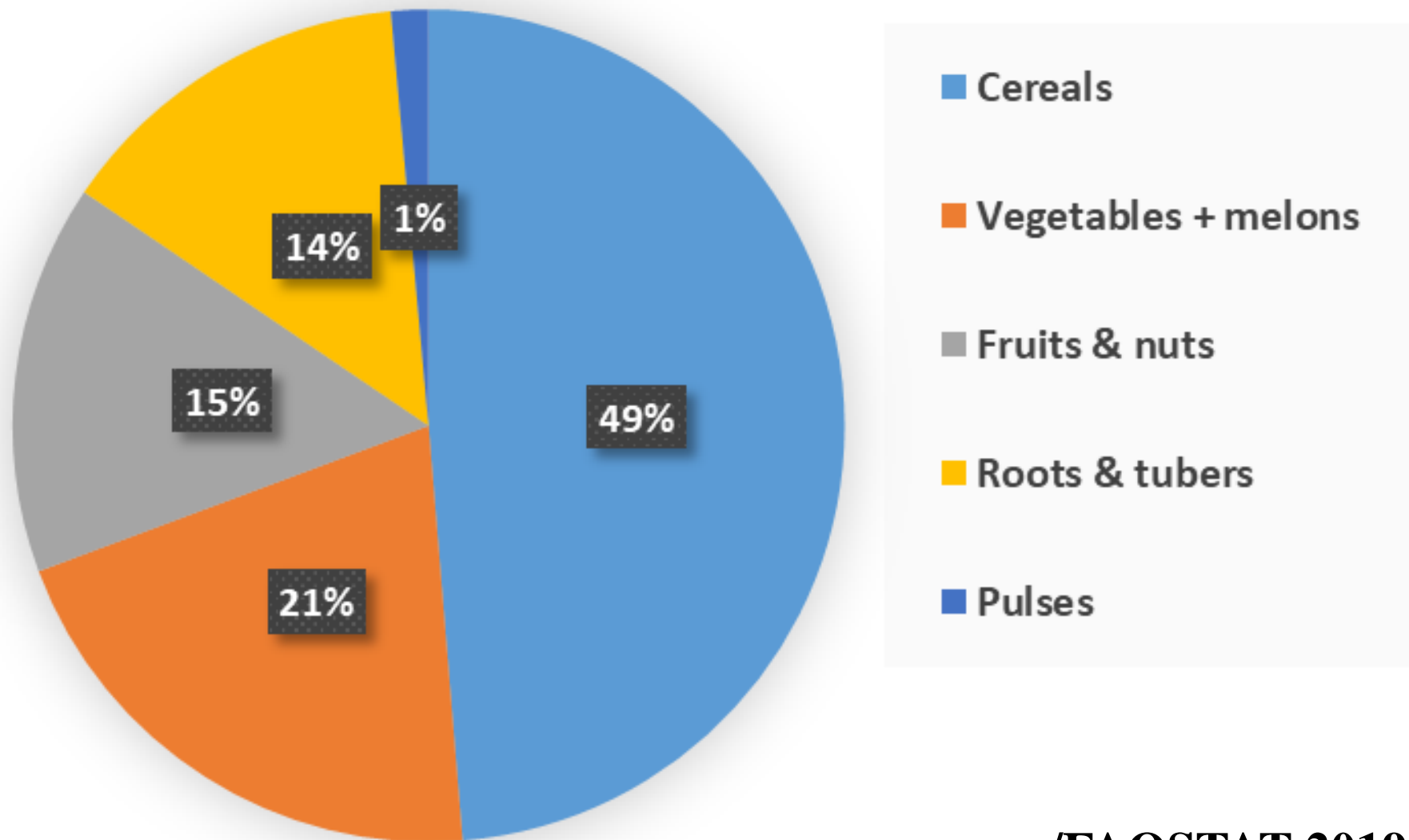
Definition and sectors of vegetable production

- **Vegetable farming (production) is growing vegetables for human consumption**
- **Its subsectors are:**
 - **Field vegetable production**
 - **Greenhouse vegetable production (vegetable forcing)**
 - **Mushroom production**
 - **Vegetable seed production**

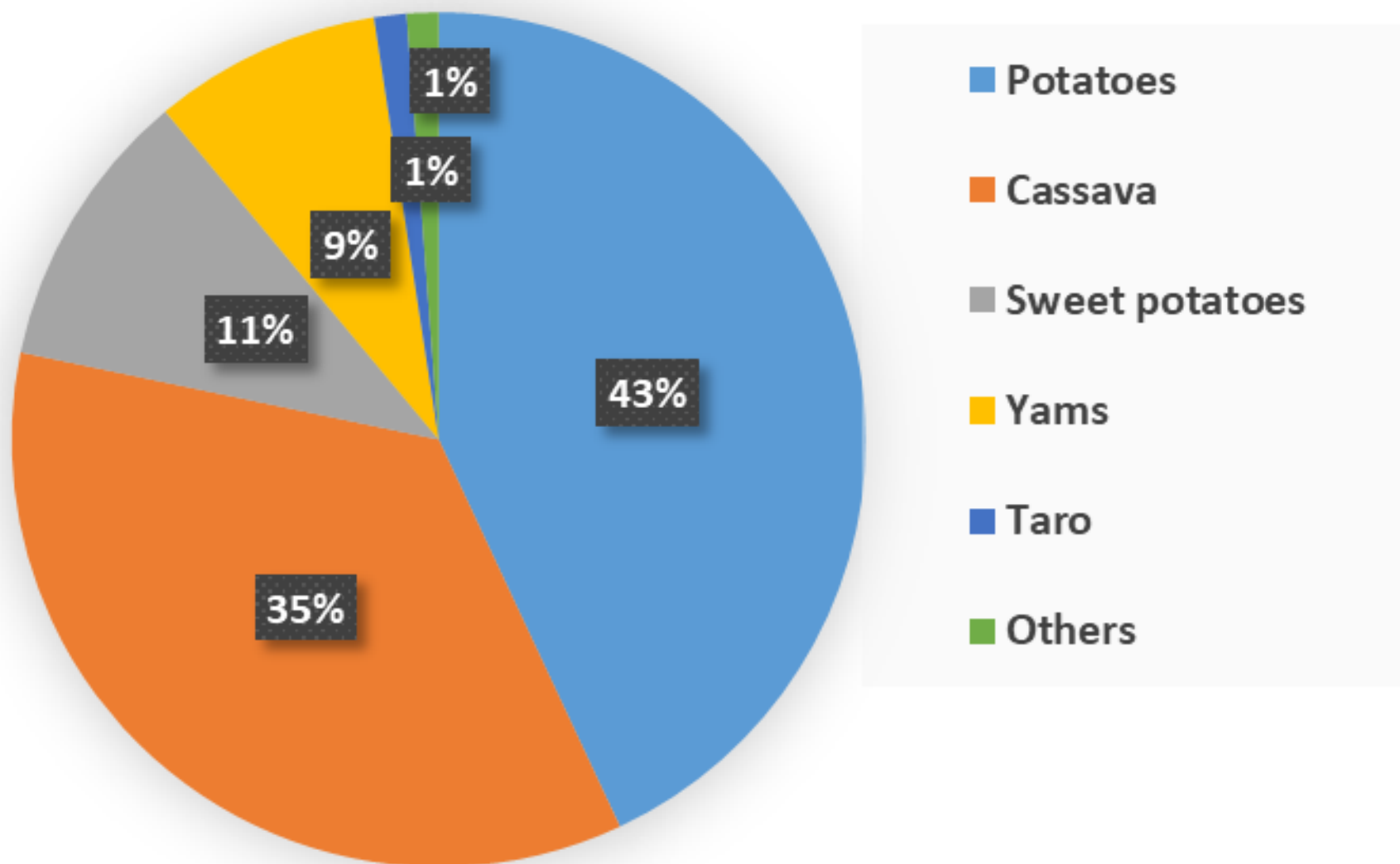
Importance of vegetable production

- There are 204 countries where vegetables are produced.
- 1258 million tons of vegetables are produced yearly in the world.
- The global vegetable market revenue was 1,250 Mrd US\$ in 2018.
- This theoretically equals to a consumption of 165 kg/year/capita.
- The WHO has estimated 102 kg/year/capita actual consumption.
- This consumption contributes to a significant health protecting effect.
- In term of quantity vegetables form the 2nd biggest food crop group after the cereals

Share of food crop groups in the production quantity



Share of individual tuber crops in the total production quantity



Vegetable production of the world by continents

(including melons, excluding tubers)

	M ha	M t	t/ha
Világ	63,8	1.258	19,7
Afrika	10,8	93	8,7
Amerika	3,9	89	22,8
Ázsia	45,4	979	21,6
Óceánia	0,2	4	20,6
Európa	3,6	93	25,8
EU	1,9	60	30,8

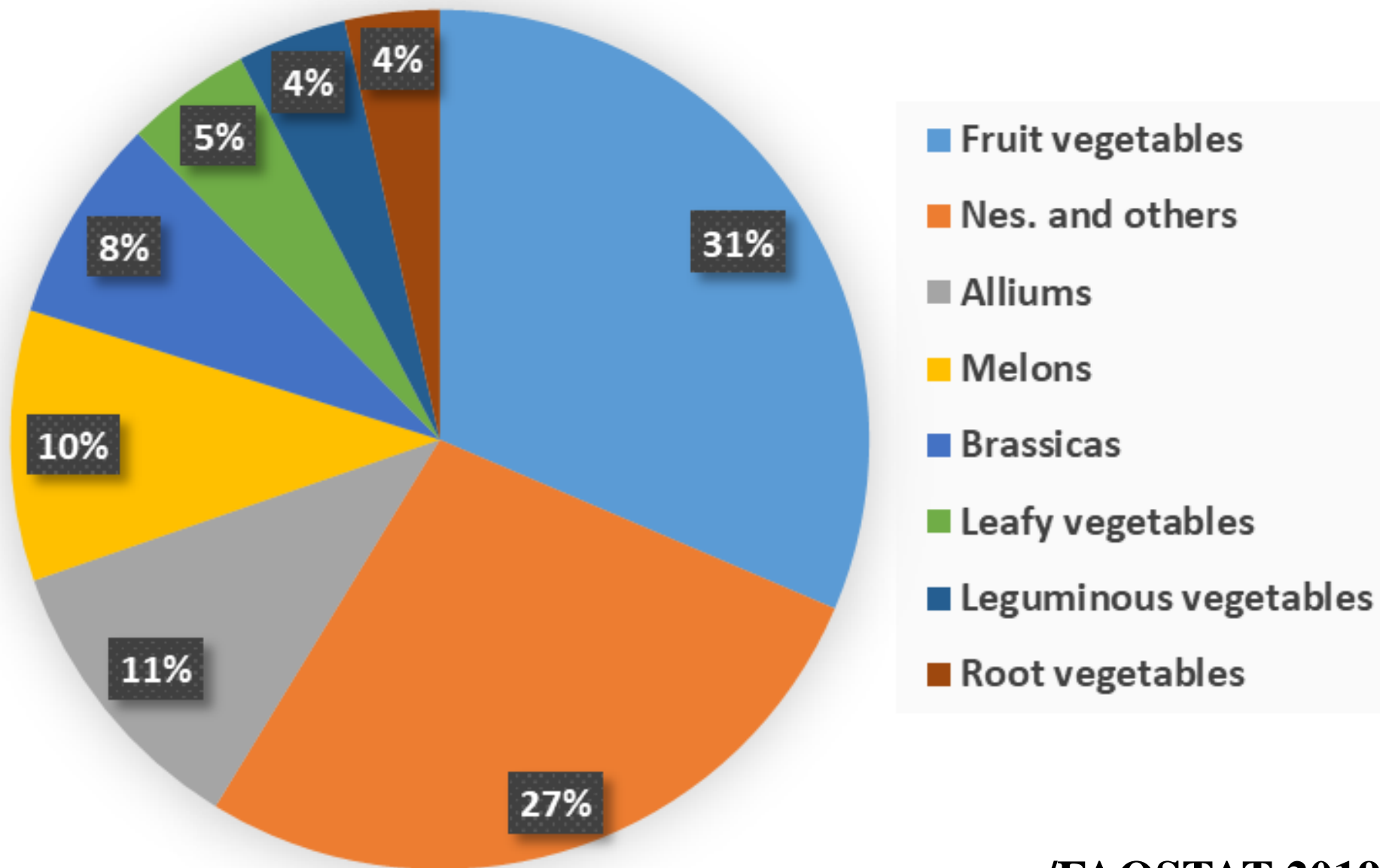
The biggest vegetable producer countries

Country	Mt	%	Country	Mt	%
China	625	51,2	Italy	13,5	1,1
India	132	10,8	Indonesia	12,1	1,0
USA	34,4	2,8	Brazil	11,8	1,0
Turkey	29,9	2,5	Uzbekistan	11,0	0,9
Iran	20,9	1,7	Rep. of Korea	10,5	0,9
Mexico	18,2	1,5	Japan	10,2	0,8
Egypt	17,8	1,5	Ukraine	10,0	0,8
Viet Nam	17,5	1,4	Algeria	9,0	0,7
Nigeria	16,7	1,3	Philippines	6,9	0,6
Russia	15,7	1,3	Kazakhstan	6,2	0,5
Spain	14,4	1,2	Pakistan	6,0	0,5

The most important vegetable producers of EU

1.	Spain	24,1%
2.	Italy	17,6%
3.	Poland	9,0%
4.	The Netherlands	8,2%
5.	France	7,4%
6.	Germany	5,7%
7.	Romania	5,4%
8.	Greece	4,5%
9.	Great-Britain	4,1%
10.	Portugal	3,6%
11.	Belgium	2,6%
12.	Hungary	1,5%

Share of vegetable groups



Vegetables produced in the biggest quantities

	World	EU
Others	24,4%	8,9%
Tomatoes	14,9%	25,6%
Watermelons	8,5%	4,8%
Onions, dry	7,9%	8,9%
Cucumbers and gherkins	6,2%	4,2%
Cabbages and other brassicas	5,7%	6,9%
Eggplants	4,4%	1,3%
Carrots and turnips	3,3%	8,4%
Chillies and peppers, green	3,0%	3,9%
Garlic	2,3%	0,6%
Pumpkins, squash and gourds	2,3%	2,7%
Melons (incl. cantaloupes)	2,3%	2,7%
Lettuce and chicory	2,2%	4,3%

Vegetables produced in the biggest quantities

	World	EU
Cauliflowers and broccoli	2,2%	3,6%
Spinach	2,2%	1,0%
Beans, green	2,0%	1,0%
Peas, green	1,7%	1,4%
Maize, green	0,9%	4,1%
Okra	0,8%	0,0%
Asparagus	0,7%	0,5%
Mushrooms	0,7%	1,9%
Onions, shallots, green	0,5%	0,4%
Other named (5)	0,8%	3,0%

Greenhouse vegetable production

- **Total greenhouse (middle and high tech) area was about 0.5 ha in 2018 (Rabobank). (China 82th ha, Spain 70th ha, South-Korea 57th ha, Italy 43th ha, Turkey 41th ha, Morocco and Mexico 20th ha)**
- **Most of the greenhouses are plastic covered, area of glasshouses is about 40,000 ha.**
- **Plastic tunnels has a much bigger area, just in China more than 3 million ha.**
- **Subtropical climate zone is the main area for this activity.**
- **Mainly high value fruit vegetables (tomato, sweet pepper, eggplant, cucumber, melon) are produced in the greenhouses and also salad crops. (In Hungary sweet pepper, tomato, lettuce and cole crops are the most important ones.)**
- **Requires very high investment and operational cost.**

Estimated area of greenhouses for vegetable production worldwide

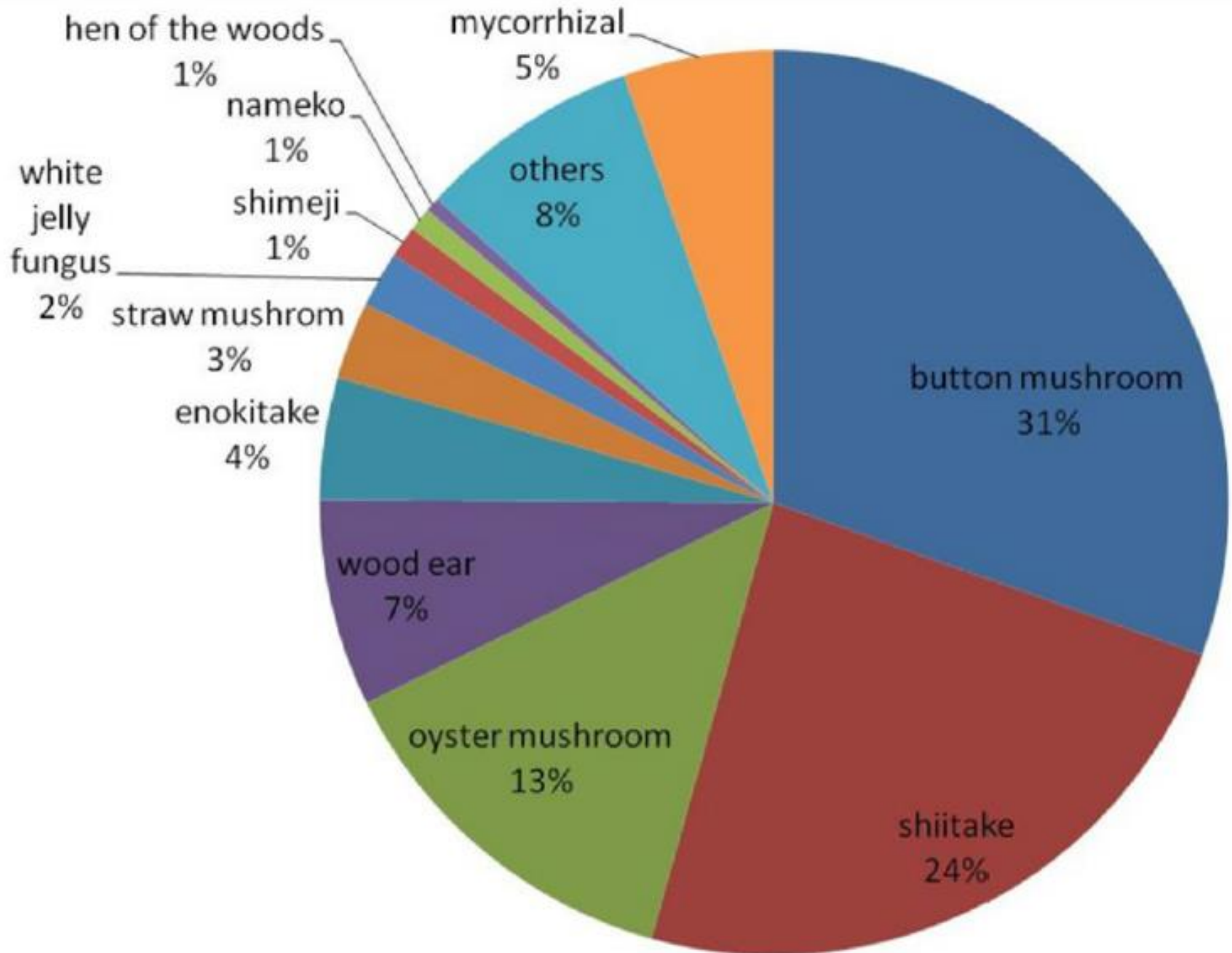
	subarctic to temperate	Mediterranean to subtropics	tropic to equatorial	Total
• Asia + Oceania	2,300	173,400	100	175,800
• Europe	47,000	131,000		178,000
• Americas	2,400	6,800	7,300	16,500
• Africa		30,200	100	30,300
• Near East		74,800		74,800
• Total	51,700	416,200	7,500	475,400

/Hickman, 2018/

Mushroom production

- **Beside production in closed facilities, open field production and mushroom collection from natural habitats also have significant importance.**
- **Based on FAOSTAT in 2019 11.9 million tons of mushroom was produced in the world in 75 countries.**
- **The biggest producers are: China (75.1%), Japan (4.0%), USA (3.2%), Poland (3.0%), Netherlands (2.5%), India (1.5%), Spain (1.4%), Canada (1.2%), Iran (0.9%), UK (0.9%)**
- **The most important species are: button mushroom, shiitake, oyster mushroom, wood ear, enoki take**

The most important mushroom species



Vegetable seed production

- **The vegetable seed sector is highly globalised, a few multinational firms control 90% of the market.**
- **They produce the seeds in places which are optimal both from ecological and economical standpoints. (e.g. green pea in Hungary)**
- **The global market is approximately 7 billion US\$, with shares of vegetables: solanaceous (30%), cucurbits (21%), roots and bulbs (16%), brassicas (13%), large seed (13%), leafy and other (7%)**
- **Breeding requires very high investment → breeding activity of these firms doesn't target small markets.**
- **Importance of local types and cultivars are decreasing.**
- **Hybrids instead of open pollinated cultivars are gaining ground in case of an increasing number of vegetables.**

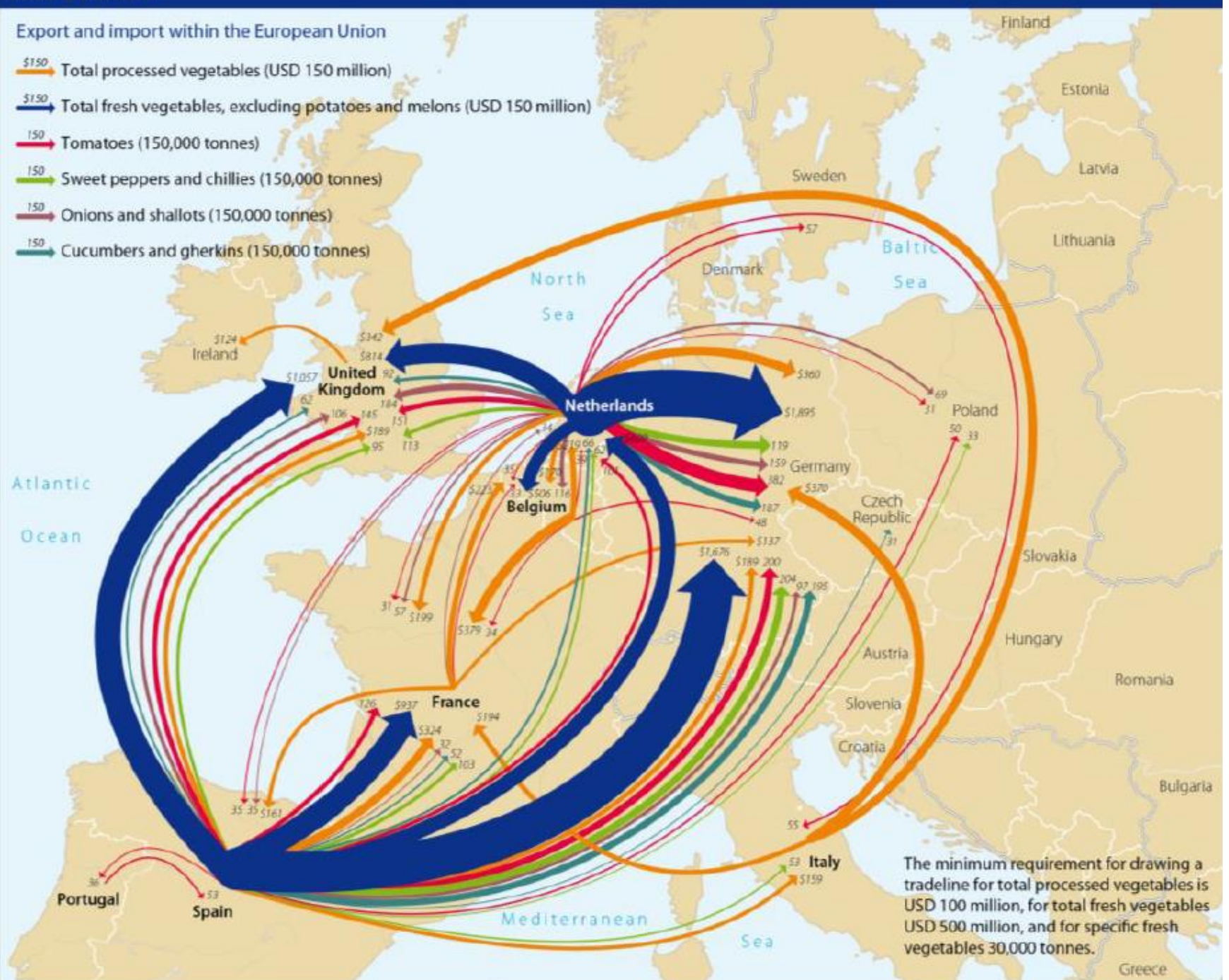
Foreign trade

- **Value of yearly world vegetable export is about 85 billion US\$, amounted to 86 million tons**
- **Main exporters are China, Mexico, Spain, Neteherlands, USA, Italy**
- **The most important export vegetables by volume are: tomato, watermelons, peppers, onions, cucumbers, garlic, cabbages**
- **The most important fresh vegetable exporters within the EU are Spain and the Netherlands.**

Intra-EU trade

Export and import within the European Union

-  Total processed vegetables (USD 150 million)
-  Total fresh vegetables, excluding potatoes and melons (USD 150 million)
-  Tomatoes (150,000 tonnes)
-  Sweet peppers and chillies (150,000 tonnes)
-  Onions and shallots (150,000 tonnes)
-  Cucumbers and gherkins (150,000 tonnes)



The minimum requirement for drawing a tradeline for total processed vegetables is USD 100 million, for total fresh vegetables USD 500 million, and for specific fresh vegetables 30,000 tonnes.