

RAPESEED IN THE GLOBAL VEGETABLE OIL SYSTEM: SITUATION, SPECIFICITIES AND PERSPECTIVES

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contents

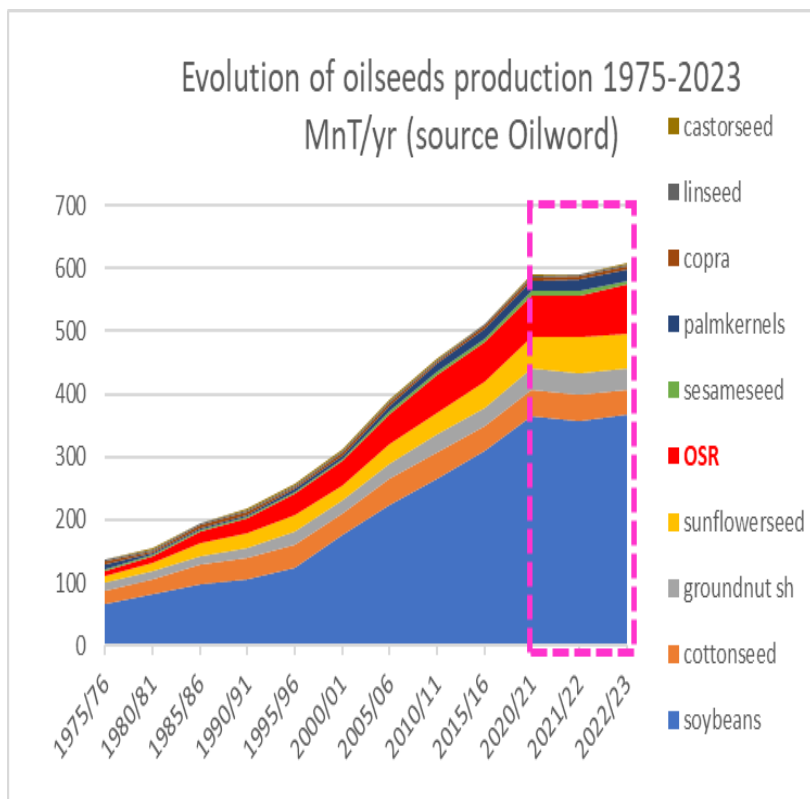
- ✓ rapeseed production
- ✓ Yields
- ✓ rapeseed and biodiesel
- ✓ Trade profiles of oilseed products
- ✓ Perspectives



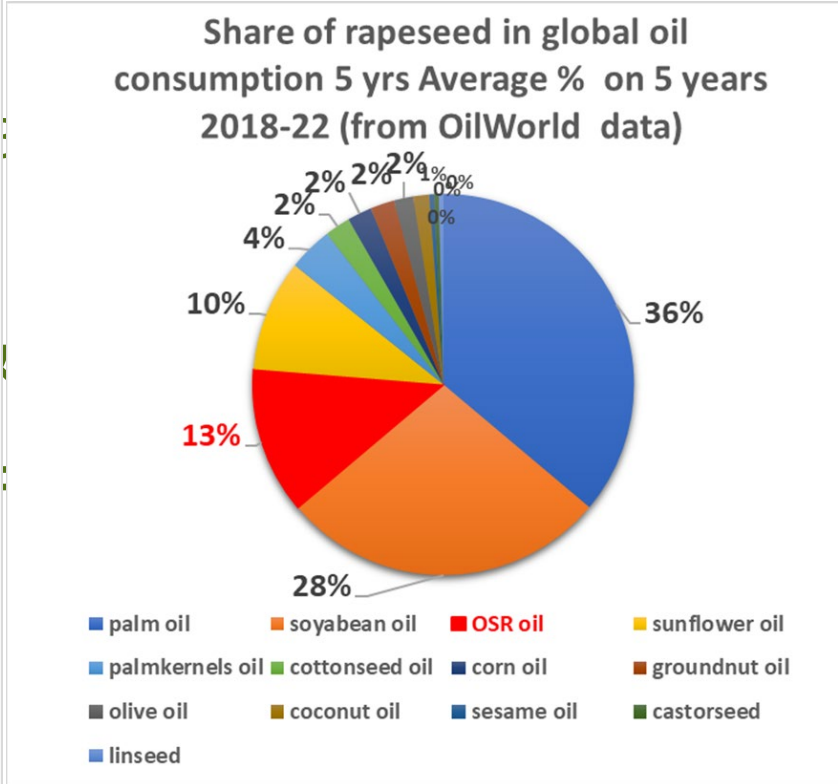
2nd OILSEED

3rd Vegetable OIL

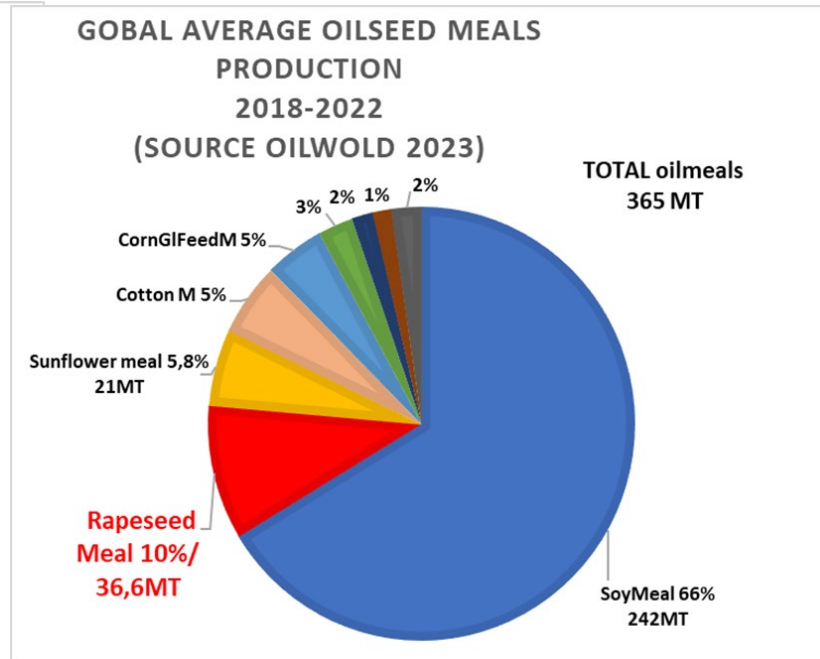
2nd MEAL



Rapeseed seeds reached 15 % of all oilseeds in 2012/13 and stabilized around 11 %
Soybeans (60%)



Vegetable oils & fats: 243,8MT in 21/22
Vegetable oils = 80%
OSR: 13% of consumption (26,5MT in 2022)

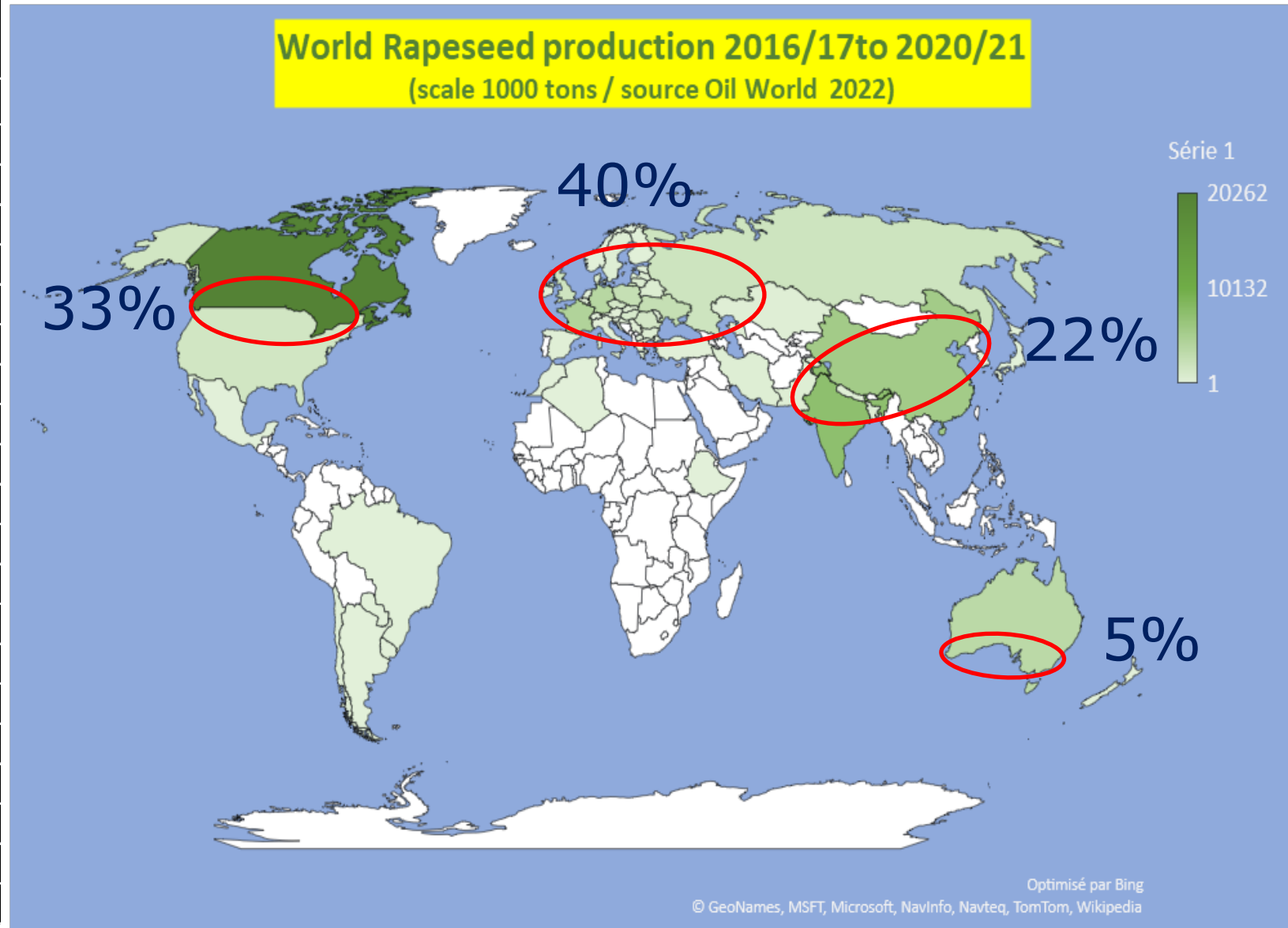


Many producers consume their production (from seeds imported or not)
Canada is the exception (with Ukraine)

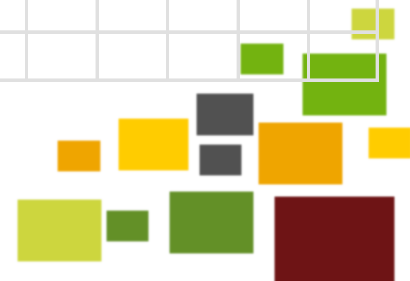
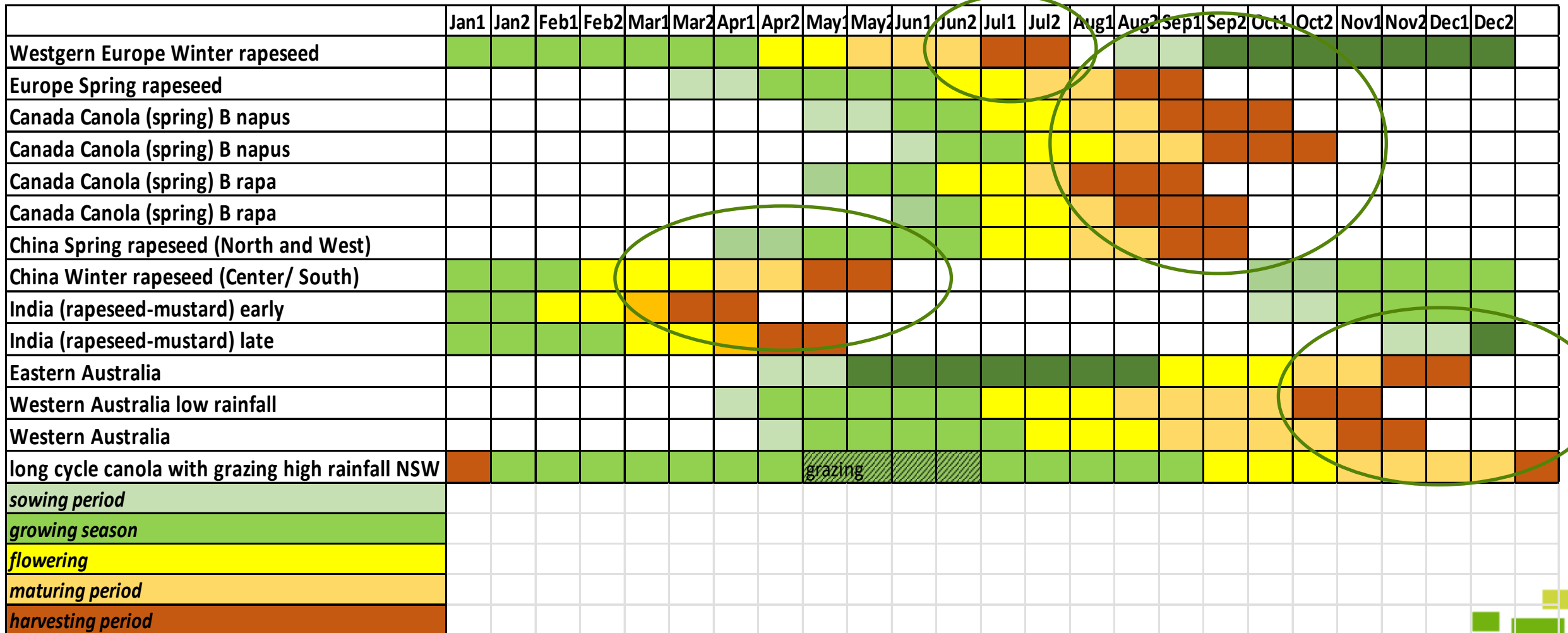


4 main regions for (almost) 100% of the production

source <i>OilWorld</i>	Average 2016/17 to 2020/21	
	acreage	production
	1000 ha	1000 tons
Canada	8691	20262
EU27	5755	17811
<i>France</i>	1357	4373
<i>Germany</i>	1136	3797
<i>Poland</i>	888	2553
<i>other EU 27</i>	2374	7088
India	7060	7440
China	3512	5600
Australia	2461	3462
Ukraine	988	2537
Other Europe	593	1954
Russia	1250	1827
UK	527	1749
USA	759	1525
Iran	167	344
Bangladesh	299	335
Pakistan	291	330
Kazakstan	234	247
WORLD	33034	65267



Rapeseed/Canola over the year: 4 main harvesting periods

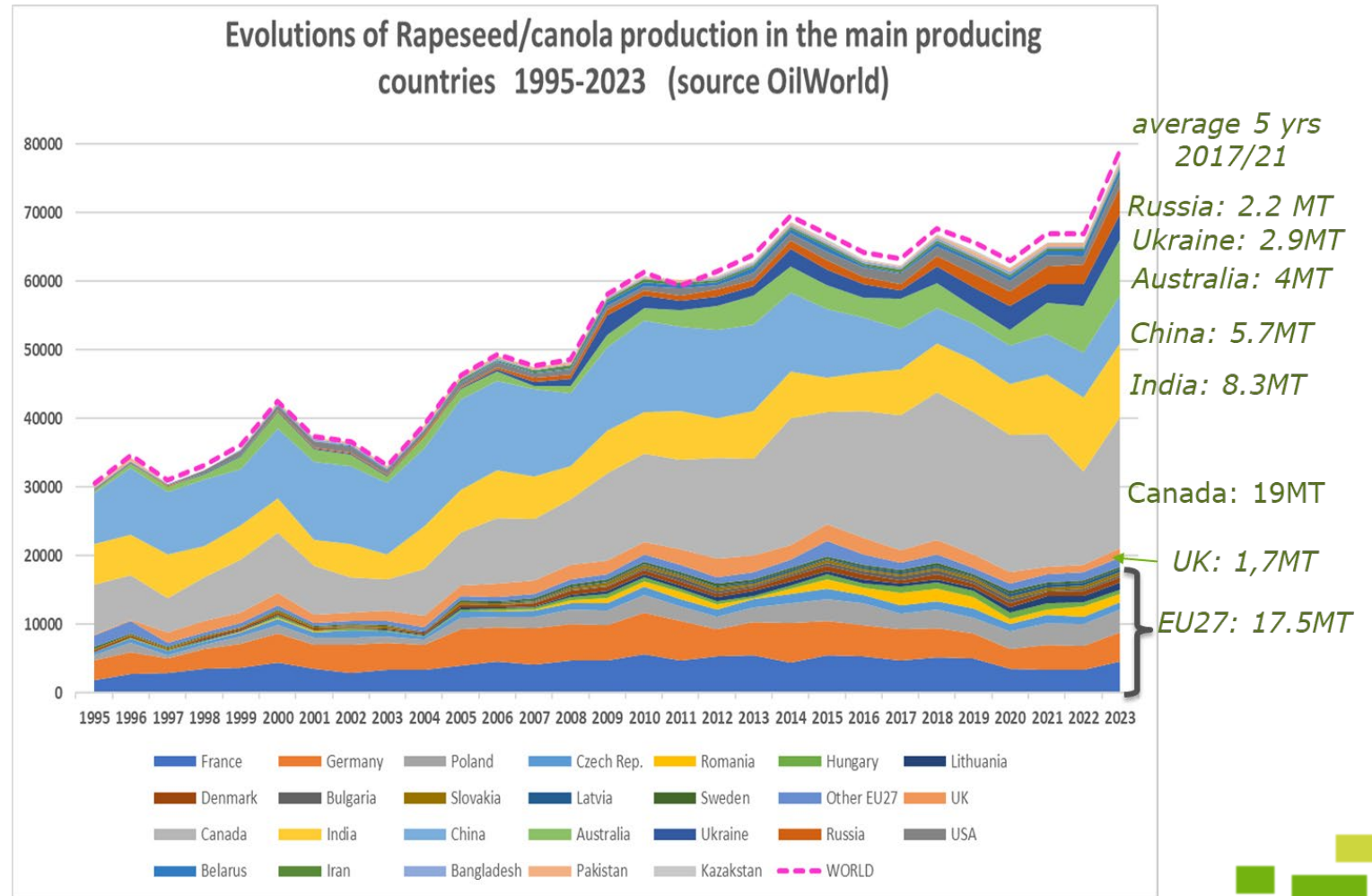


A remarkable growth of the seeds production until 2014, then stabilization in spite of new producing countries

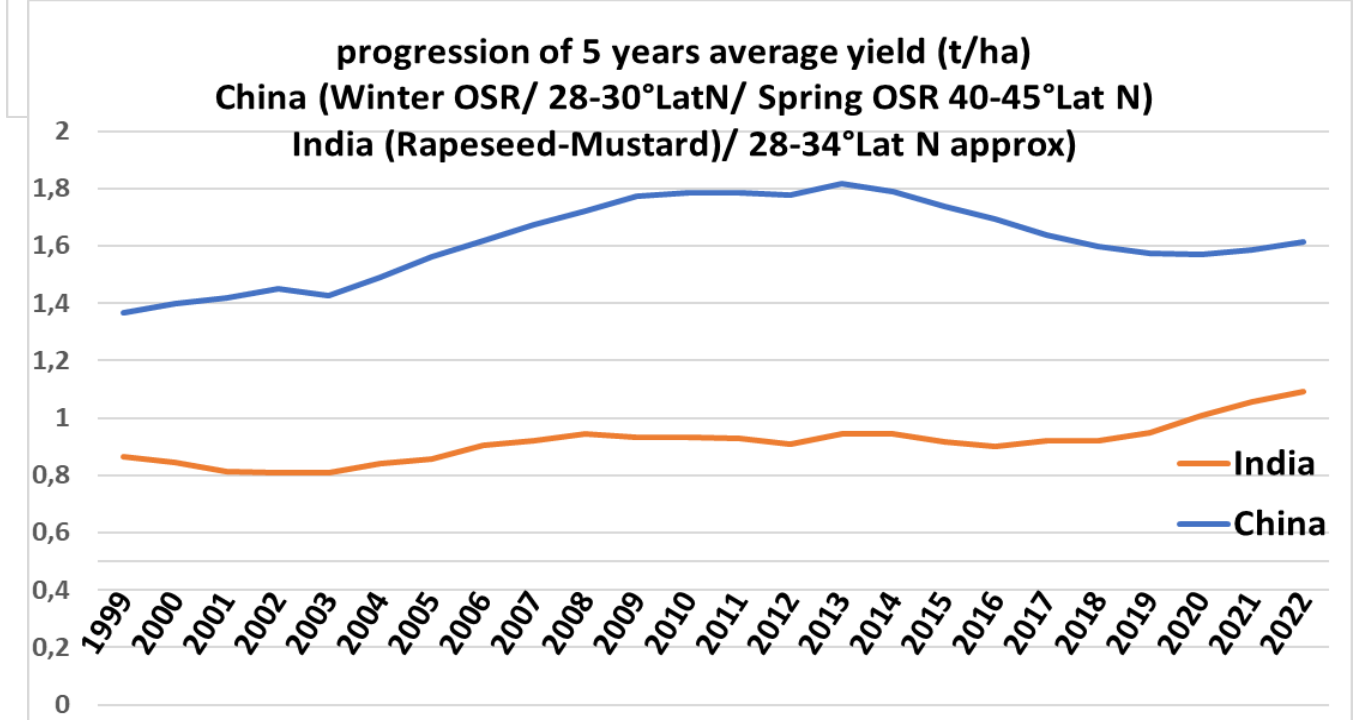
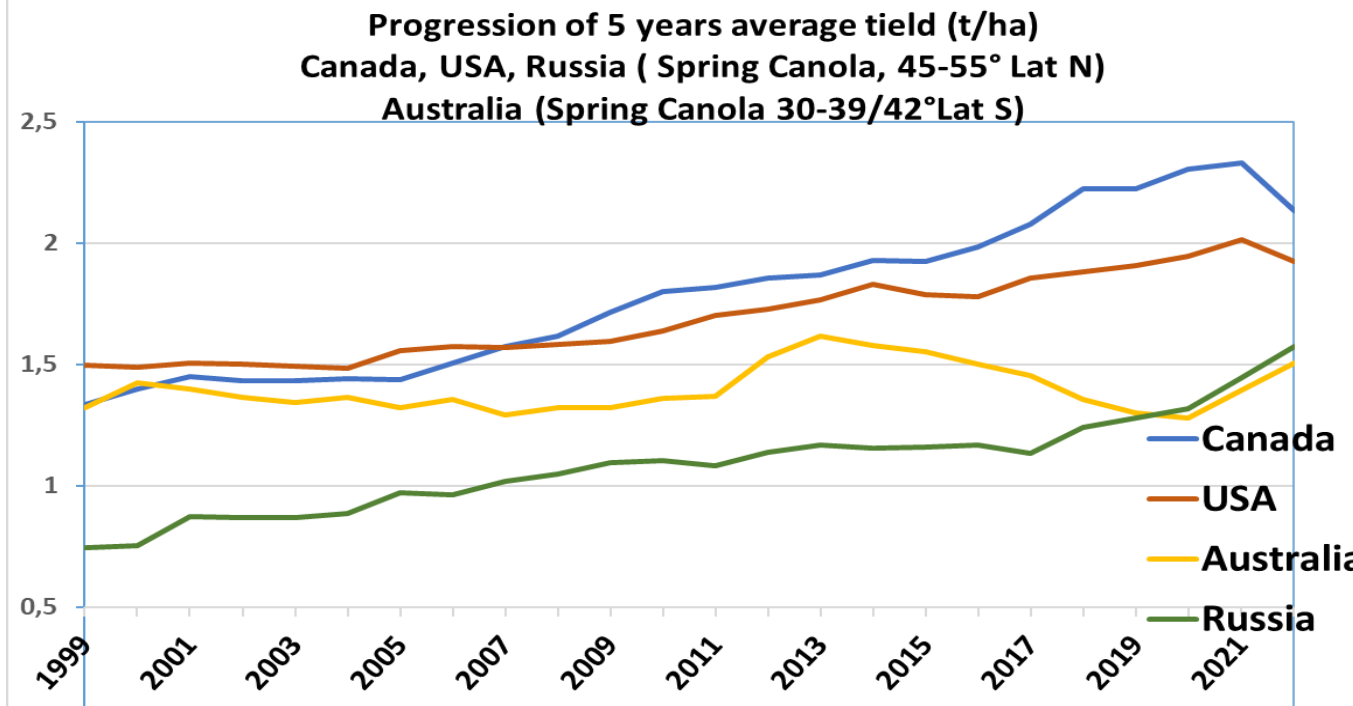
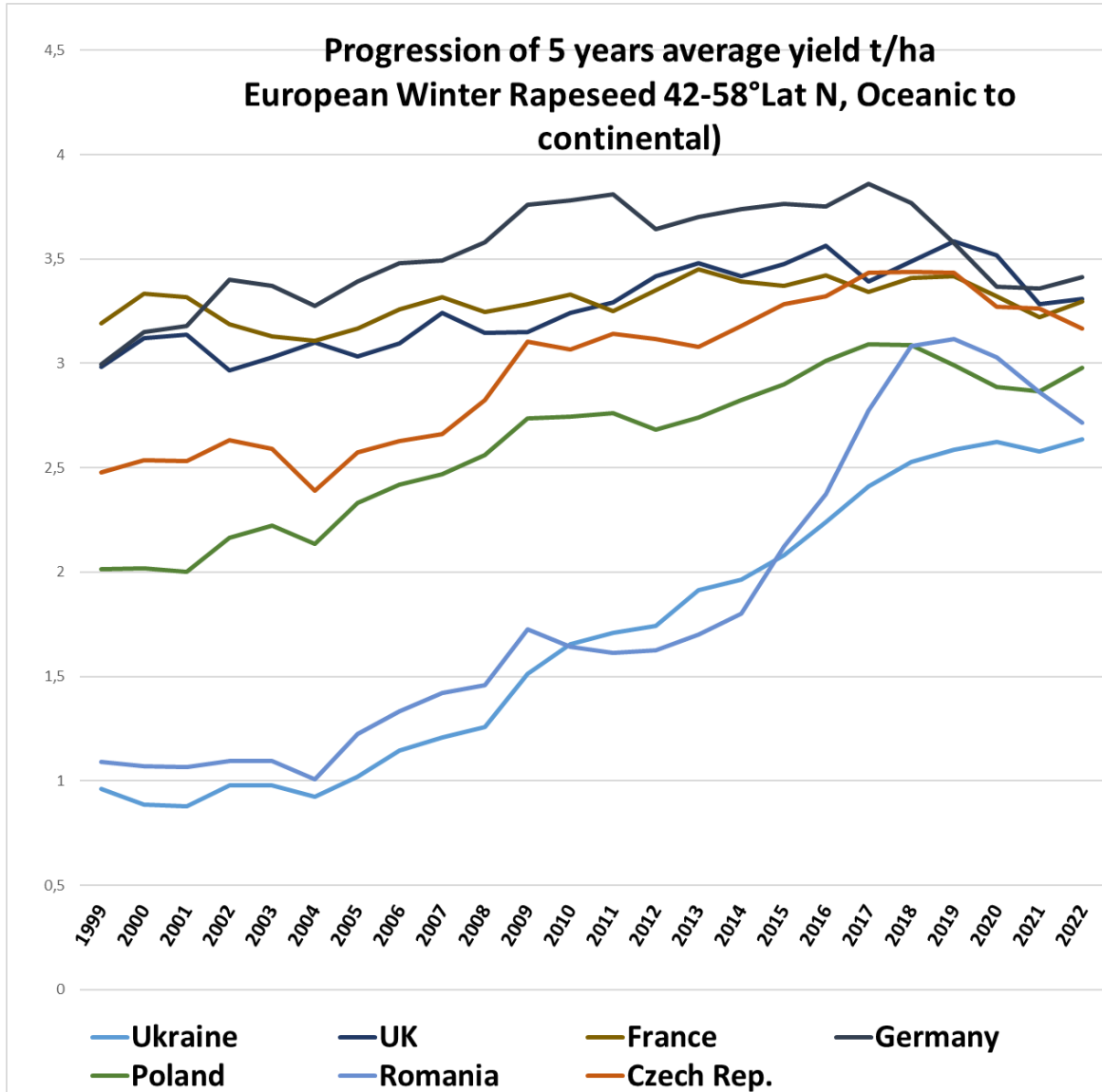
67 MT on 36.7Mha in 2022
12,4MT on 12 Mha in 1982
The progress in production is due almost equally to yield and acreage

Evolution since 1982	1982	2002	2022
production MT	12,4	36,7	65,0
acreage Mha	12,0	23,5	36,0
Yield T/ha	1,0	1,6	1,8
production increase		24,3	52,6
due to acreage		11,9	24,8
due to yield		12,4	27,8
<i>Since 1982</i>		<i>A49%/ Y51%</i>	<i>A47%/ Y53%</i>
<i>Since 2002</i>			<i>A46% / Y54%</i>

Since 2002:
 Production x 1,8
 Acreage x 1,56
 Yield x 1,17



OSR Yields: different dynamics across countries and regions

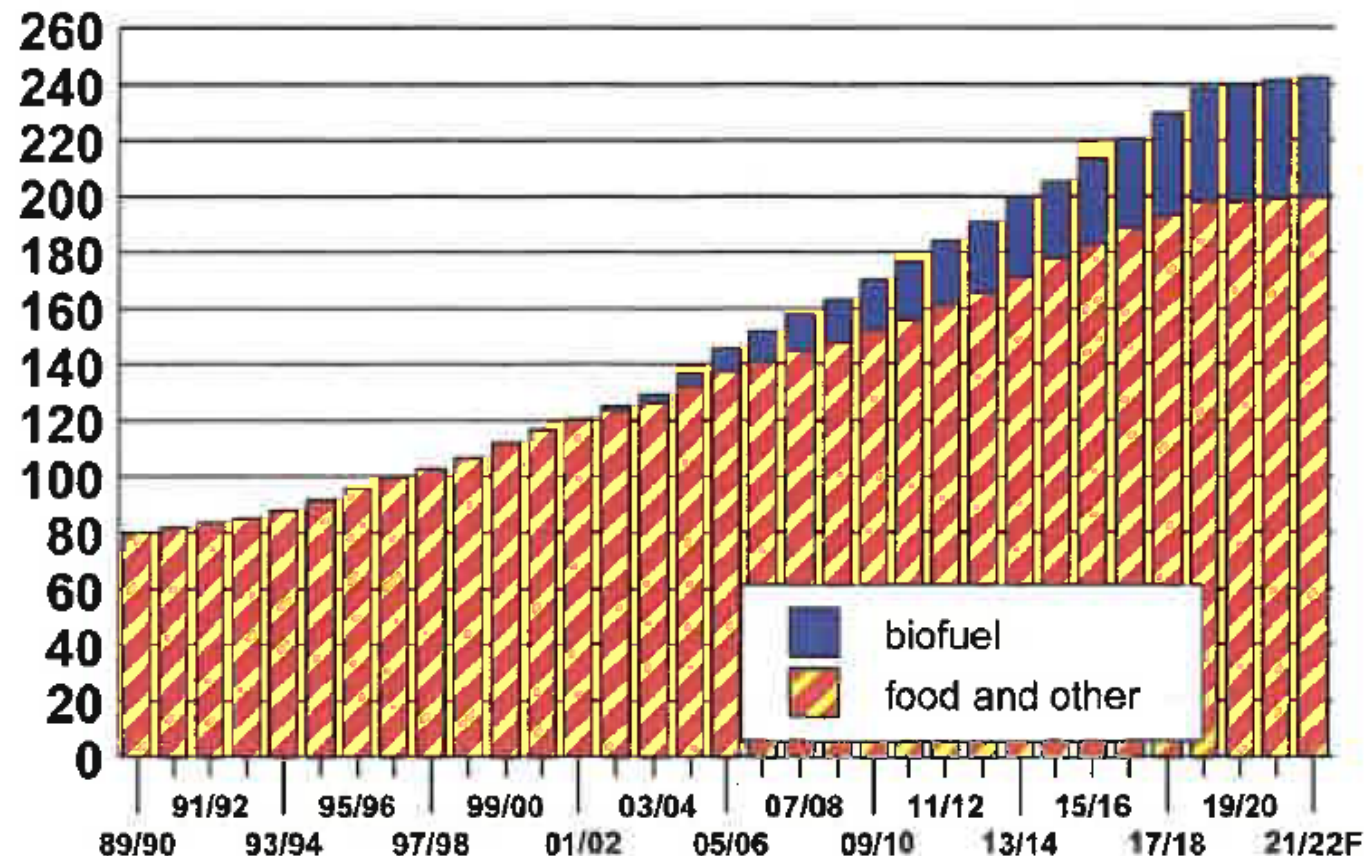


Vegetable oils and Biodiesel

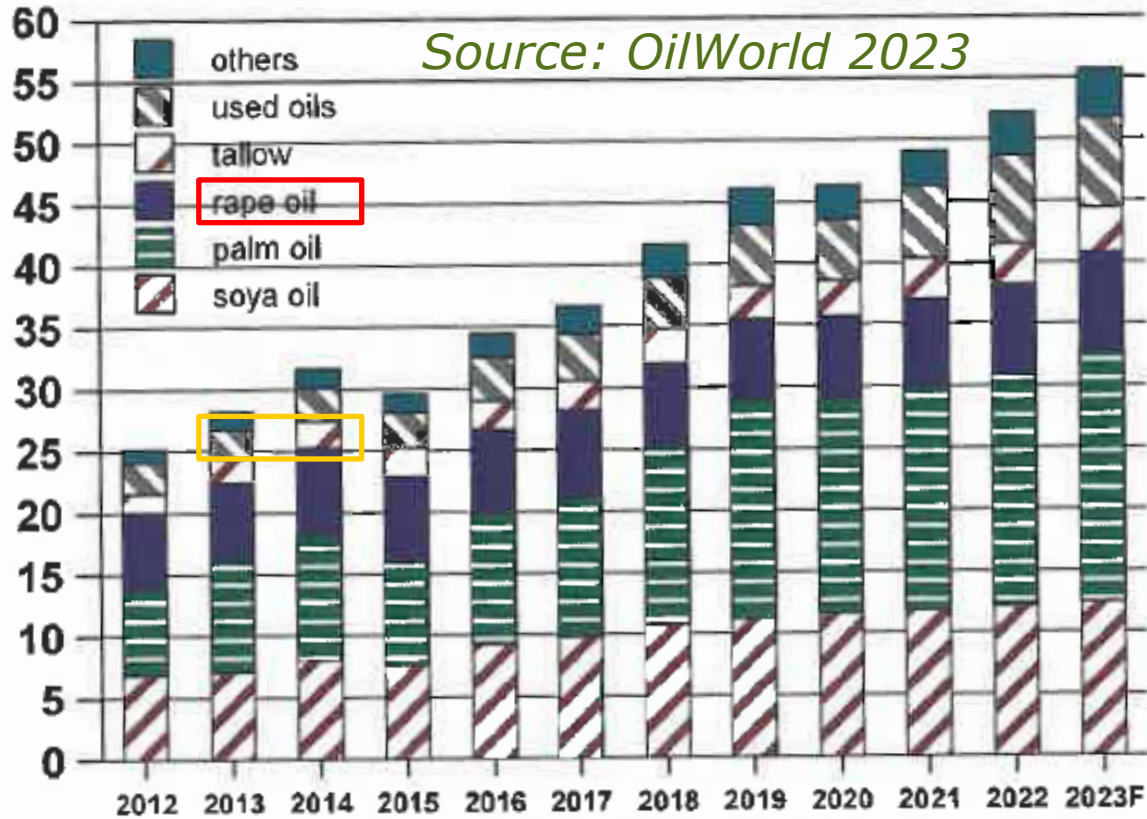
- ✓ With 55 MT, of which 48 are based on first use vegetable oils and fats, Biodiesel absorbs 19,3% of the global oils & fats production (250MT in 2023/ used oils excepted)
- ✓ Or 18,8% of first use vegetable edible oils.
- ✓ **Approaching 20%**
- ✓ Main producers (2023):
 - ✓ EU27 (15,2MT)
 - ✓ USA (12MT)
 - ✓ Indonesia (11,1MT; more than 50% of palm oil production)
 - ✓ Brazil (6 MT; 68% soy based; 40% of soy oil go to biodiesel)

17 Oils & Fats : World Consumption

Total Usage in Mn T

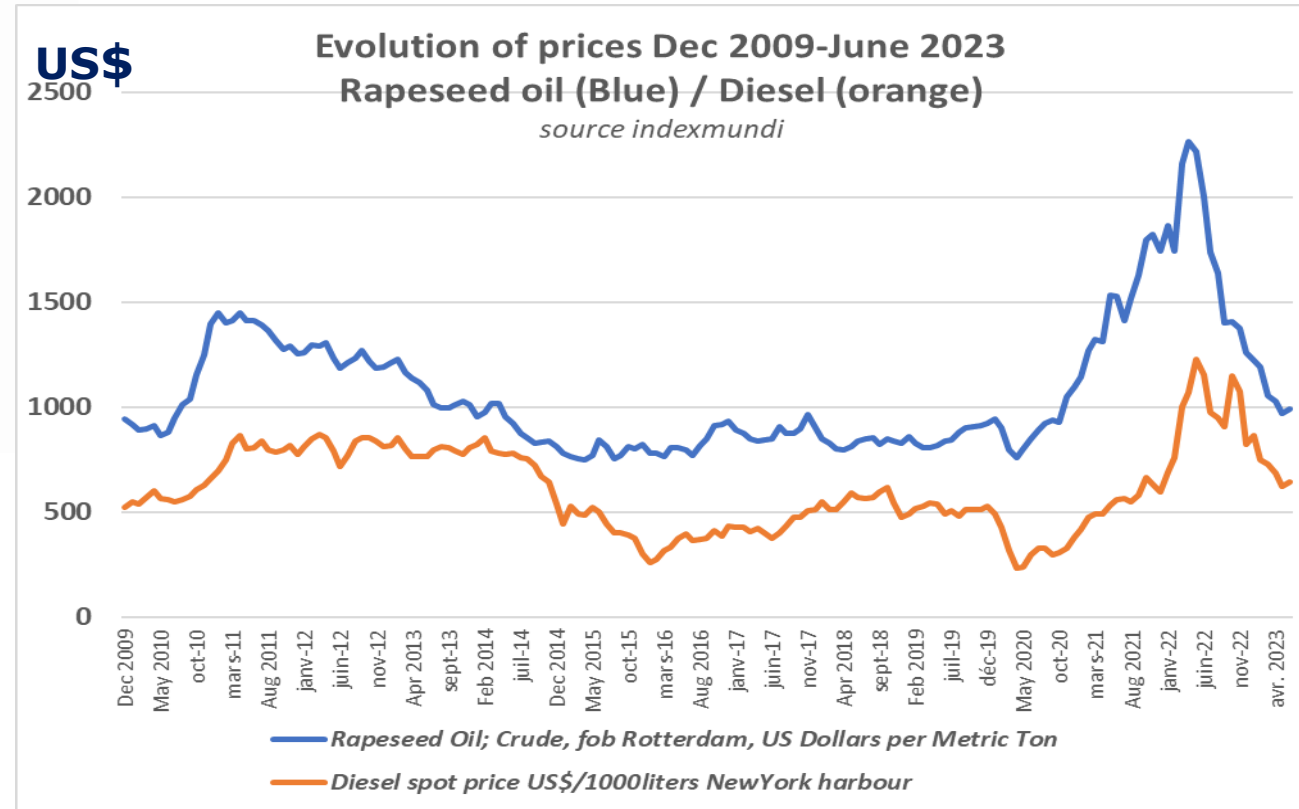


Biodiesel Use of Major Feedstock (Mn T)



Rapeseed and Biodiesel

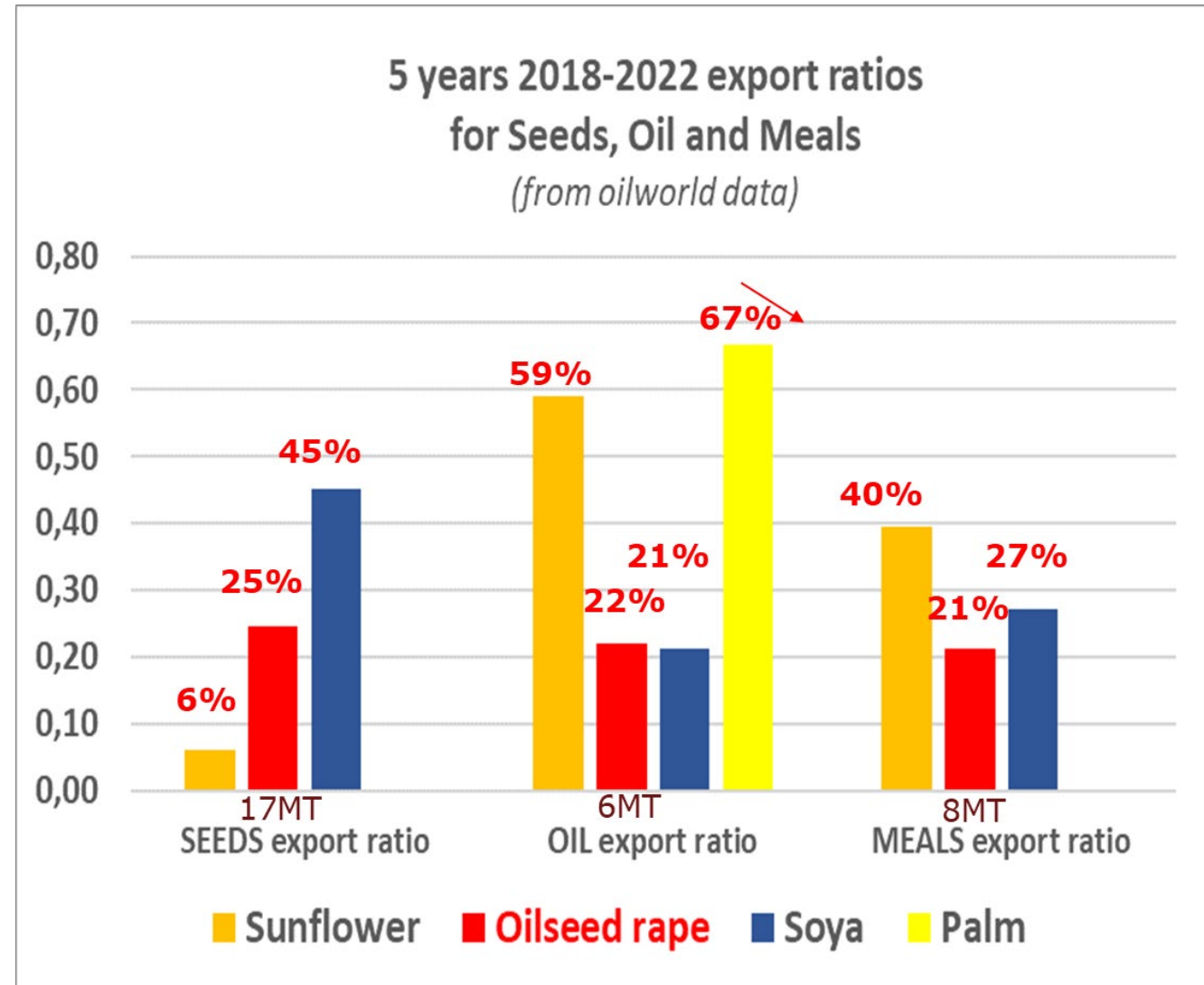
- >27% of rapeseed oil forecasted for biodiesel use in 2023 (8,1 MT / 29,5MT globally)



- Rapeseed oil is strongly involved in Biodiesel, especially in Europe and more recently USA

Trade

- ✓ Oilseed products are highly traded commodities, almost 1/3 of total production, more than most grain commodities
- ✓ Rapeseed is traded as seeds and processed products: 25% of seeds are exported out of the production countries. That may change with the development of processing plants in North America and biodiesel industry
- ✓ Rapeseed oil is used mainly in countries producing rapeseed (with exception of Mexico and Japan), some are also major importers



What perspectives on longer term? Oil.

10 years ago, wondering about an "ocean of oil" scenario?

- ✓ the rapid development of biodiesel as an alternative energy source makes the scenario more remote. It needs fine tuning regarding food/non food competition
- ✓ On the last decade, the biodiesel development absorbed the equivalent of 70% of the increase in palm oil production
- ✓ The growth of palm oil production seems to slow down with stagnating yields and declining area in Malaysia. It might not reach the expected 20 to 30 MT growth by 2030. In the same time, the food uses to meet the population needs should grow of about 2%/year, ie +20-25MT... if not constrained by high prices or local availability
- ✓ Oleochemistry? Licenses for vegetable oil-based plastics already available. Many potential uses are ready, depending on price competition with petrole and on policies and incentives/biosourcing, degradability, substitutes to petrole...

→ *Vegetable Oils will very certainly remain a high value product in the context of adaptation to climate change*



What perspectives on longer term? proteins

- ✓ A Global protein challenge to meet the needs of the population AND to limit GHG emissions : feed AND direct uses of vegetable proteins for food to limit animal products overconsumption (in developed countries)
- ✓ substitution of vegetal to animal in human food is a powerful lever to limit GHG emissions, but transitions must be managed smoothly
- ✓ opportunity for rapeseed proteins on the protein ingredients market for food industry (animal meat substitutes) but risk concerning the perception of ultra-processed food
- ✓ Non food uses also concern the protein fraction: bioplastics
- ✓ → *ongoing innovation efforts on protein fraction valorization to ensure a crop competitiveness based on the whole seed. And perhaps whole plant?*



What about research and innovation?

Past Challenges

- ✓ Oil quality and nutrition
- ✓ Meal quality for feed

- ✓ Yield potential: hybrids

- ✓ Adapting to a variety of environments: SOSR, WOSR, Rapeseed- Mustard...

- ✓ Yield gap and crop efficiency: agronomy, practices...
- ✓
- ✓ Crop protection/ diseases, pests, weeds...

- ✓ Rapeseed genome
- ✓ GMO and not GMO... Innovation

- ✓ Developing new outlets: biofuels, etc...

- **Many successes resulting in**
 - *Production x 1,8 in 40 years*
 - *Key progress in nutrition: omega 3, rôle of fatty acids for nutrition and health*
 - *Diversity of non food uses*
 - *First steps improving environmental impacts & benefits*

New challenges for next transitions

- Rapeseed proteins for food

- (More) yield with less synthetic nitrogen

- Adapting to climate change: physiology, cultivars...

- Sustainable production, « low carbon »

- Control of new/emerging pests
- Less traditional pesticides, alternatives for IPM

- Exploitation of genome knowledge and NBT?

- Biorefinery, biomaterials and green chemistry
- Competition of food and non food uses

- **Some tough challenges... care to yields**
- **Driven by climate change transitions: food challenge and low carbon economy**
- **New outlets for both food and non food**
- **Developping rapeseed in new countries**



Thanks for your attention

