



The Development of the Crop Protection and Seed Markets in Europe and Beyond

CropLife Europe

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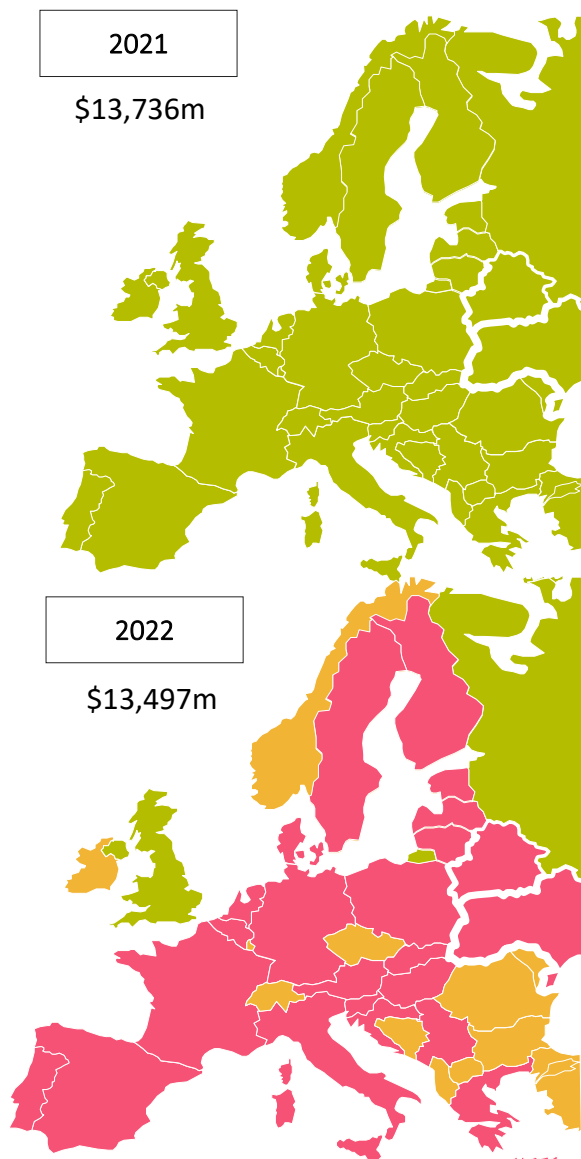
Crop Protection Market

Key Factors

- **North America:** Significant benefit from high pricing environment. Increase in soybean, cotton, canola and wheat areas, but decline for maize. Strong early demand, particularly for herbicides. Boosted by continuation of robust commodity prices.
- **Central & South America:** High agchem pricing boosts value. Robust export demand and generally favourable market environment, particularly in Brazil. Very hot and dry conditions in certain regions impacted soybean yields. Safrinha maize crop in Brazil off to good start, although high pest pressure and cold weather a concern. Drought a concern in Mexico.
- **Asia Pacific:** Positive conditions in several key markets, notably India and China. China benefiting from high prices, increased focus on higher-value crops, high pest pressure. Australia continues improvement following poor 2020, also boosted by high prices. Offset by negative outlook for Japan, with switch away from rice to F&V somewhat detrimental to market value.
- **Europe:** Drought conditions in key regions (Mediterranean, France) during Q2 holding back market development. Negative impact from Ukraine situation. Strong pricing offset somewhat by further weakening of euro. More positive situation for winter crops.

Region	2021 (\$ m.)	2022 (\$ m.)	Nominal Change (%)	2022 Constant (\$ m.)	Constant Change (%)	Currency	Volume	Price
North America	10,333	12,684	22.8	12,703	22.9		++	+++
Central & South America	18,735	22,246	18.7	21,741	16.0	+	++	+++
Asia Pacific	20,330	22,591	11.1	23,688	16.5	--	+++	++
Europe	13,736	13,497	-1.7	14,767	7.5	---	+	+
MEA	2,641	2,720	3.0	3,091	17.0	---	+	++
Total	65,775	73,910	12.4	76,161	15.8	--	++	+++

- Negative impact 'blank' Zero to very minor impact + Minor impact ++ Moderate impact +++ Major impact



Europe 2022F: **-1.7%** nominal / **+7.5%** constant dollars

- Favourable conditions early in season for most wheat growing regions in EU, but impacted by subsequent dryness in certain regions, notably France, Mediterranean.
- EU wheat area down, but total Europe area up slightly; maize area down; increases for oilseeds in EU.
- Strong recovery in oilseed rape, with favourable conditions leading to good crop development.
- New fungicides for Septoria control performing well (mefentrifluconazole, fenpicoxamid).
- Severe drought in Mediterranean region could impact crop yields in the region: Southern Portugal, southern Spain, south-eastern France, and north-western Italy are the most seriously affected areas. Potential impact to fungicides in particular, with F&V of significant importance in these areas.
- Good prospects in Ukraine following higher areas and favourable weather deflated by the conflict situation, with subsequent issues in sourcing inputs, including crop protection products, , machinery, fuel and labour expected to result in reduced yields.
- High pest pressure in key potato regions, and removal of chlorpropham leading to increased storage costs. Relative high costs of potato production expected to lead to switch to alternative crops.
- Severe drought conditions are continuing to expand and worsen across the region
- Water and heat stresses have substantially reduced summer crop yields
- Most affected crops: maize, soybeans and sunflower
- Recent rainfall (mid-August) may have eased drought conditions in some parts of Europe
- However, thunderstorms have resulted in some crop damage
- 47% of Europe is in drought warning conditions

Positive ● Static to positive ● Negative ●

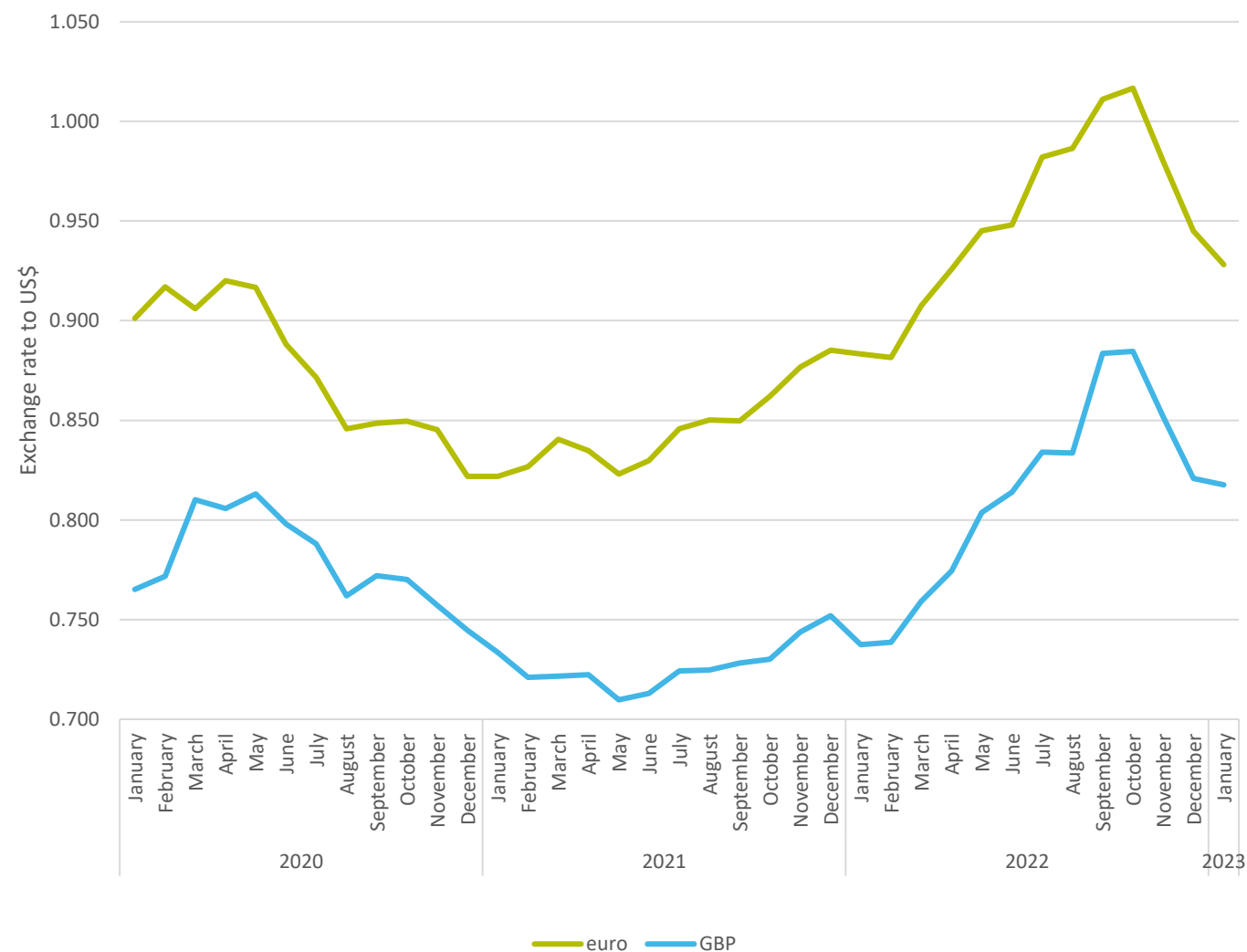
Europe Crop Protection Market 2022: Country Development*

Country	2017 (US\$m)	2021 (US\$m)	2022 (US\$m)	1 Yr Change 2022/21 (%)	1 Yr Change 2022/21 (%) Local	5 Year Change 2022/17 (% p.a.)	2026F (US\$m)	5 Year Change 2026F/21 (% p.a.)
France	2,320	2,206	2,122	-3.8	9.4	-1.8	2,132	-0.7
Russia	1,459	1,726	1,981	14.8	15.9	6.3	1,928	2.2
Germany	1,722	1,561	1,518	-2.8	10.6	-2.5	1,533	-0.4
Italy	1,132	1,310	1,228	-6.3	6.7	1.6	1,288	-0.3
Spain	1,046	1,237	1,166	-5.7	7.3	2.2	1,328	1.4
UK	727	779	817	4.9	15.1	2.4	787	0.2
Romania	499	599	594	-0.8	12.7	3.5	665	2.1
Ukraine	503	674	516	-23.4	-12.8	0.5	678	0.1
Poland	597	538	514	-4.5	11.6	-2.9	592	1.9
Netherlands	309	338	328	-3.0	10.4	1.2	364	1.5
Rest	2,563	2,768	2,713	-2.0	n.a.	1.1	2,980	1.5
Total Europe	12,877	13,736	13,497	-1.7	n.a.	0.9	14,275	0.8

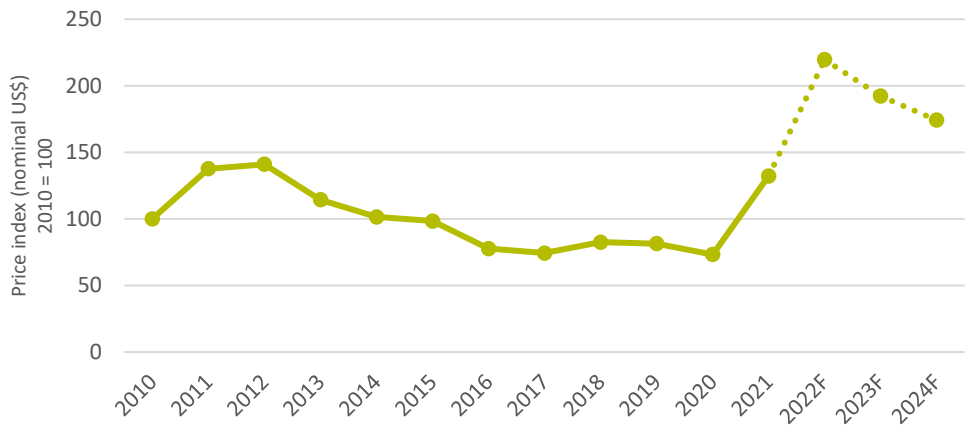
* Nominal terms

Crop Protection Market 2022: Currency Effects

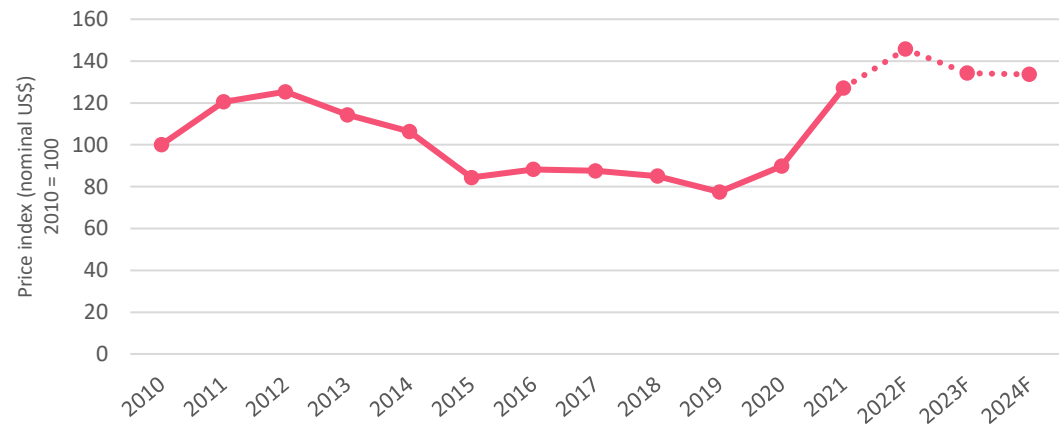
Exchange Rate (\$/Local Currency)				
Currency	2021 Exchange Rate Impact (%)	2021	2022	2022 Exchange Rate Impact (%)
Euro	3.8	0.845	0.951	-11.1
Brazil	-5.7	5.394	5.168	4.4
India	0.2	73.944	78.587	-5.9
Japan	-2.7	109.777	131.452	-16.5
China	7.0	6.449	6.73	-4.2
Australia	9.2	1.331	1.443	-7.8
Canada	7.0	1.254	1.301	-3.6



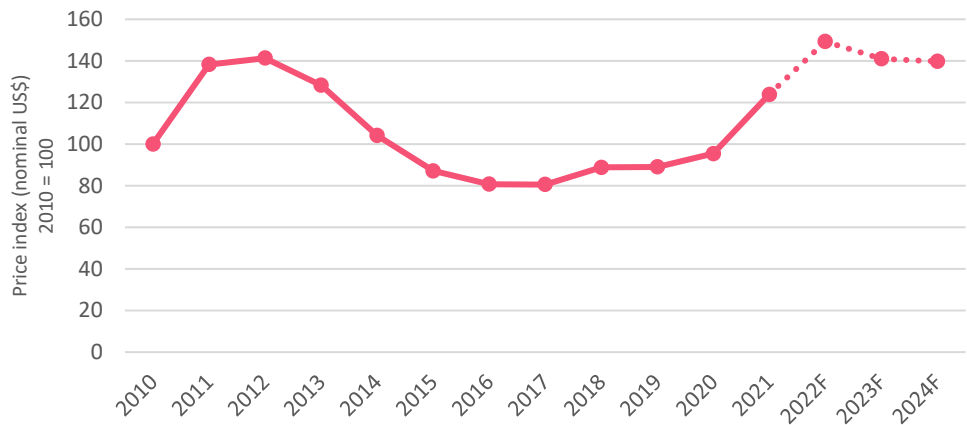
Fertilisers



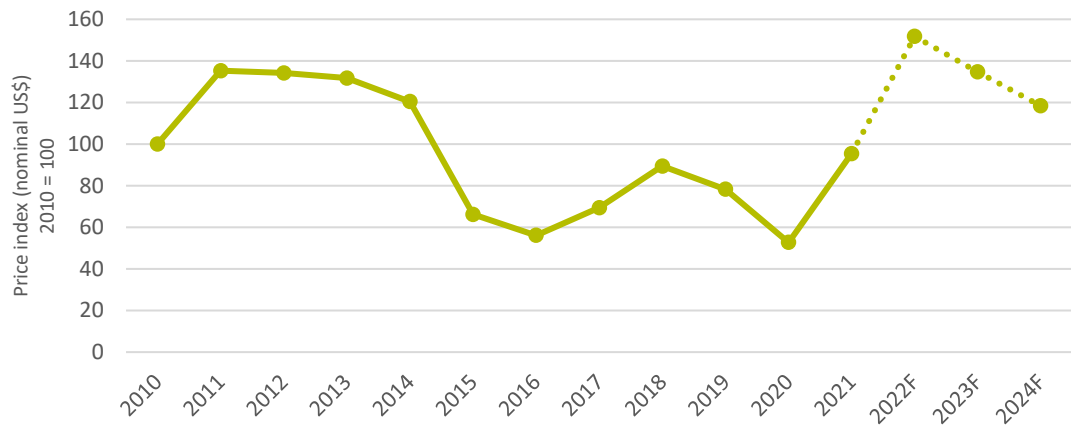
Oils and Meals



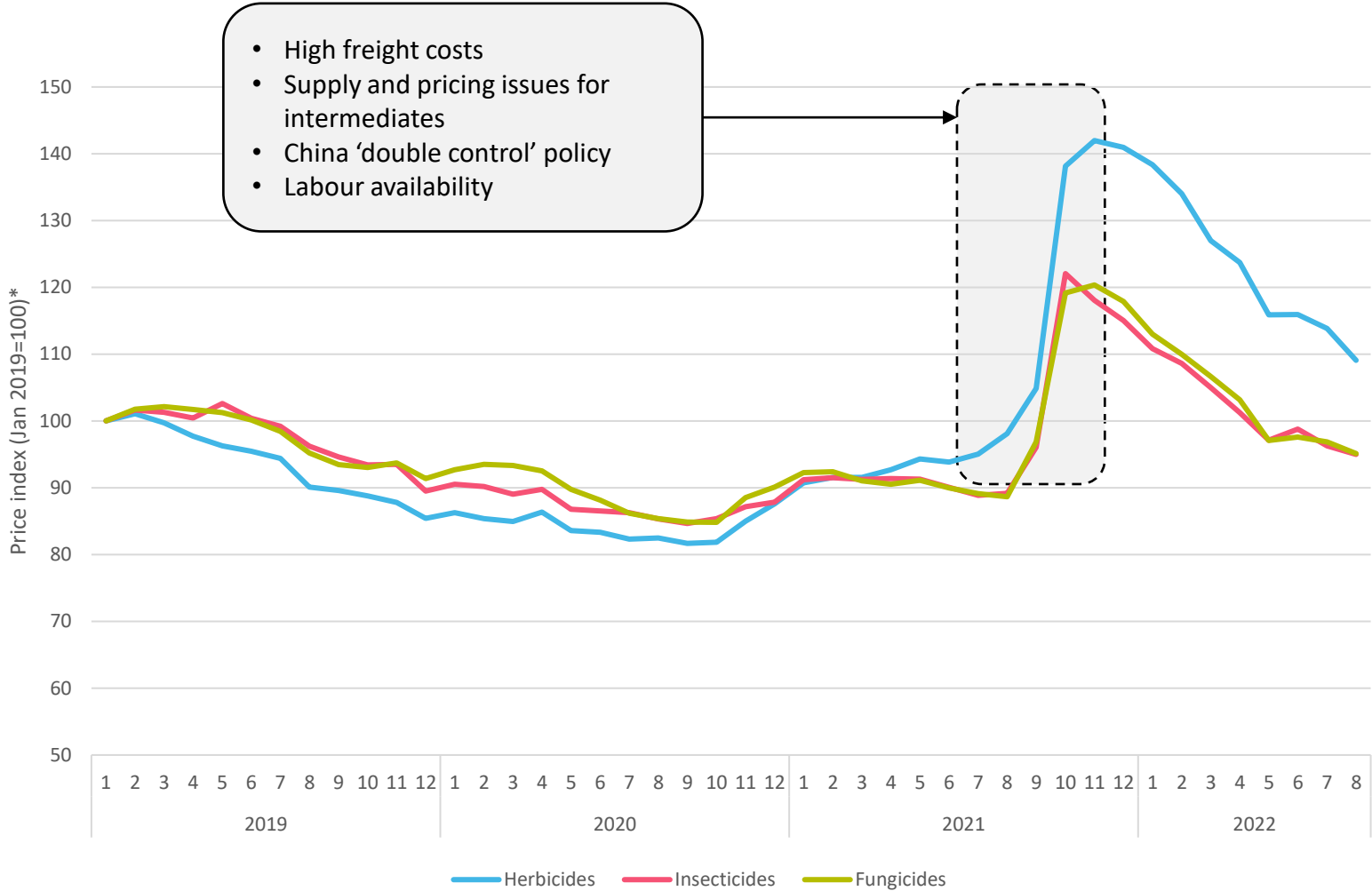
Grains



Energy



Sector	Price Change 2021 (% per month)	Price Change 2022 (% per month) Jan-Aug
Herbicides	3.7	-2.9
Insecticides	2.0	-1.9
Fungicides	2.1	-2.1



*Represents an average of ex-factory technical prices for ~100 AIs in China

EU heavily reliant on Russian gas import for energy requirements

- Germany nationalised natural gas suppliers Uniper, the country's biggest importer of Russian natural gas
- European Commission has proposed extensive emergency interventions that would redistribute ~\$140 billion in windfall taxes to businesses and households.
- Production of intermediate goods in the euro area declined by 1.5% in November compared to the prior year.

Direct impacts to CP market include:

Greenhouse-grown crops over winter: too expensive to keep temperatures at adequate levels, and to put in cold storage once harvested. Now contributing to shortage in F&V availability in Europe.

North America

- US maize and soybean areas projected up slightly
- Canada wheat area up strongly, but canola down
- Continued high commodity prices, but lower than 2022
- High on-farm inventories could limit product sales into distribution
- Inflation and high input costs to impact profitability
- Low water levels of Mississippi impacting exports
- Potential for lower glyphosate and glufosinate prices

Europe

- Favourable autumn conditions benefited winter crop sowing in north and west
- Only minor frost damage in many areas despite cold weather spells
- Winter cereal planting in southern Europe hampered by hot and dry conditions
- Ukraine to benefit from Black Sea exports returning
- Russia impacted by lower domestic production of agrochemicals, with imports affected by sanctions
- Wheat blast detected in Germany for the first time
- European grain requirements could be impacted by severe bird flu outbreak (poultry feed is a significant outlet for European grains)
- EU delays pesticide reduction plans due to concerns about impacts on food prices
- Winter crop planting is significantly behind pace in Russia

GLOBAL

- Potential for recovery from adverse weather (e.g. US, Europe)
- Lower agrochemical prices
- Commodity prices lower than 2022, but remain high by historical standards
- Fertiliser and energy costs expected to fall in 2023 from peaks in 2022, but still high

Central & South America

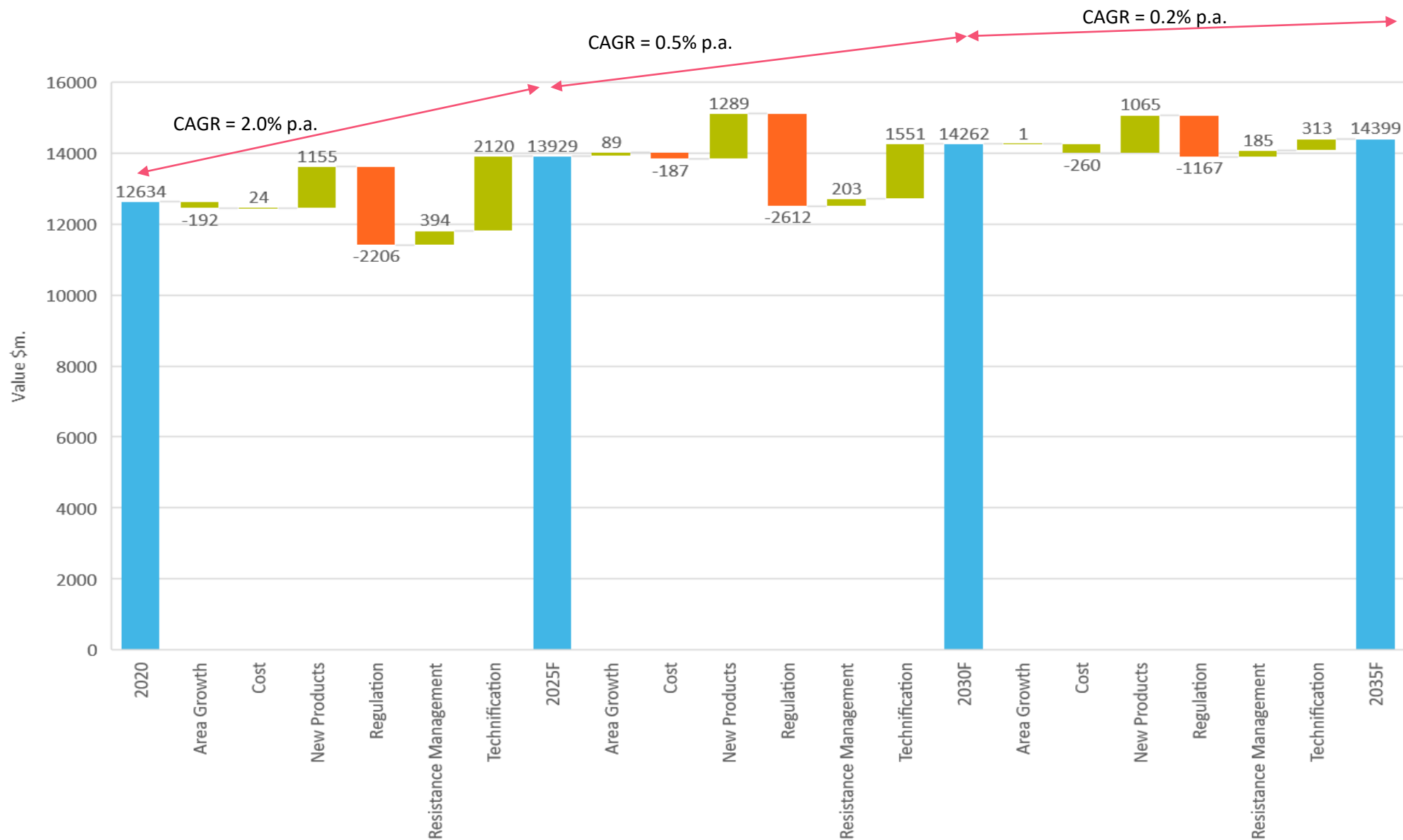
- Brazil maize and soybean areas up
- Argentina wheat area down, but barley, sunflower and soybean up
- Expectations of high pest pressure:
 - Soybean rust detected early in Brazil
 - Wet weather in Argentina wheat leading to high Fusarium pressure
 - Root leafhopper impacting sugarcane crop in Brazil
- First maize crop in Brazil held back by wet weather
- China to boost maize imports from Brazil
- Robust demand for CP usage in Brazil eroded fears of inventory build-up following sharp increase in imports in 2022
- Wet weather during soybean planting in Paraguay could lead to increased disease pressure
- Pesticide shortages in Argentina, with distributors and growers struggling to source cereal fungicides and maize and soybean herbicides.

Asia Pacific

- Australian canola areas are up by 12.8%, with production expected to reach record levels. Good cropping conditions in South and West Australia
- India approved MSP rises for certain crops to realign cultivation in favour of oilseeds, pulses and coarse cereals
- Good weather conditions in many countries, continuing recovery from recent droughts
- Strong glyphosate pricing benefits market value
- Weakness in key currencies expected to impact the market in nominal USD terms

European Crop Protection Market Forecasts

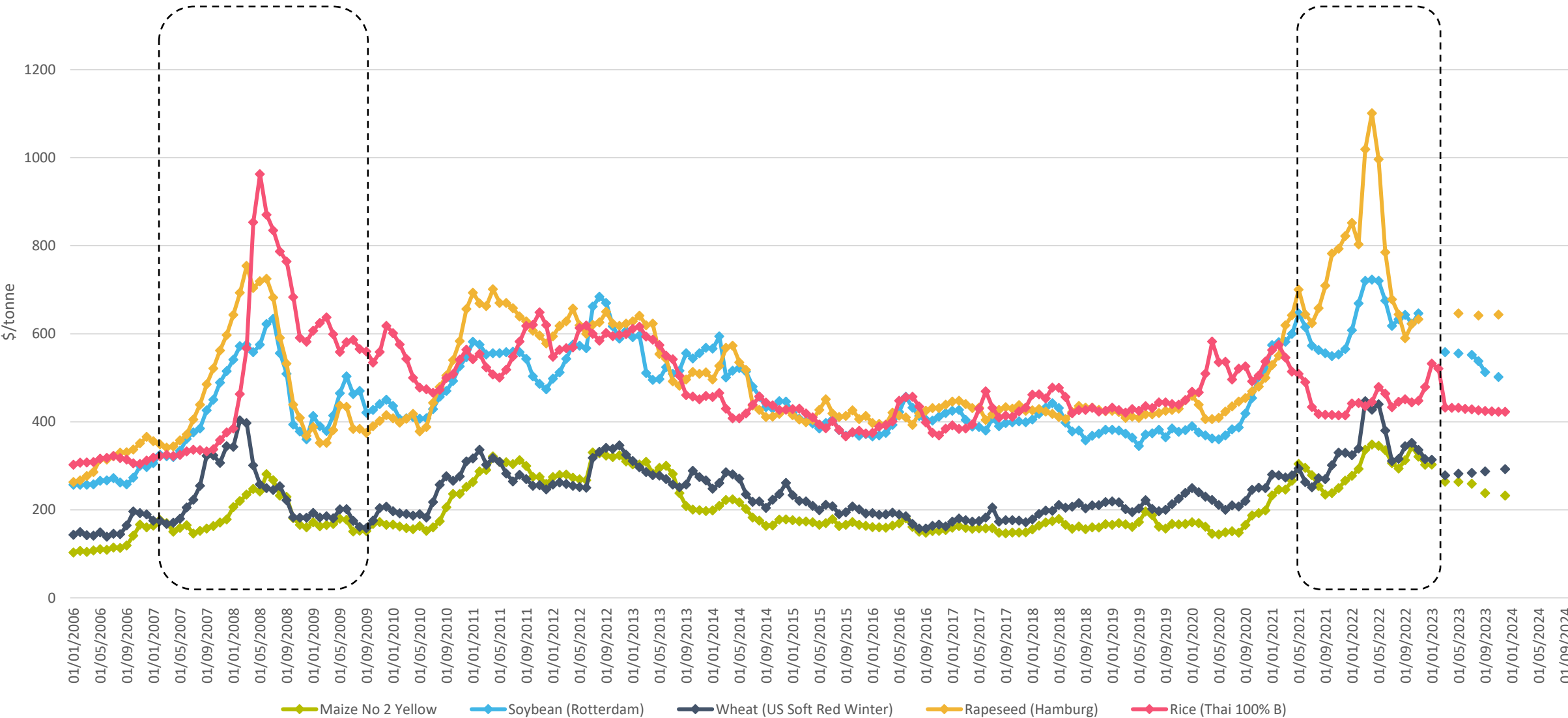
Crop Protection Market Forecast: Europe 2025-2030-2035



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Commodities





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Weather



AREAS OF CONCERN - EXTREME WEATHER EVENTS

Based on weather data from 1 July 2022 until 19 August 2022



High temperature and dry conditions

Rain surplus

AREAS OF CONCERN - SUMMER/WINTER CROPS

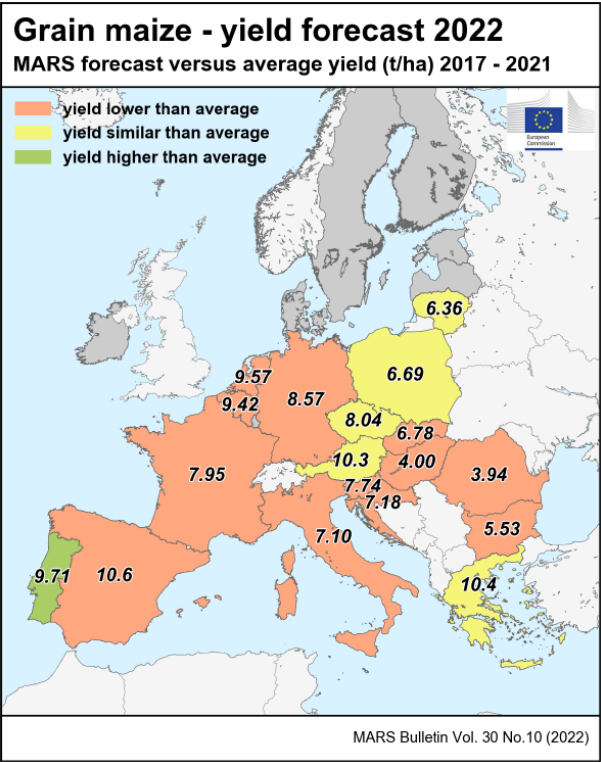


Winter and spring crops impacted

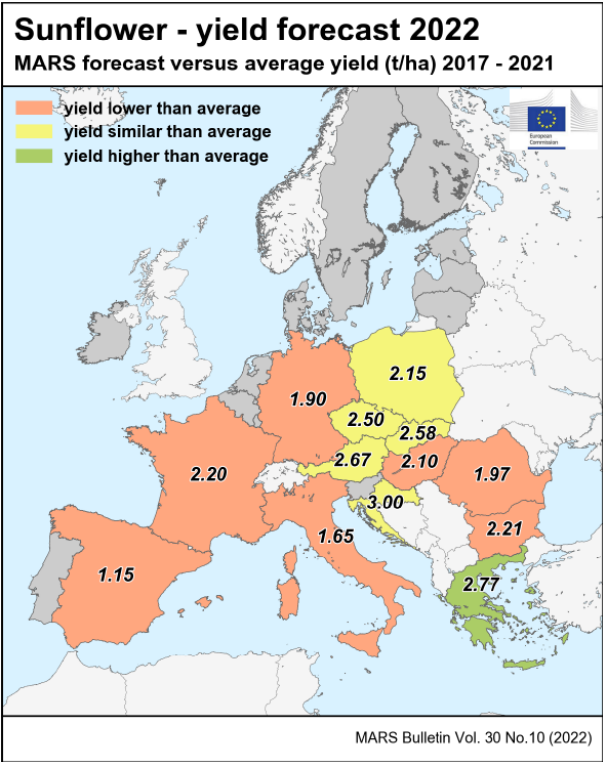
Summer crops impacted

- 2022 characterised by the return of **hot and dry** conditions over large parts of Europe
- Hottest summer (June – August) on record
- As of September, 33% of Europe was in drought warning conditions and 26% in alert conditions
- Several countries **restricted water use** for irrigation
 - In some regions very low water reservoir levels made field irrigation impossible
- Exceptional water stress and heat stress has substantially reduced the yields of the EU's summer crops
 - Most affected crops: maize, soybean and sunflower
 - Most affected regions: Spain, France, central and northern Italy, central Germany, Hungary, Romania, Slovenia and Croatia
- **High fertiliser prices** resulted in lower application rates of some fertilisers, also impacting yields
- **Italy:**
 - State of emergency declared for areas surrounding the river Po
 - River Po area accounts for more than 30% of Italy's agricultural production
 - Island of Sardinia impacted by locust swarms
- **France:**
 - Record low temperatures in April damaged fruit and wine production
 - Hail, strong winds and torrential rains damaged crops and buildings in nearly 65 departments in France in June
 - Crisis unit activated to address worst drought on record
 - Ban on irrigation for farmland, maize particularly affected

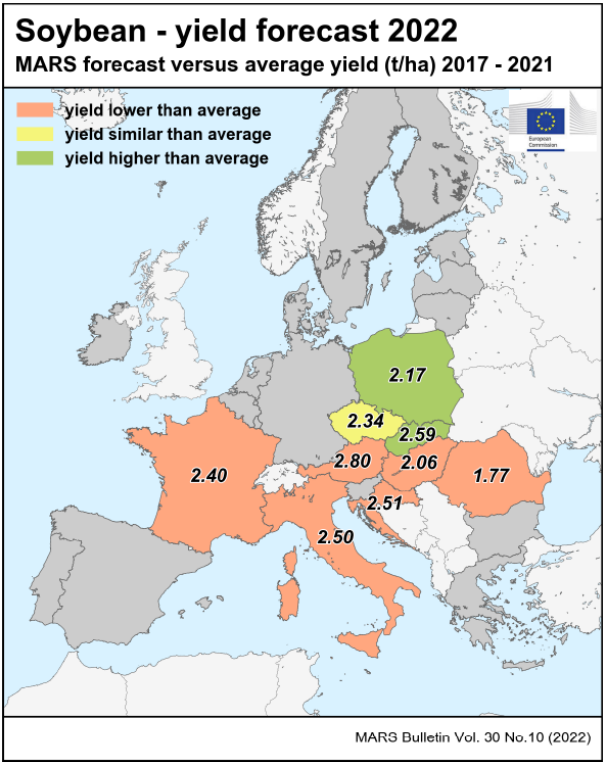
Impact on Yields
(Compared to 5 Yr Average)



-19%



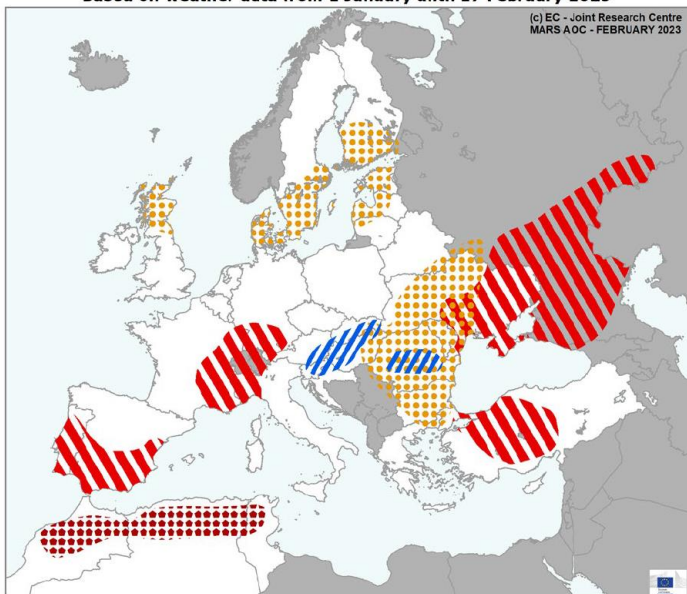
-16%



-18%

AREAS OF CONCERN - EXTREME WEATHER EVENTS

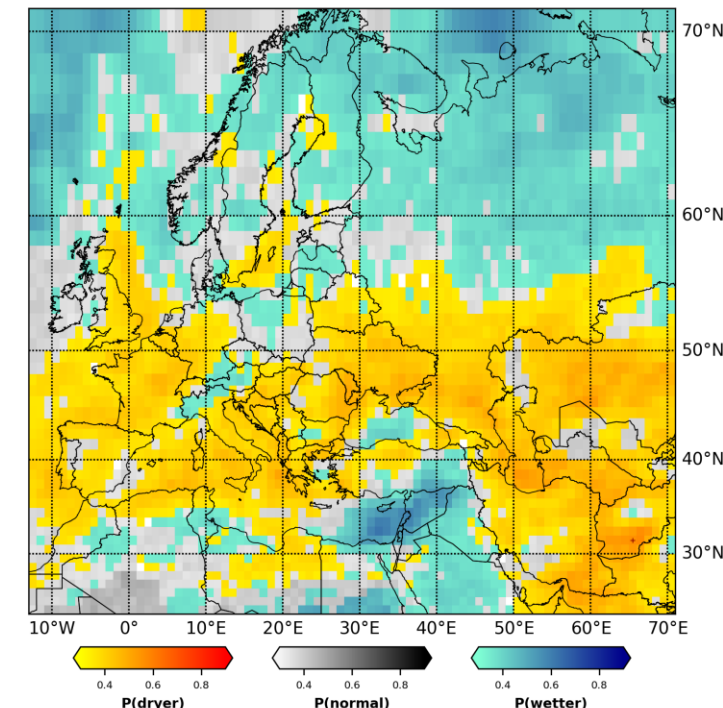
Based on weather data from 1 January until 17 February 2023



Rain deficit
 Rain surplus
 Drought
 Temperature accumulation surplus

- Exceptionally warm 2022/23 winter
- **Dry weather** remains a concern in **southern regions**, particularly in:
 - Southern and central Spain
 - Northern Italy
 - Western Turkey
 - The Maghreb region
- Continued low level of water stored in reservoirs and in snow packs
 - Water required for irrigation in spring and summer
- Winter crops in most parts remain in fair to good conditions
- Large parts of the region expected to continue experiencing drier-than-normal conditions

February – June Precipitation Outlook



Traded Seed Market Performance

Planted Areas of Key Crops 2022* (Ha m.)							
	Maize	Soybean	Cotton	Rice	Rapeseed	Sunflower	Wheat
World	202.6	135.0	32.4	164.4	40.1	27.1	220.4
1Yr (% Change)	-2.3	3.1	0.3	-1.0	6.1	-5.8	-0.8
USA	35.9	35.4	5.6	0.9	0.9	0.7	18.5
1Yr (% Change)	-5.0	0.3	23.0	-12.2	2.8	31.0	-2.1
Canada	1.5	2.1			8.7		10.3
1Yr (% Change)	4.4	-0.9			-3.9		9.4
EU27	8.8	1.2			5.9	4.8	24.0
1Yr (% Change)	-3.8	8.6			8.6	7.6	0.0
China	43.0	9.4	3.0	30.0	7.1	1.0	23.6
1Yr (% Change)	-0.7	11.3	-3.2	0.3	4.4	7.1	0.1
India	10.0	12.7	13.0	45.5	8.6	0.3	30.5
1Yr (% Change)	-1.0	1.6	7.0	-1.9	4.9	10.0	-1.9
Brazil	21.6	41.5	1.6	1.6			3.0
1Yr (% Change)	8.2	4.9	16.8	-3.6			10.6
Argentina	10.6	16.1	0.5	0.2		2.0	6.8
1Yr (% Change)	9.3	-3.0	22.0	0.0		17.6	0.0
Australia	0.053	0.027	0.6	0.0677	3.2	0.019	13.0
1Yr (% Change)	4.0	12.4	113.6	46.0	4.5	10.0	0.0
South Africa	2.6	0.9				0.7	
1Yr (% Change)	-4.8	11.9				40.4	

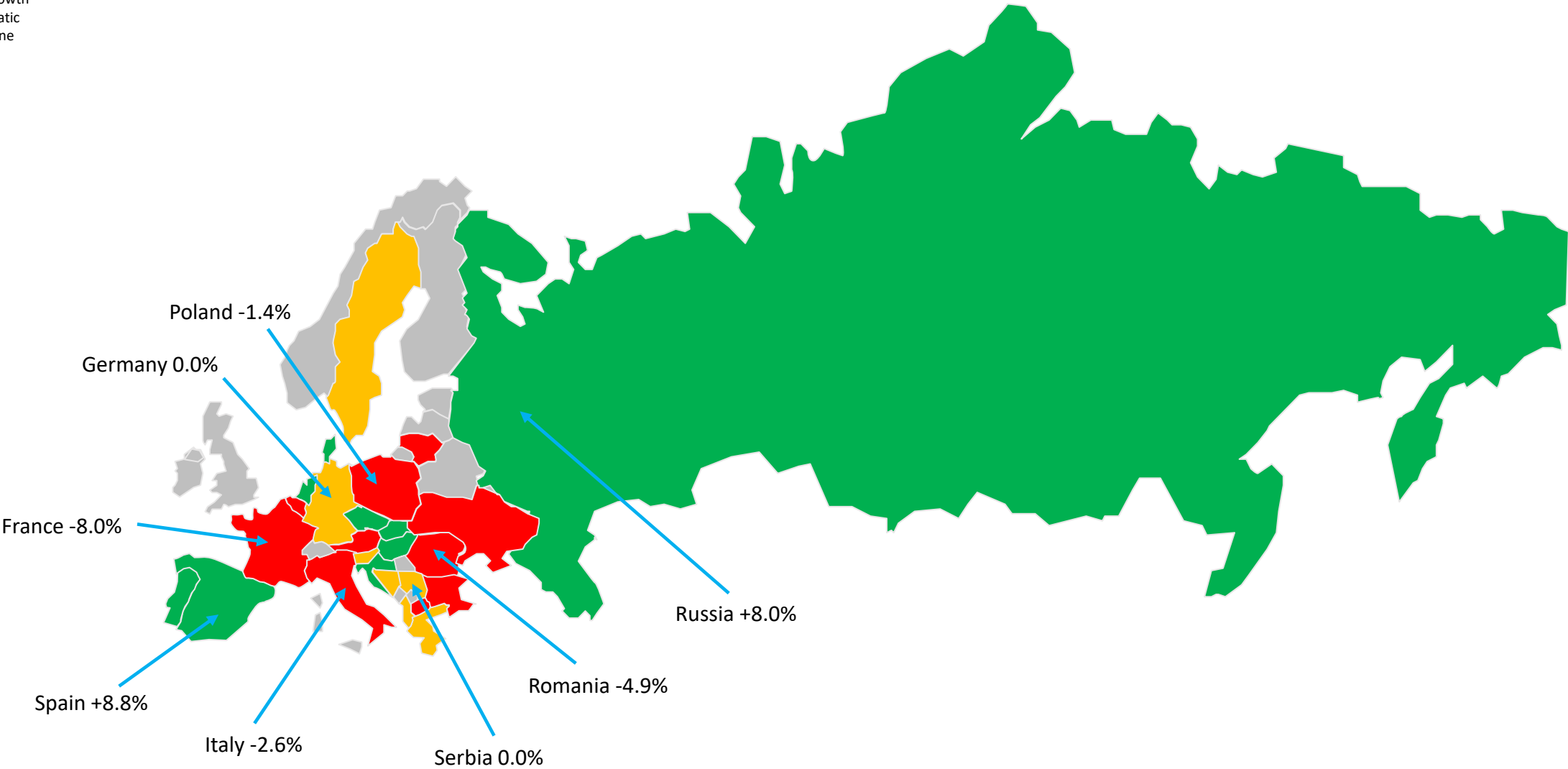
Region	2020	2021	Growth (21/20%)	2022F*	Nominal Growth (%)	Constant Growth (%)
North America	14,979	15,325	2.3	16,397	7.0	6.9
Central & South America	8,208	8,459	3.1	9,812	16.0	14.1
Asia Pacific	9200	9414	2.3	9,790	4.0	3.4
Europe	6,474	6,723	3.8	6,729	0.1	5.2
MEA	2,012	2,078	3.3	2,140	3.0	2.8
WORLD	40,874	41,998	2.7	44,869	6.8	7.1

- **North America:** Fall in maize areas, however, any lost value will likely be replaced by higher seed prices brought on by high crop prices. Larger soyabean area and greater proportion planted with higher priced Xtend and Enlist products. Large increase in US cotton areas following two years of decline. A decline in Canadian canola area as growers move into maize and wheat. Strong company performance across all major crops except canola. Positive impact of currency.
- **Central & South America:** Greater soybean area in Brazil and launch of new technology (Intacta 2 Xtend and Conkesta E3) while areas in Argentina have declined. Maize areas for both countries increased over the previous year. Brazil cotton increasing in area following a decline in the previous year. Strong company performance across all major crops. Positive impact of currency.
- **Asia Pacific:** Smaller maize and areas in China and India, although company performance looks positive due to higher seed price and positive China exchange rates. Greater cotton areas in India, but lower in China and Pakistan. Company performance indicates a fall in vegetable and soybean market values but a rise in rice. Positive impact of currency in China but negative in India, Australia and Japan.
- **Europe:** Despite a fall in maize area and the negative impact of exchange rates, higher seed prices have resulted in a likely increase in market value. Greater rapeseed areas across the region leading to strong company sales and likely market value improvement. Total wheat area remained flat, but growth in Russia is offset by lower areas in Ukraine. Cereals market value likely to decline through the impact of exchange rate. Vegetable company sales lower, potentially indicating a fall in regional market values.

Planted Areas of Key Crops 2023* (Ha m.)							
	Maize	Soybean	Cotton	Rice	Rapeseed	Sunflower	Wheat
USA	36.6	36.0	4.6				19.8
1Yr (% Change)	2.2	1.7	-17.6				6.8
Canada	1.5	2.1			8.7		10.3
1Yr (% Change)	-1.2	6.8			1.6		1.8
EU33 + UK	10.1	1.2			6.2	5.1	27.5
1Yr (% Change)	-2.7	-1.5			1.5	-5.2	1.3
Brazil	22.0	43.3	1.7	1.5			3.1
1Yr (% Change)	2.1	4.4	4.6	-8.5			0.0
Argentina	10.4	16.3	0.5			2.2	5.9
1Yr (% Change)	-1.9	1.2	-4.0			10.0	-12.6
Australia					3.315	0.000	13.039
1Yr (% Change)					10.6		-0.3
South Africa	2.6	0.9				0.7	
1Yr (% Change)	-3.0	18.8				-15.2	

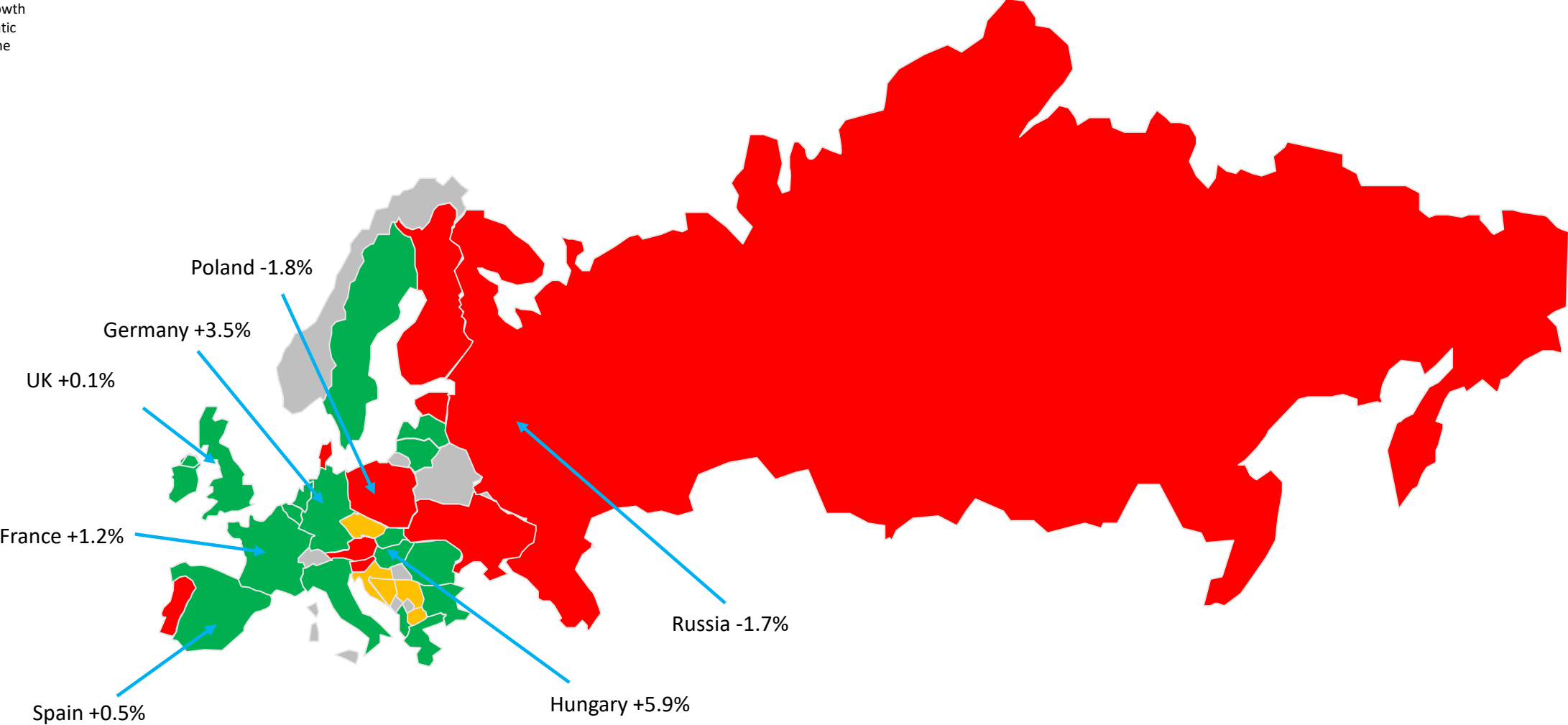
European Crop Areas 2023F - Maize

Green = Growth
Yellow = Static
Red = Decline



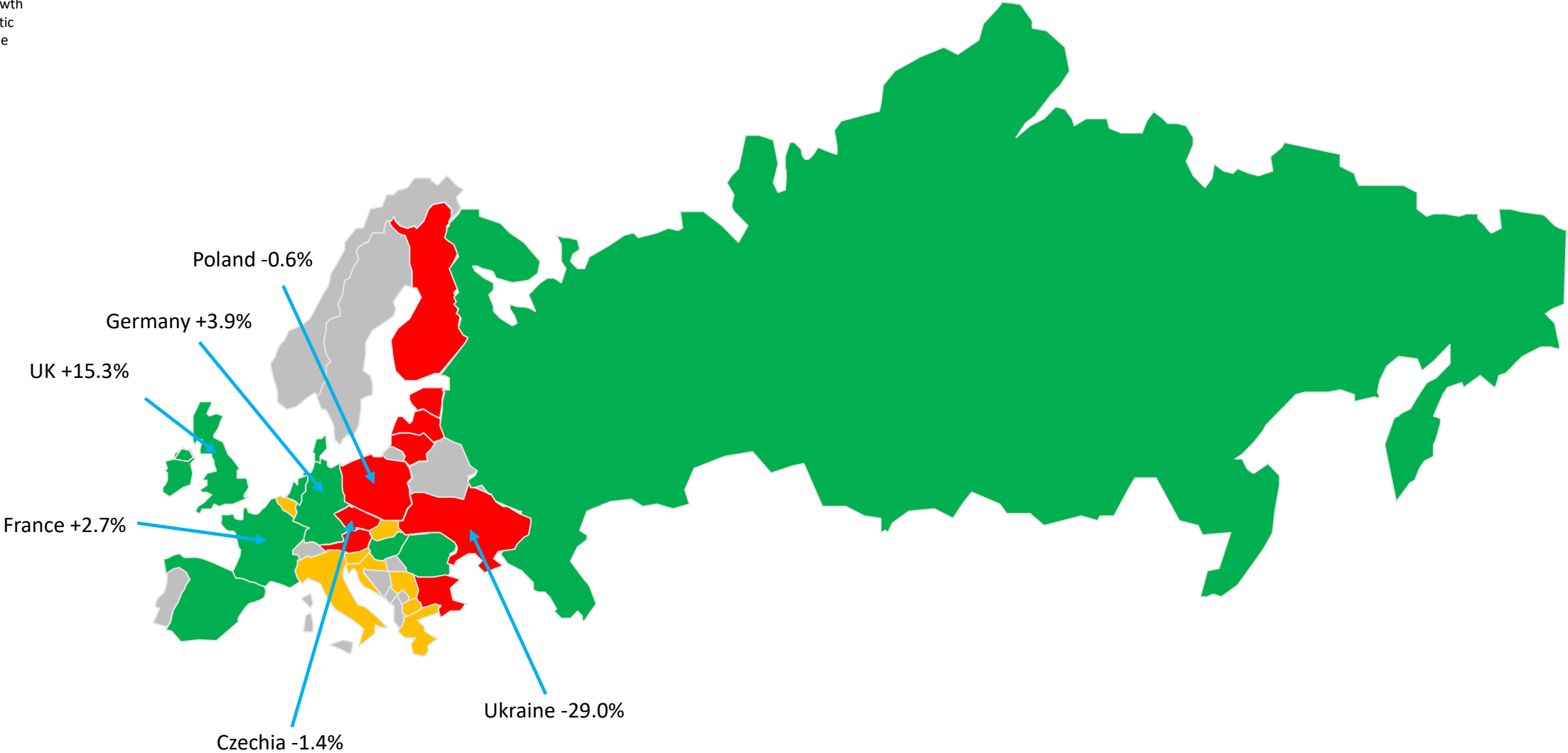
European Crop Areas 2023F – Soft Wheat

Green = Growth
Yellow = Static
Red = Decline



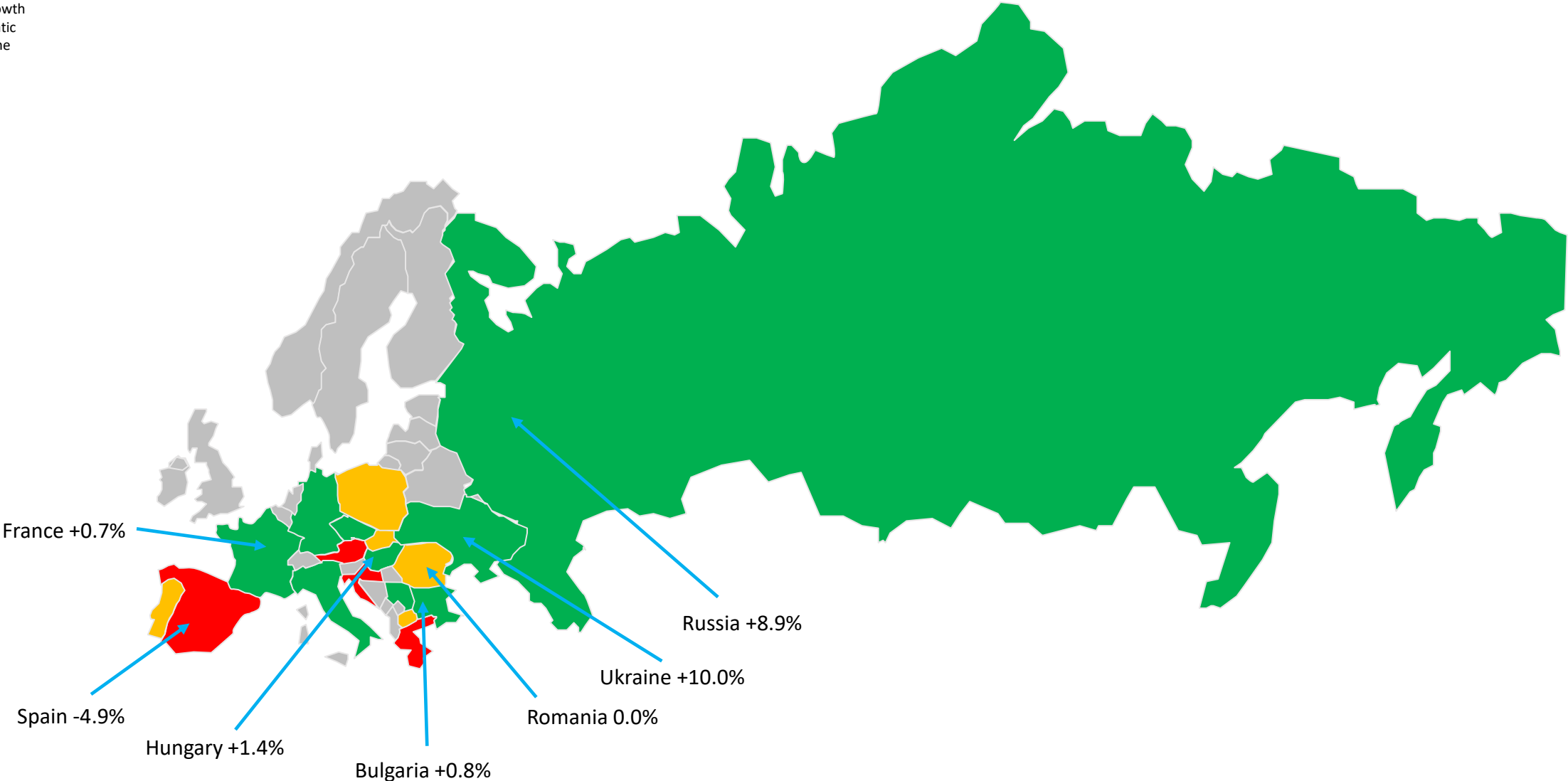
European Crop Areas 2023F – Rapeseed

Green = Growth
Yellow = Static
Red = Decline



European Crop Areas 2023F – Sunflower

Green = Growth
Yellow = Static
Red = Decline



- Weather – Heat and dryness potentially impacting crop production and influencing grower planting decisions
- Commodity prices – Falling from recent highs but still higher than historical values
- Grain Production – Global Shortfall in grain and oilseeds, three out of the last five years the world has consumed more wheat and maize than it has produced, increasing demand for key European grain crops
- Black Sea Situation – Greater export volume opportunity for European produced grains and oilseeds, driving crop area and production
- Exchange Rates into USD – Negative currency impact, -11.6% in the first 8-months of the agricultural year

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Thank you!



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