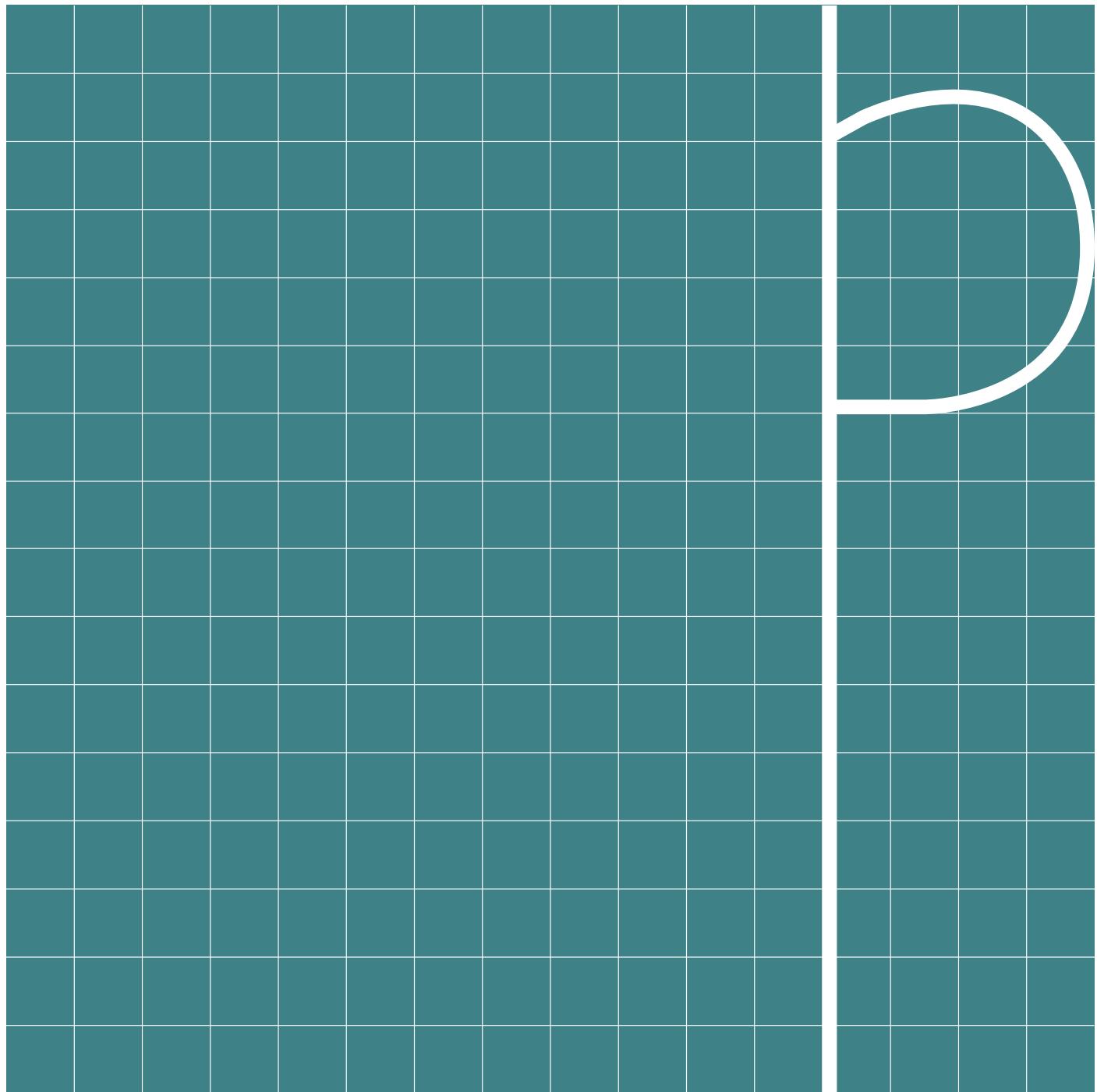
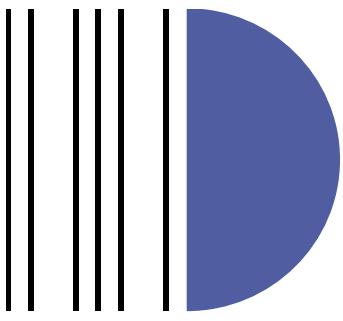


## PAPER: Green Bill

The risk of a solitary dash by the Eu to ecological transition in agriculture





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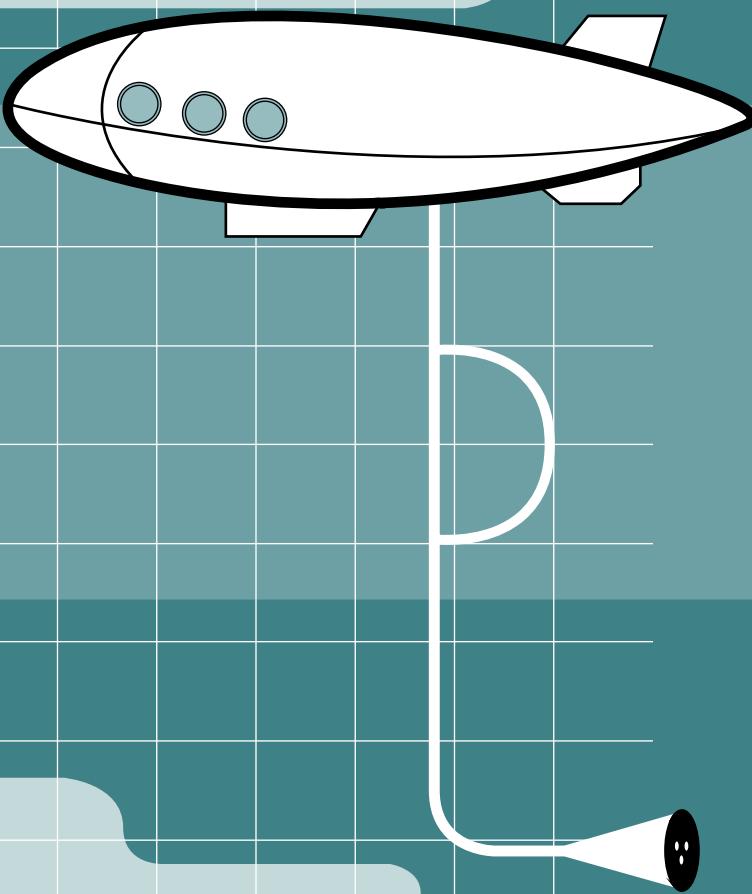
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Is this Green Deal idea shared by the rest of the world? What commitments have other countries made?



Europe's effort has so far been a single-handed affair. The risk is that the other countries do not follow it.

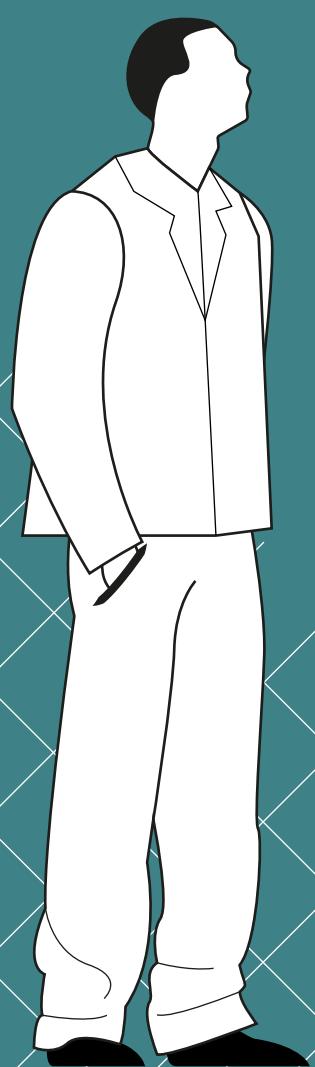
Unless trade agreements provide a reciprocity clause, the impacts could be extremely significant.

I shall give you some numbers so it can be better understood.

## Abstract

- The Paper seeks to countries - through a selection of facts, numbers and analyses – to the debate on the impacts of the Green Deal, the strategy with which the European Union (EU) intends to lead the global ecological transition. This ambition translates into the aim of becoming, by 2050, the first climatically-neutral area of the world.
- A series of these commitments puts agriculture at the centre and is organised within the strategy "From Farm to Fork", which requires European farmers to be the driving force of this first phase of the ecological transition, contributing to a drastic use of chemicals in agriculture and antimicrobials in livestock by 2030.
- This work points out that the commitments made by the EU and its community of farmers come within an already highly imbalanced scenario, compared to the environmental contributions offered by the various agricultural industries of the globe, highlighting the risk that increasingly integrated markets will be matched with a widening gap between environmental and health standards. The damage could be manifest in the "relocation" of the environmental impacts which would be driven by the inevitable reallocation of production in favour of the areas that demand fewer commitments with regard to the climate and the environment.
- The commitments laid down by the Green Deal are translated into greater direct and indirect costs for the farmer and a predictable contraction of the European provision. In a scenario of growing global food demand, this will force the offer to be reorganised around a new system of constraints and opportunities. The real risk is that of making Europe the garden of the world and concentrating pollution in areas of the globe with weaker regulatory and control systems, which often coincide with those in conditions of lesser development.

C



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# 1



# 1. Aim of the work

This work aims to put forward reflection on possible impacts associated with the commitments set by the Green Deal (1) for the agricultural sector. The latter are identified in the strategy "From Farm to Fork" (2) and are intended to rapidly change the face of European agriculture. Perhaps too rapidly. The concern is that, when the market, as it is today, is not in a condition to recognise the standards and select the performances, less virtuous behaviours will triumph. Without trade rules that oblige the EU's trading partners to take steps in the same direction, the effort of European agriculture against climate change would be in vain, if not actually counterproductive. Further widening the gap between sustainability standards would force agricultural production to be reorganised outside Europe and, in particular, in those parts of the globe with weaker regulatory and control systems. Pollution would also be concentrated there. The restructuring of agricultural provision, accompanied by a geographical relocation of pollution, would make Europe even more dependent on imports. The paradoxical result that could occur would be the

contraction of the European agricultural production and the simultaneous increase of agriculture's global economic footprint. To all this, the European consumer would make a decisive contribution through the increase of food imports that are less sustainable than what is produced within the EU. And also taking on some extra risk for health, given the substantial differences in the management of consumer safety. The possibility today of finding much higher residues that are prohibited or beyond the limits in products from countries outside the EU compared to those inside the EU, as certified by the European Food Safety Agency (EFSA) (3) in its annual monitoring reports, is much greater. The substantial risk is therefore that of making Europe the garden of the world and concentrating pollution in parts of the world with weaker regulatory and control systems and then finding it on the plate. In this work, we assemble a series of numbers and facts that make clear the terms of imbalance between the environmental performance of European agriculture and the other main players in the global agri-food system and we round off the paper with the conclusions that emerged from three authoritative analyses of the impact of the agricultural Green Deal.

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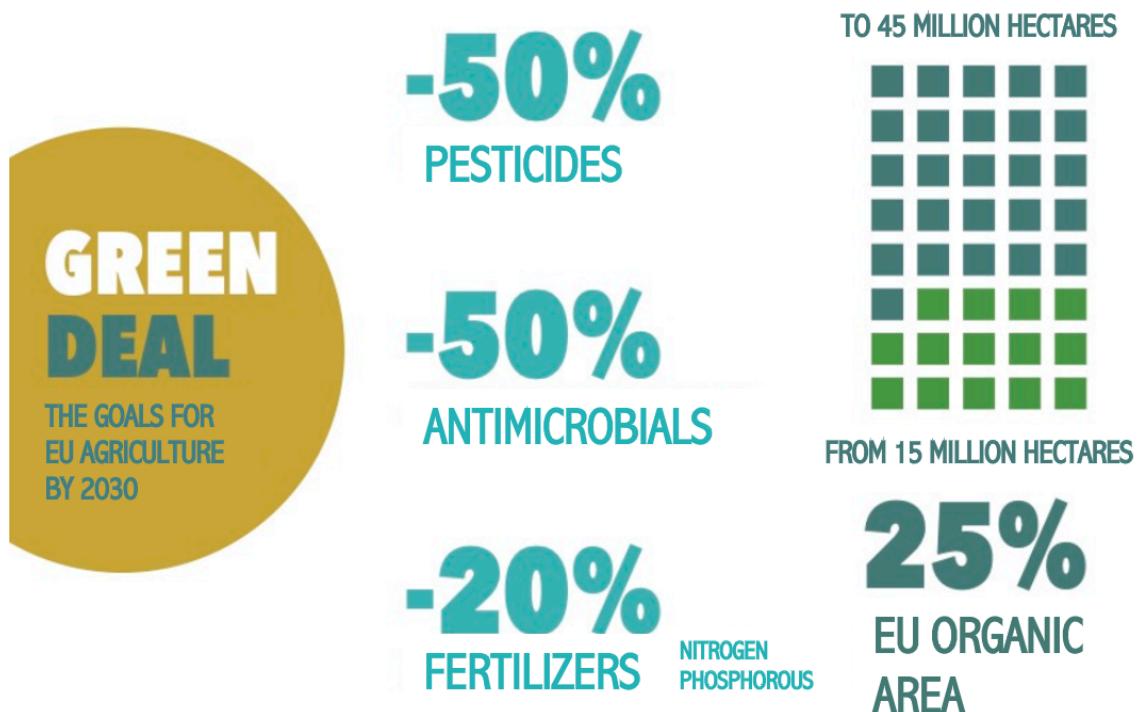


## 2. The commitments of European agriculture in the Green Deal

The ecological transition of European agriculture has been underway for some time and has taken increasingly rapid steps. Europe, in fact, has been engaged in the passage from a paradigm of productivity intervention to a multifunctional one since the end of the nineteen eighties and today more than 70% of the direct public support to farmers goes to reward improved environmental practices. In addition to this, there is the gradual increase in standards on environmental and health matters for which Europe excels at the international level. A combination of incentives, limits and prohibitions that, over time, have evolved, leaving behind most of our trading partners. The EU

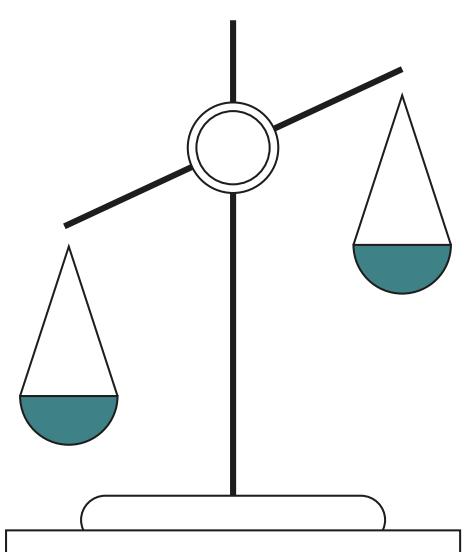
Commission has presented the European Green Deal, a road map aimed at reducing to zero the balance of European emissions by 2050, with the intermediate objective, set for 2030, of reducing emissions by 55% compared to 1990. The process involves all sectors of the economy but a role of absolute responsibility is assigned to agriculture and agri-food systems. With "From Farm to Fork", the first of the elements with which Europe gives form to its idea of ecological transition, reductions are laid down of 50% in the use of chemical pesticides, in particular those considered most dangerous, 20% of the phosphorous- and nitrogen-based fertilizers and 50% of the antibiotics in livestock. On the other hand, the quota of agriculture conducted with organic methods is rising and should pass from the current 8.5% to 25% of the total EU agricultural area. All this, in the proposals of the European Commission, must be achieved in the coming eight years.

Fig.2.1 - The goals for EU agriculture by 2030



Source: Divulga Study Centre

# 3



### 3. Geographical areas and indicators selected for comparison

In order to represent the sustainability gap that currently separates Europe from the rest of the world, we have selected three geographical macro-areas on which our imports mostly depend.

In this way, we compared the European situation (a) with those of North America (b) (11%), South America (c) (25%) and east Asia (d) (3%), which together make up around 40% of European imports. We then selected the most representative country by amount of European imports in each of the three macro-areas selected. So Brazil, the United States and China were added to the comparison. They lie respectively at first, second and fifth places in the European ranking of agricultural imports and, together, they represent around 25% of EU imports.

Brazil covers 11% of European imports with 9 billion euros. More than 7,9 million tonnes of oilseed arrive in Europe from this country, together with around 4,1 million tonnes of cereals. The imports of coffee (930 thousand tonnes), meat (200 thousand tonnes) and citrus fruit (90 thousand tonnes) are also significant. The United States, with 6 billion euros, equal to 8% of European agricultural imports, is the third most important supplier of agricultural products. In particular, around 5 million tonnes of oilseed arrived from the USA in 2020 along with more than 1 million tonnes of cereals. European supplies from China, which amount to 3% of European imports, mainly involve fish and shellfish.

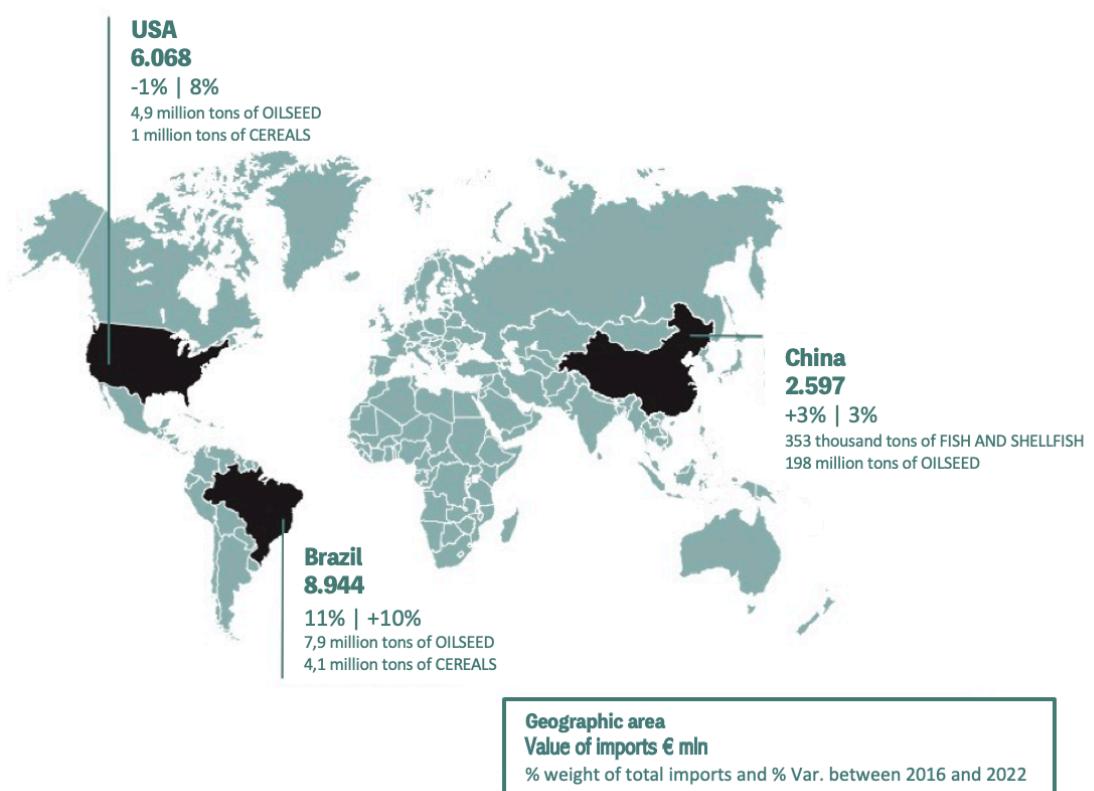
Next comes oilseed, with 200 thousand tonnes, and citrus fruit, with 130 thousand tonnes. As regards the indicators used, we wanted to identify one for each commitment laid down by "From Farm to Fork", but this was not possible for the use of antimicrobials in livestock due to problems with the availability and the quality of the data. On the other hand, it was possible to proceed with fertilizers (both nitrogen- and phosphorous-based), organic agriculture and the use of pesticides. The indicators used for the comparison were therefore the following:

- Intensity of the use of nitrogen-based fertilizers (kg/ha)
- Intensity of the use of phosphorous-based fertilizers (kg/ha)
- Incidence of organic practices (organic area/total agricultural area)
- Intensity of the use of pesticides (kg/ha).

In order to complete the picture of the information regarding the environmental performances of agriculture, we have added certain data regarding the sector's emissions in the geographical areas identified.

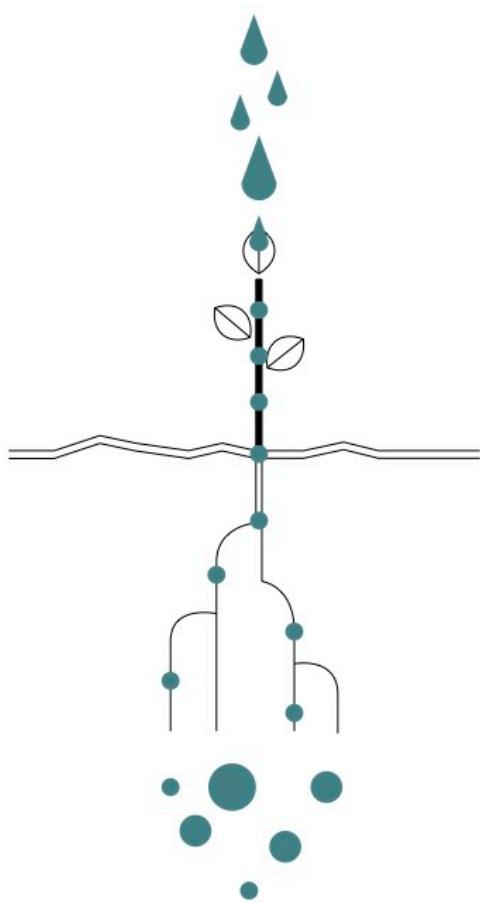
Fig.3.1 - Imports by Country

## IMPORTS BY COUNTRY



**Source:** Divulga Study Centre based on Eurostat data

# 4.



## 4. Fertilizers

The two nutrients considered by "From Farm to Fork" are nitrogen and phosphorous, for which a reduction in use of at least 20% is envisaged. The situation of nitrogen-based fertilizers saw a very different intensity of use, with the European area recording the lowest consumption per hectare in 2019 of around 51 Kg (fig.4.1).

The worst data in the macro-areas came from East Asia (192 Kg/ha), within which China exceeds 198 Kg/ha, a value almost 4 times that of Europe. The other two macro-areas of the United States and Brazil used between 60 and 75 Kg/ha with an intensity of use of nitrogenous

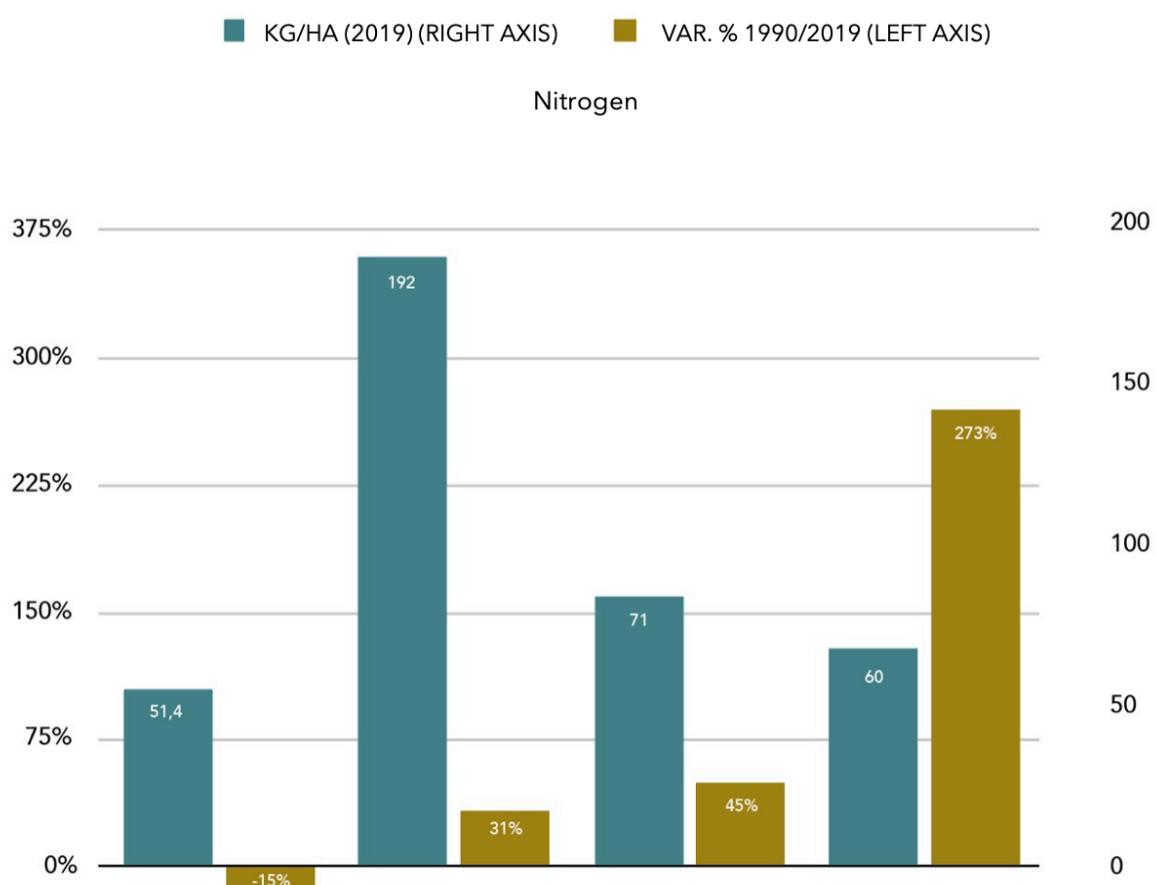
fertilizers, respectively, of 72 Kg/ha and 77 Kg/ha.

Moreover, the dynamics of the last thirty years are not encouraging.

The data on the variations of use tell us that Europe is the only area of the globe that has reduced the use of nitrogen-based fertilizers, recording a fall of -15% between 1990 and 2019.

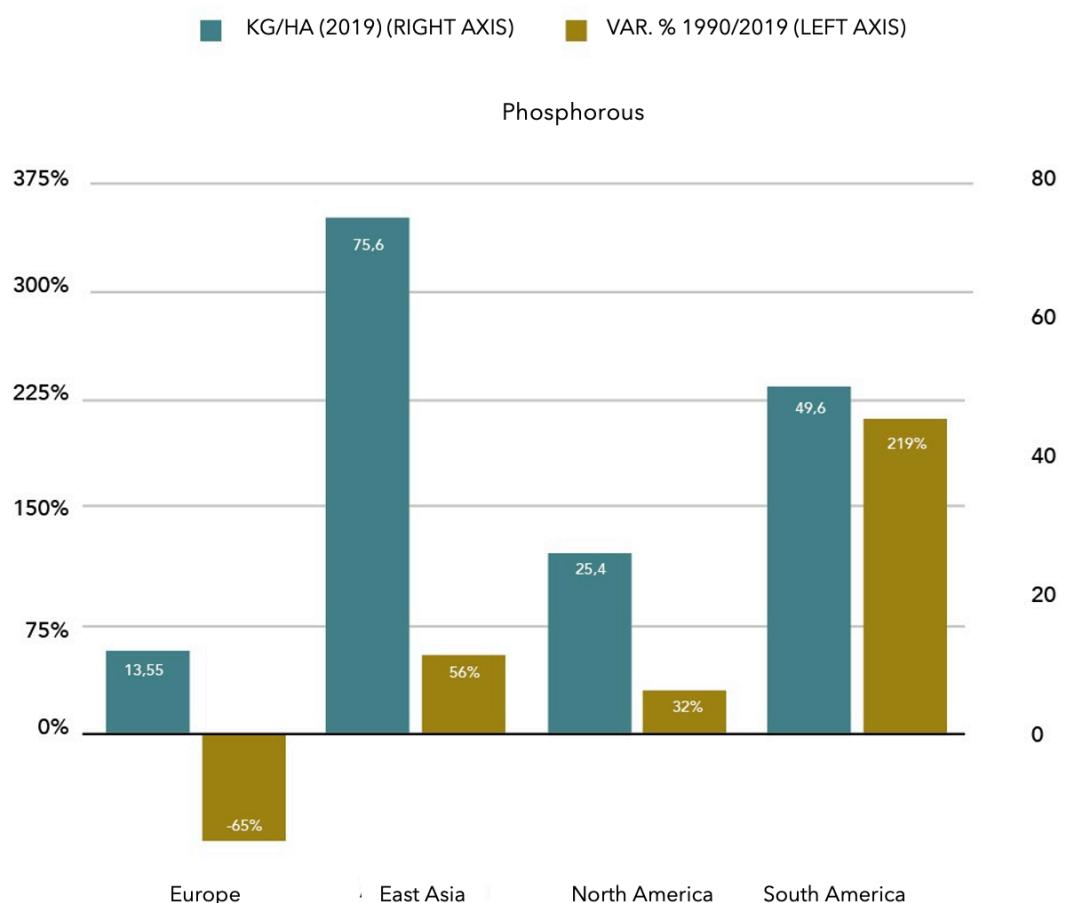
In contrast, the other areas of the planet recorded very significant increases, in particular South America, where the jump was + 273% and Brazil, where the increase was as much as + 450%. The increases in areas belonging to North America and East Asia were, although more contained, equally significant (+ 45% and + 31% respectively).

Fig.4.1 - Intensity of use of nitrogen-based fertilizers per area, 2019



**Source:** Divulga Study Centre based on Faostat data

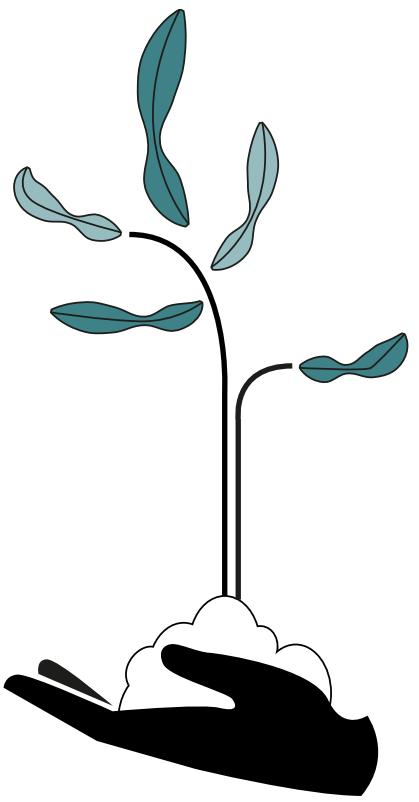
Fig.4.2 - Intensity of use of phosphorous-based fertilizers per macro-area, 2019



**Source:** Divulga Study Centre based on Faostat data

The latter reduced the use of phosphorous-based fertilizers in the period considered by as much as 65%. In the same period, the increase in South America was 219% (Brazil + 260%), in East Asia it was 54% (China + 7153%) and in North America it was 32% (United States + 20%).

The situation with phosphorous-based fertilizer is not much different, with the European area leading the sustainability ranking with around 13,5 Kg/ha and the Asian area bringing up the rear with 75,6 Kg/ha (5,5 times European consumption). South America and North America follow, with 49,6 and 25,4 Kg/ha respectively. As regards individual countries, China and Brazil stand at around 77 Kg/ha, while the use of phosphorous-based fertilizer in the United States is around 25 Kg/ha. Regarding the 1990-2019 variations, again in this case the increase of all the areas considered for comparison is matched by the decrease in the use of phosphorous-based fertilizers in European agriculture.



5.

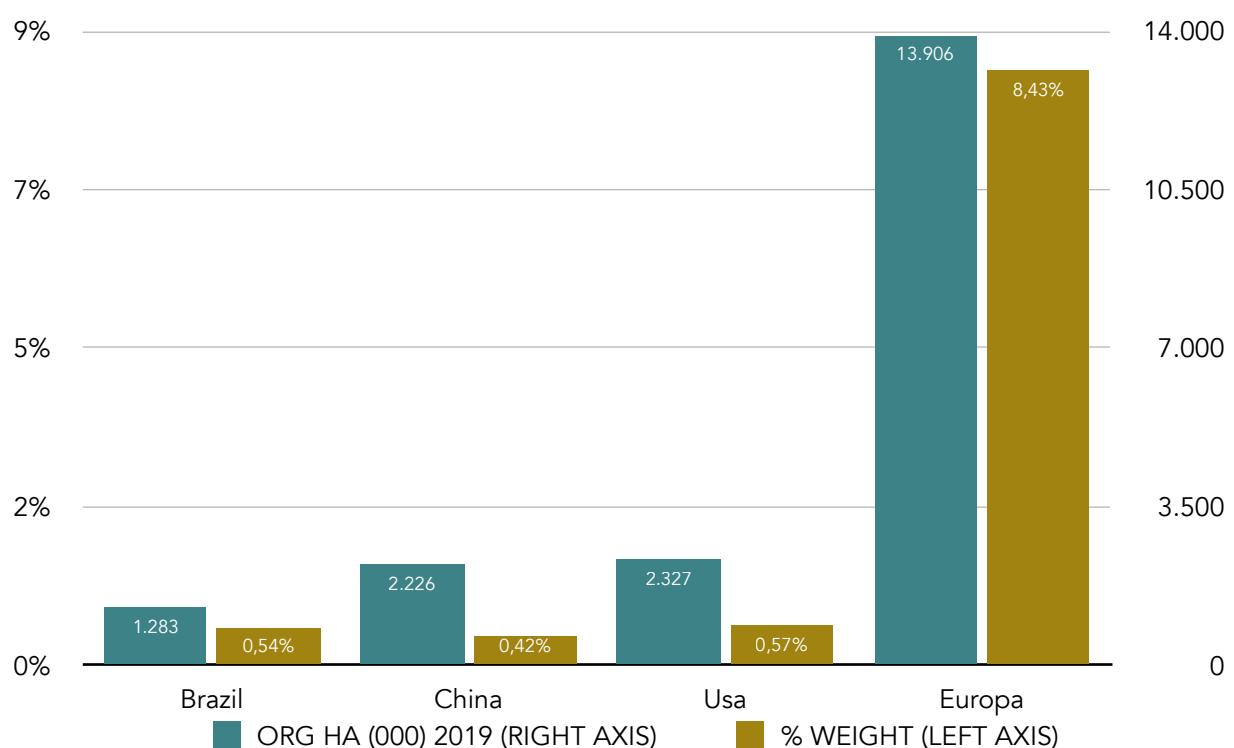
## 5. Organic agriculture

Among the goals of "From Dark to Fork", there is also that of promoting organic practices so that they involve at least 25% of the EU's agricultural area. Organic agriculture is practised in 187 countries in the world on an area of around 72 million hectares. The difficulties of comparison linked to the use of certifications suggest limiting the comparison only to countries and not the geographic macro-areas. Again in this case, Europe is leading the sustainability classification. In the EU, a little less than 14 million hectares are organic. This area is more than double that of the USA, China and Brazil added together.

relative terms, the area farmed in the EU with organic methods is equal to around 8,43% of the total agricultural area used. In China, the figure does not exceed 0,5%, while in the United States and Brazil it is slightly higher. With these values, there is little sense in comparing the growth of organic in the various contexts but it might make more sense to apprehend the distance that separates the EU and the three countries considered from the target of 25% of organic area envisaged by "From Farm to Fork".

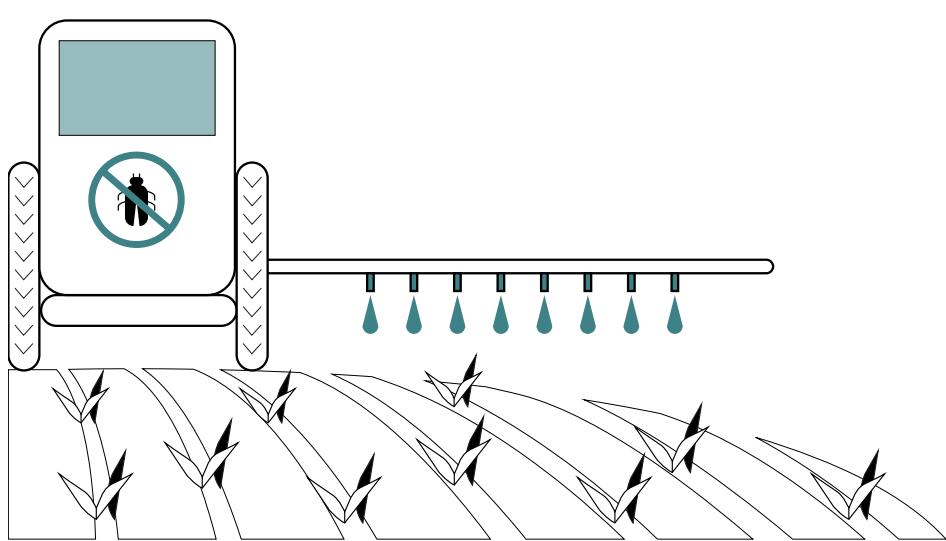
To reach the goal, the EU will have to triple the current organic area by 2030. It is certainly a challenging goal but nothing compared to China, Brazil and the United States, which will have to increase the organic area by 60, 46 and 44 times respectively.

Fig. 5.1 - % Organic area on agricultural area per macro-areas, 2029



| n **Source:** Divulga Study Centre on Eurostat data

6.



## 6. Pesticides

This category covers all the phytosanitary products and biocides used to combat harmful and disease-carrying organisms, such as insects, rats and mice. As regards their consumption in the selected areas, East Asian countries also retain the lead in this classification with a use of pesticidal products equal to 12,6 Kg/ha, followed by South America (5,8 Kg/ha) and North America (2,5 Kg/ha). The lowest consumption was recorded in Europe with 1,6 Kg/ha.

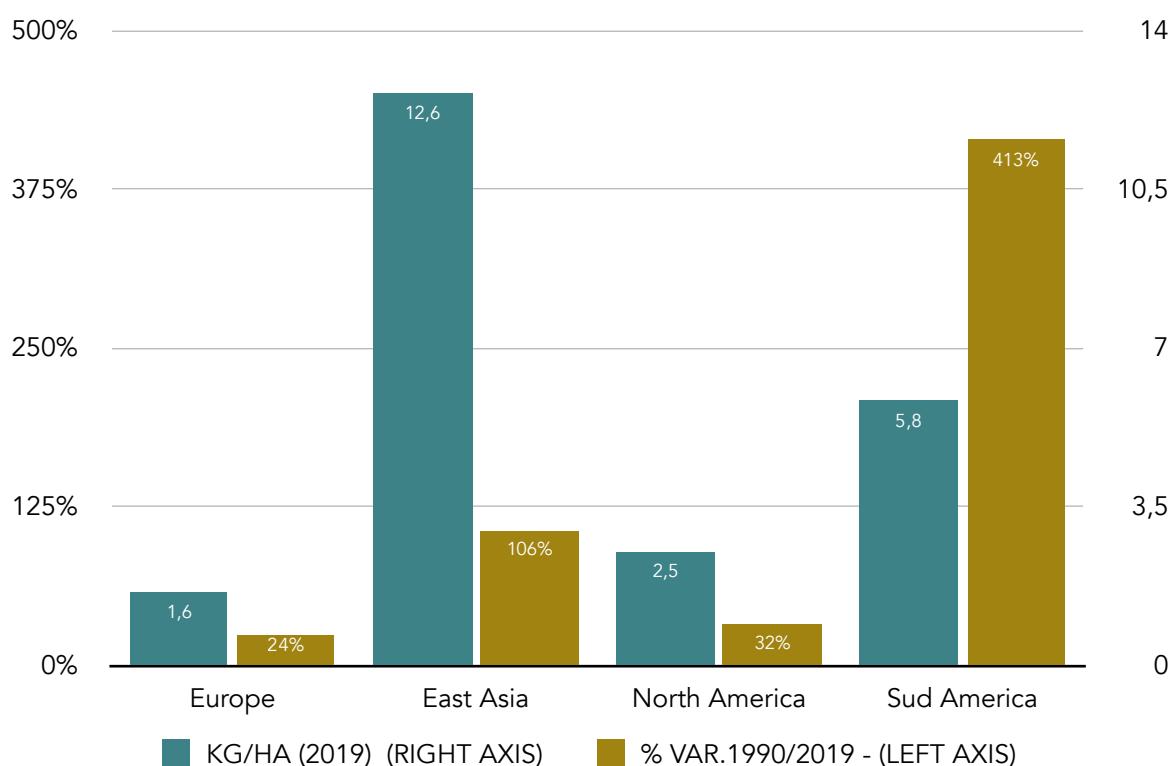
As regards the variations between 1990 and 2019, the most substantial increases were in South America (+ 413% overall, Brazil + 575%) and in East Asia (+ 106% overall, China + 123%). The increase in North American countries was 32%. Decidedly smaller for Europe (+ 24%).

Moreover, many of the active ingredients used for the formulation of pesticides are authorised in one country and prohibited in others. Specifically, Europe has the highest standards in terms of minimising the risks for human health and the environment.

This issue is particularly relevant in the analysis of the impacts of the trade treaty between Europe and Mercosur (e), under discussion for years. The sealing of a free trade agreement between Europe and the countries of the South American area at the same time as a widening of the gap between standards could lead to a further significant increase in the EU's imports of agricultural products.

In particular, from Brazil, which, in the last forty years, has seen intensive growth of the areas intended for cultivation both of soya and sugar cane, to mention two of the major products imported in the EU,

Fig.6.1 - Use of pesticidal products per macro-area, 2019



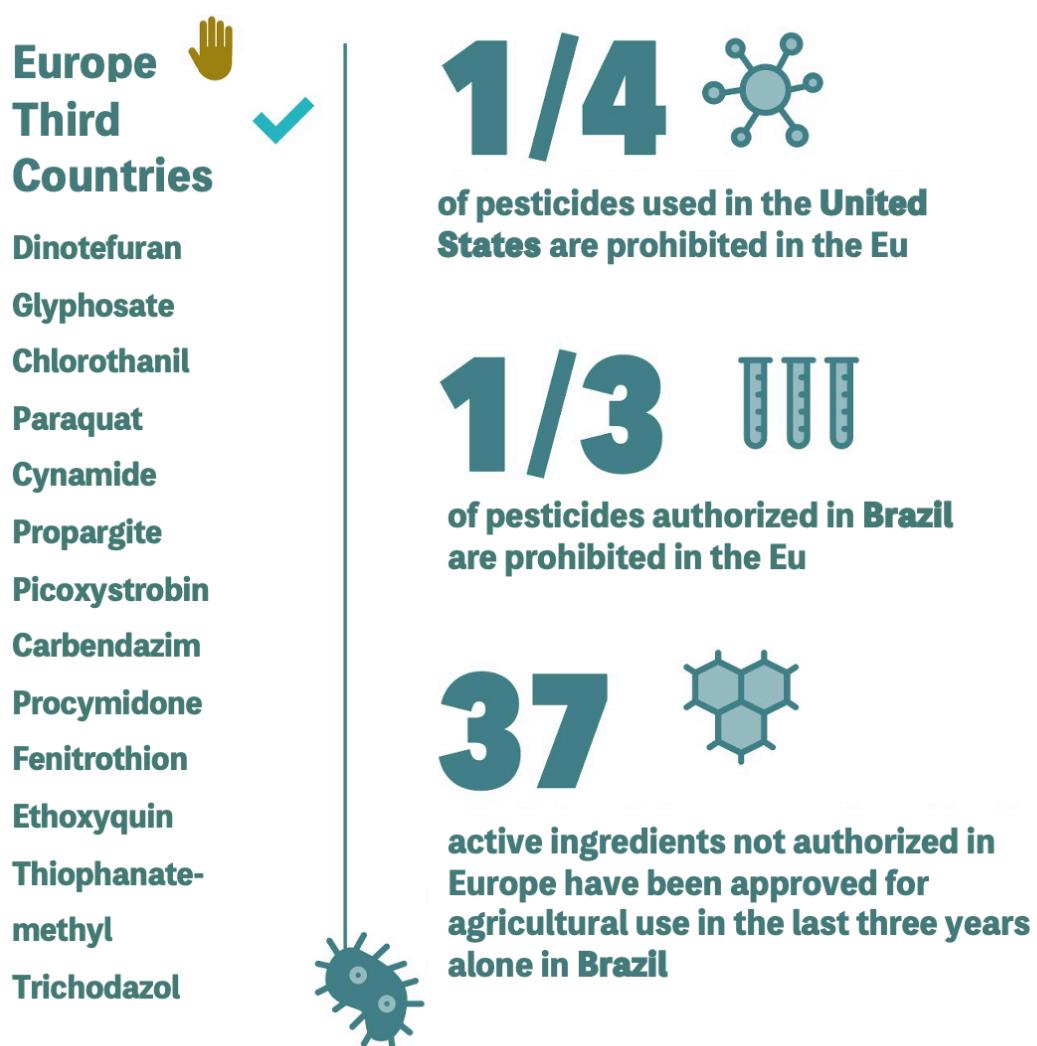
**Source:** Divulga Study Centre based on Faostat data

both of which have grown by more than 500%.

In the same period, the head of cattle has more than tripled. Most of this expansion took place in the Amazon region to the detriment, inevitably, of the forest area. The development of monocultures and the retreat of the forest area have proceeded at a particularly sustained pace in recent years. The increase of the UUA, equal to 71,46%, was matched between 2000 and 2019 by a retreat of the Brazilian forest area equal to around 10%. But there

was also a sustained increase in the use of pesticides, which grew by more than 70% in the last ten years alone (2010 – 2019). Around a third of authorised pesticides in Brazil today are prohibited in the EU but the same is true for other South American countries, the agricultural exports of which to Europe are significant. In the case of fruit and vegetables, the use has been recorded of 14 pesticides in Argentinian agriculture and 18 in Brazil that are not allowed in the EU's territory. In the last three years alone in Brazil, 37 active

Fig. 6.2 - Pesticides approved and prohibited, comparison between EU and Third Countries



Source: Divulga Study Centre processing

ingredients that are not authorised in Europe have been approved, such as Dinotefuran, which has been prohibited in the European Union since 2009. The same is true for glyphosate, banned in Europe since 2019, but the residuals of which allowed in Brazil are ten times higher than those permitted in Europe. The admissibility of levels of the residues of the fungicide chlorothanil, used in the cultivation of soya in Argentina, Brazil and Paraguay, are 20, 50 and 100 times higher, respectively, than those allowed in Europe. The hazardous substances prohibited in the EU but widely deployed in the Mercosur countries include Paraquat, used in particular for soya, corn and cotton, which is particularly toxic (it affects the respiratory system, causes reproduction problems, increases the risk of Parkinson's disease), Cyanamide, Picoxystrobin, Propargite and others (Carbendazim, Procymidone, Fenitrothion, Ethoxyquin, Thiophanate-methyl and Tricyclazole), considered potentially carcinogenic. In these areas, as in the rest of the less developed and emerging areas, legislation on the matter is much weaker and often the control systems are even more so.

But things are not much better in other parts of the world. One example is the whole of the United States, where a quarter of the pesticides used are prohibited in the EU. Making the question even more contradictory is the fact that the prohibitions against use in Europe are not matched by a prohibition against production. Europe, which is the base of leading companies in the global pesticide market, exports to the rest of the world what is prohibited within its borders.

This double standard risks, with the Green Deal, becoming a vicious circle that makes the environment, the communities of trading partners, but also European consumers more vulnerable. Because the harmful products Europe exports then end up on the plate: EFSA found that, in 2019, 7,6% of the products tested from third countries presented a level of residues that exceeded, sometimes by far, the admissible thresholds within the EU.

7.



## 7. The potential impacts of the widening of the gap

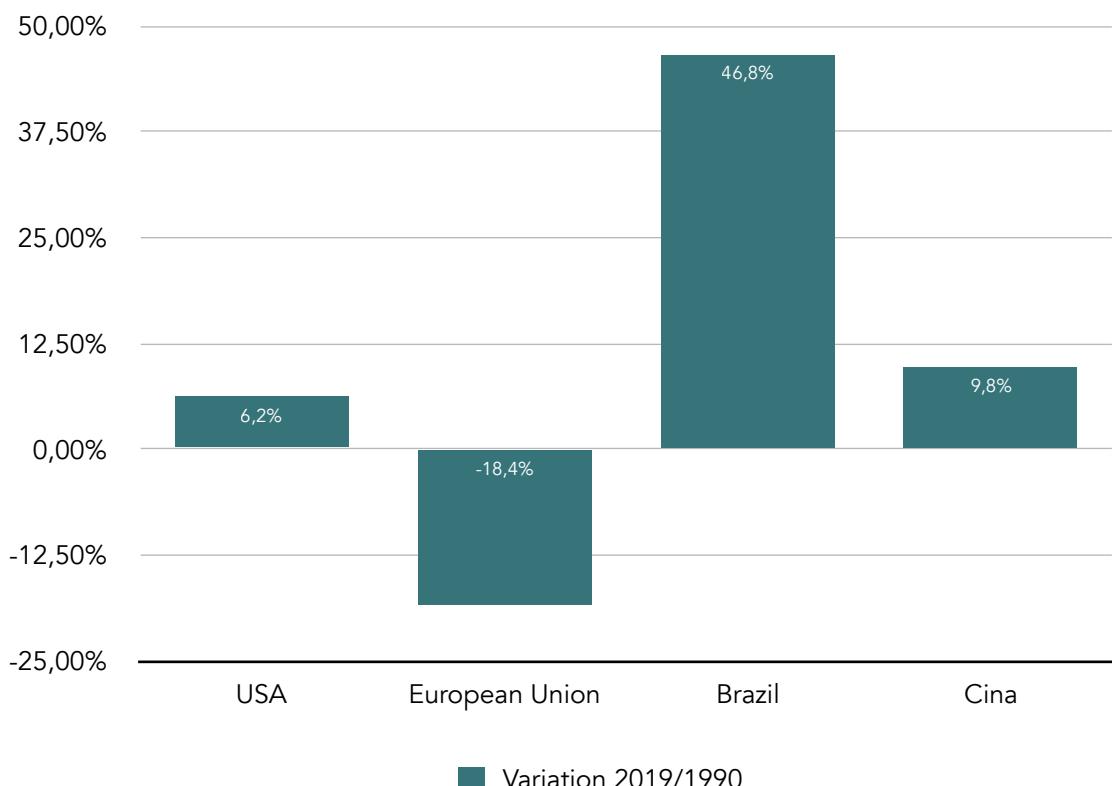
China, Brazil and USA alone produce around 27% of global agricultural emissions (f). The latter grew by around 15% between 1990 and 2019 and only the EU had a negative balance (- 18,5%). In the same period, the emissions of Brazilian agriculture grew by 47%, while those of Chinese and US agriculture, respectively, increased by + 9,7% and + 6,2%.

The data collected tell us that to cultivate a hectare of soya or produce a kilo of meat in Europe is, today, broadly more sustainable than in other parts of the world. Now the EU is further raising the bar and many are concerned that this will

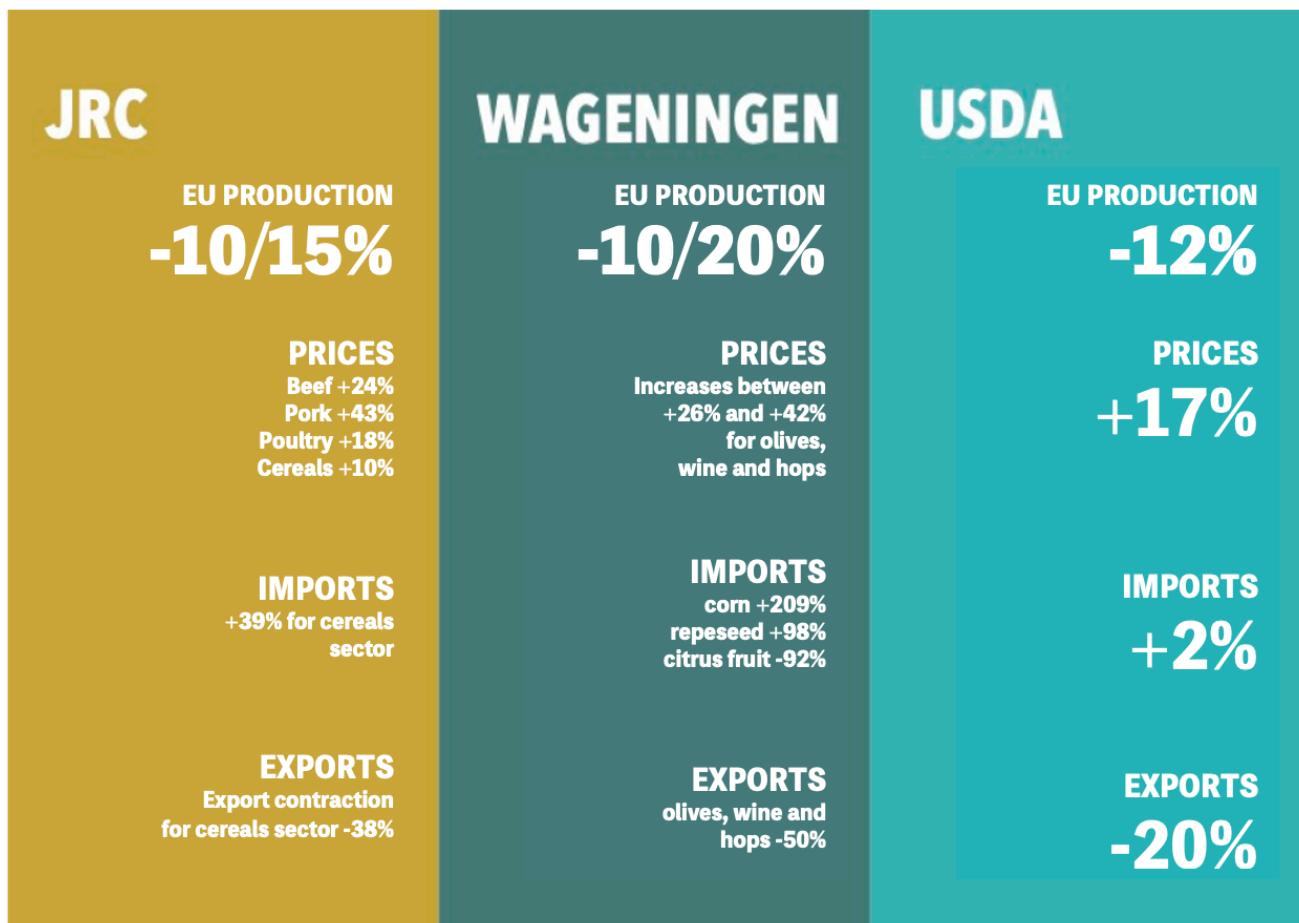
lead to results other than those hoped for. The widening of the gap could in fact lead, as an initial consequence, to a contraction of European agricultural production and, in the second place, to a consequent increase of imports. In recent months, various authoritative studies have considered possible impacts of the Green Deal. All share a common denominator in forecasting a reduction of agricultural production, an increase in consumer prices and a fall in the profitability of European agricultural producers. Specifically, the report presented by the JRC (4) estimates a fall in production of around 10-15% for cereals, oilseed, beef and dairy cows, with the livestock sector facing a contraction of 14% in meat production and 10% in raw milk. A more marked fall, of more than 15%, could hit

pork  
and  
a n d

Fig. 7.1 - Variation of emissions in agriculture per Country,  
1990-2019



**Source:** Divulga Study Centre processing of Fao data



**Source:** Divulga Study Centre processing

poultry, while the reduction in the supply of vegetables and fruit from perennial crops should be more limited.

The commercial position of the EU could worsen, particularly for the cereal sector, with a fall of exports of 38% and an increase of imports of 39%. Pork could see a fall of 77% in exports.

The study more recently carried out by the University of Wageningen (5) was on the same wavelength and estimated a contraction of European agricultural production of between -10% and -20%, reaching a peak of -30% for certain produce, such as apples. Perennial crops such as grapes, apples, olives and citrus fruit could feel the effects the most. Annual crops, such as oilseed, rapeseed, wheat, corn and sugar beet, on the other

hand, should be less affected. The fall in production will be accompanied by a general increase in prices of agri-food products with some, like olives, grapes and hops, set to rise by between 26% and 42%. For corn, rapeseed, sugar beet and wheat, the increase could be around 7%. The EU's net imports of corn, rapeseed and citrus fruit could increase by 209%, 98% and 92% respectively. However, EU exports could fall by half, in particular olives, wine and hops. Finally, the analysis conducted by USDA (6) estimates a 12% fall in European agricultural production with a consequent price increase of 17%.

Again in this case, the repercussions will be evident on the foreign trade front with an average increase of 2% in imports and a fall of 20% in exports. For some produce, however, the repercussions will be even more marked. This is the case with rice (+31% of imports and -82% of exports); wheat (+18% of imports and -82% of exports); oilseed (+7% of imports and -85% of exports) and milk (+19% of imports and -157% of exports). The strong dependence on foreign agricultural produce, together with the imbalance of the environmental commitments made by the main supplier countries, could lead - at equal commercial conditions – to a

contraction, even net in some sectors, of the European agricultural offer. This would cause a consequent substitution effect that would see European products, characterised by greater sustainability, replaced with others that are less so from third countries.

The geography of global agricultural production could therefore be redrawn in the coming years, with the effect of delocalising production and pollution outside the EU, only for it all to be reimported on the plates of European consumers. The concrete risk is of triggering a vicious circle, fed by growth in international demand, with the paradox that European consumers could see their ecological footprint increase and find themselves more exposed to the risks associated with the presence of chemical residues in foodstuffs. This is in addition to the economic and social consequences that would accompany any retreat of European agriculture. The only antidote appears to be trade rules. Only this would allow Europe to raise the bar of the ethical and environmental commitments, doing it, however, in such a way that it rises for all and that the gap between standards is reduced at the same time. If Europe has decided to accelerate along the road of ecological transition, it would be better, as the data and analyses used in this work suggest to us, for this to be accompanied by an equally rapid transition of the EU's approach to trade treaties. The issue of the reciprocity of environmental and social commitments now becomes crucial if the European initiative to combat the climate crisis is to be a success and not turn into a boomerang.

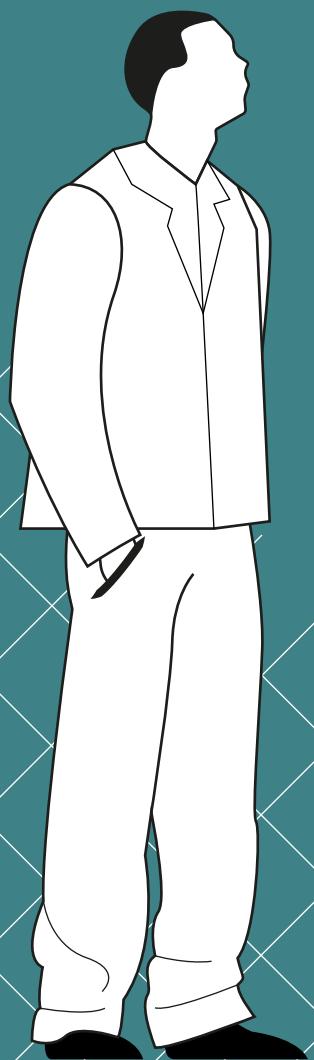
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# Notes

- a. The European macro area also includes, in addition to the countries of the EU, Albania, Belarus, Bosnia and Herzegovina, Kosovo, Macedonia, Moldavia, Norway, Russia, Serbia, Switzerland, Ukraine and the United Kingdom.
- b. Including the United States, Canada and Bermuda.
- c. Including Brazil, Argentina, Bolivia, Chile, Colombia, Ecuador, Guyana, Paraguay, Perù, Uruguay, Venezuela and the Falkland Islands.
- d. Including China, Mongolia, North Korea, South Korea and Japan.
- e. Mercosur, the Common Market of the South, is the trade agreement established by Argentina, Brazil, Paraguay and Uruguay in 1991 that later incorporated as economic partners Chile, Bolivia, Peru, Colombia and Ecuador.
- f. Emissions of methane ( $\text{CH}_4$ ), nitrous oxide ( $\text{N}_2\text{O}$ ) and carbon dioxide ( $\text{CO}_2$ ) from agricultural activities, measured in  $\text{CO}_2$  equivalents, were taken into consideration.

b



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