



# HOOKED ON MEAT

**HOW EUROPE'S SOYA ADDICTION  
IS FEEDING THE CLIMATE EMERGENCY**

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Marizilda Cruppe / Greenpeace

The MATOPIBA region in Brazil, is considered the showcase of Brazilian agribusiness, with a high production of soy and corn for export. However, this predatory model has rushed deforestation in the biome's region, Cerrado.

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# SUMMARY

## 5 INTRODUCTION

## 7 THE PROBLEM WITH SOYA

### 8 DEFORESTATION AND ECOSYSTEM DESTRUCTION

### 13 ENVIRONMENTAL, SOCIAL AND HEALTH IMPACTS

## 15 EU APPETITE FOR MEAT AND DAIRY DRIVES SOYA IMPORTS

## 21 THE FOOD AND AGRICULTURAL REVOLUTION WE NEED

### 22 DIET FOR PUBLIC AND PLANETARY HEALTH

### 24 A RADICAL REFORM OF THE COMMON AGRICULTURAL POLICY

### 28 STEPPING UP EU ACTION TO PROTECT FORESTS AND OTHER NATURAL ECOSYSTEMS

### 30 STRONGER EU REGULATION ON PESTICIDES AND GMOS

## 32 NOTES

## 38 REFERENCES

◀ The Cerrado is the second largest biome in Brazil, occupying 22% of the national territory. Despite being the most biodiverse savannah in the world, more than half of its area has already been destroyed, due to the reckless advance of an agriculture model aimed to produce commodities, such as soy and corn, for export.

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## INTRO

# THE EU'S MEAT CONSUMPTION IS DRIVING DESTRUCTION OF FORESTS AND OTHER NATURAL ECOSYSTEMS

The soya industry is booming. Global soya production has more than doubled since 1997<sup>1</sup> driven by growing demand for animal feed to supply the factory farms that produce much of our meat and dairy.<sup>2</sup> This rapid expansion has come at the expense of some of the most biodiverse environments on earth, including the Amazon, Cerrado and Gran Chaco forests in South America, and is contributing to a growing public health and climate crisis.

**IN 2017, 48% OF THE WORLD'S SOYA (INCLUDING BEANS, CAKE AND OIL) WAS PRODUCED IN BRAZIL AND ARGENTINA.<sup>3</sup>**

In Brazil, soya production has more than quadrupled in the past two decades.<sup>4</sup> The Brazilian Amazon has been largely protected from soya-led deforestation by the Soy Moratorium,<sup>5</sup> the result of an unprecedented collaborative effort spearheaded by Greenpeace and involving companies, civil society organisations and the Brazilian government. However, the soya industry has now converted large tracts of the savannah and forest of the Cerrado, which has lost half of its original vegetation to agricultural expansion.<sup>6</sup> The Gran Chaco – South America's second largest forest, spanning Argentina, Bolivia and Paraguay<sup>7</sup> – is also suffering high rates of conversion.<sup>8</sup>

Industrial agriculture is a major contributor to the global climate crisis, responsible for two-thirds of total deforestation in South America,<sup>9</sup> led by soya farming and cattle ranching.<sup>10</sup> In addition, the 'soybean boom' in South America has been reported to be connected to land grabbing and other human rights violations.<sup>11</sup> However, the negative social and environmental impacts of soya production go even further. In Brazil<sup>12</sup> and Argentina<sup>13</sup> over 95% of soya is genetically modified (GM), which goes hand-in-hand with intensive use of herbicides and other hazardous chemical inputs.<sup>14</sup> Pesticide use per unit area has increased by over 170% in both countries since the introduction of GM crops in the mid-1990s.<sup>15</sup> Not only does this result in monoculture croplands with highly reduced biodiversity, but the massive use of pesticides is likely to damage the health of farmworkers and people living nearby.

◀ Chicken Fattening in North Germany  
© Fred Dott / Greenpeace



After China, the European Union is the world's second largest soya importer, with around 33 million tonnes of soya products imported per year.<sup>16</sup> This is driven by the EU's industrial livestock sector: approximately 87% of the soya used in the EU is for animal feed.<sup>17</sup> Whilst some of the meat and dairy production is exported outside the EU, most of it serves the region's excessive appetite for meat and dairy products: the average person in Western Europe consumes 85 kg of meat and 260 kg of dairy products every year, more than double the global average.<sup>18</sup>

European levels of meat and dairy consumption are causing public health concerns. In January 2019, a report in *The Lancet* concluded that a diet healthy for both people and the planet requires 'a greater than 50% reduction in global consumption of unhealthy foods' – notably red meat – and 'a greater than 100% increase in consumption of healthy foods, such as nuts, fruits, vegetables and legumes'.<sup>19</sup>

**IT IS NOT JUST THE HEALTH OF EUROPEAN CITIZENS AT RISK: OVERCONSUMPTION OF MEAT AND DAIRY IS ALSO CONTRIBUTING TO THE GLOBAL CLIMATE CRISIS, BOTH DIRECTLY AND INDIRECTLY.**

Analysis by the EU itself found that historically soya – and therefore animal feed – has been the EU's number one contributor to global deforestation and related emissions, accounting for nearly half of the deforestation embodied in all EU imports.<sup>20</sup>

The answer is not for the EU to shift production of soya to within its borders. Around 70% of EU farmland (including both arable and grassland) – some 1.2 million km<sup>2</sup> – is already used to feed livestock.<sup>21</sup> An additional 110,000 km<sup>2</sup> (an area the size of Austria and Belgium combined<sup>22</sup>) would be needed to grow all the soya currently imported into the EU.<sup>23</sup> Becoming self-sufficient in soya and other protein crops primarily used for animal feed without drastically reducing the production and consumption of livestock products would require the appropriation of nearly 30% of the arable land in the EU not already used for livestock production.<sup>24</sup>

Instead, to meet the goals of the Paris Climate Agreement<sup>25</sup> and tackle the growing threats to health and biodiversity, the EU must seek to reduce its consumption of livestock products by 80% by 2050.<sup>26</sup> This shift can be achieved with the help of policy levers, including reform of the Common Agricultural Policy (CAP), as well as public information campaigns and reallocation of all public subsidies to promote plant-based diets and ecological agriculture. Given the role of imported soya in enabling the EU's overconsumption of meat and dairy – as well as its contribution to the global climate crisis – action to radically cut European production and consumption of livestock products must be an urgent priority.

► Soy fields in Brazil resulting from rainforest destruction, state of Mato Grosso.

© Markus Mauthe / Greenpeace



1

# THE PROBLEM WITH SOYA



# DEFORESTATION AND ECOSYSTEM DESTRUCTION

## Soaring global demand for soya drives deforestation

Global levels of soya production are rising dramatically. In 1997, 144 million tonnes of soya were produced worldwide; 20 years later production had more than doubled, reaching 353 million tonnes.<sup>27</sup> Since 1998, the top three producer countries have remained the same: the United States is the largest producer, followed by Brazil and Argentina.<sup>28</sup> Over 88% of the world's soya comes from the Americas.<sup>29</sup>

In Brazil, soya production increased from 26 million tonnes in 1997 to 115 million tonnes in 2017, and in Argentina it rose from 11 million tonnes in 1997 to 55 million tonnes in 2017.<sup>30</sup> Over a similar period Brazilian soya exports increased from 19 million tonnes to 67 million tonnes<sup>31</sup> and Argentinian exports from 11 million tonnes to 44 million tonnes<sup>32</sup>, demonstrating that the boom in production is export-driven.

The rapid expansion of soya production is driving the conversion of forests and other natural ecosystems across South America to vast monocrop farms dependent on pesticides, significantly reducing biodiversity.

## The Brazilian Amazon: the continued battle for protection

Fifteen years ago, the Brazilian Amazon was in a full-blown deforestation crisis. The soya industry was a significant driver: almost 30% of the soya expansion in the Amazon during 2004–2006 came at the direct expense of

rainforest rather than through conversion of pasture or other previously cleared lands.<sup>33</sup>

In 2006, a Greenpeace campaign exposed the links between deforestation in the Amazon and soya expansion.<sup>34</sup> In response, the major soya traders, civil society organisations led by Greenpeace, and the Brazilian government agreed to implement the Soy Moratorium:<sup>35</sup> a voluntary commitment not to purchase soya from farms within the Brazilian Amazon that had cleared forests after July 2006 (revised to July 2008 in 2014).<sup>36</sup> Following multiple temporary extensions, the moratorium was renewed indefinitely in 2016.<sup>37</sup>

The Soy Moratorium has largely been successful, with soya directly responsible for only 1.2% of deforestation in the Amazon after July 2008.<sup>38</sup> Yet the soya industry has continued to expand: the area planted with soya in the Brazilian Amazon has increased by 35,000 km<sup>2</sup> since 2006, with new plantings mainly on land previously used to graze cattle.<sup>39</sup> Given the scale of this displacement, soya remains an important indirect driver of deforestation as cattle ranchers move to develop new, often forested land to replace that which is now being cultivated with soya.<sup>40</sup>

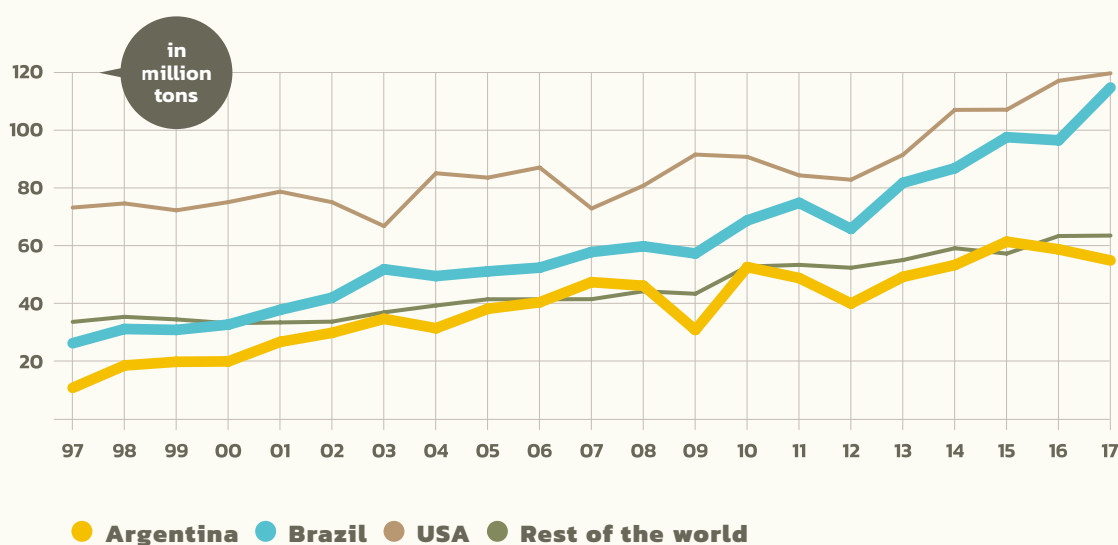
And the Soy Moratorium itself is not secure. During his 2018 election campaign, Brazil's President, Jair Bolsonaro, repeatedly promised to weaken the Brazilian government agencies Ibama and ICMBio and open up protected areas and indigenous lands to farming and mining. While the soya traders' association, ABIOVE, has pledged to maintain the Soy Moratorium, Bolsonaro's moves to weaken environmental protections have been welcomed by Aprosoja, the association of Brazilian soya growers.<sup>41</sup>



FIGURE 01

## SOYA PRODUCTION WORLDWIDE FROM 1997–2017

### HIGHLIGHTING THE TOP THREE PRODUCERS<sup>42</sup>



In addition, Bolsonaro's new Infrastructure Minister, Tarcísio Freitas, is pushing ahead with major infrastructure projects in the Amazon. Following through on plans to pave the Amazon highway BR-319<sup>43</sup>, extend the BR-163<sup>44</sup> and construct a new grain transport railway<sup>45</sup> to meet growing demand for soya from the EU and other countries without implementing a strong plan to fight deforestation would expose new areas of the Amazon to development, increasing the risk of deforestation and worsening conflicts between land grabbers and indigenous peoples or other local communities.

### The Cerrado: an ecosystem under soya threat

The Cerrado is the world's most biodiverse savannah. It is home to an estimated 5% of the planet's animals and plants<sup>46</sup>, over 4,800 species of which are found nowhere else on earth.<sup>47</sup> The region is known as a 'cradle of waters', because it is critical to eight of the 12 Brazilian river basins; it contains the headwaters of nearly all of the southern tributaries of the Amazon River as well as several rivers in the states of Maranhão and Piauí.<sup>48</sup> Yet despite its ecological value the Cerrado is being rapidly cleared.<sup>49</sup> its forests and grasslands converted to soya farms and cattle ranches.<sup>50</sup> It is estimated that nearly half of its natural vegetation (about 88 million ha,<sup>51</sup> an area the size of Venezuela<sup>52</sup>) has already been destroyed. The remaining area holds an estimated carbon store equivalent to 13.7 GtCO<sub>2</sub>.<sup>53</sup>



The area of the Cerrado known as ‘Matopiba’ is currently the most intense frontier of agribusiness expansion, and is particularly threatened. Matopiba, which covers 738,000 km<sup>2</sup> in the Brazilian states of **Maranhão, Tocantins, Piauí and Bahia**,<sup>54</sup> is being hailed as the ‘new frontier’ of soya expansion.<sup>55</sup> Between 2007 and 2014, nearly two-thirds of agricultural expansion in Matopiba came at the expense of forests and other native vegetation.<sup>56</sup>

Analysis by Trase, a nongovernmental organisation (NGO) focused on increasing the transparency of agricultural commodity supply chains, indicates that between 2010 and 2015 just five traders, including ADM, Bunge and Cargill, were responsible for more than three-quarters of total soya exports from Matopiba.<sup>57</sup> In other words, traders that play a positive role as parties to the Soy Moratorium<sup>58</sup> have nonetheless been contributing to the destruction of the Cerrado.

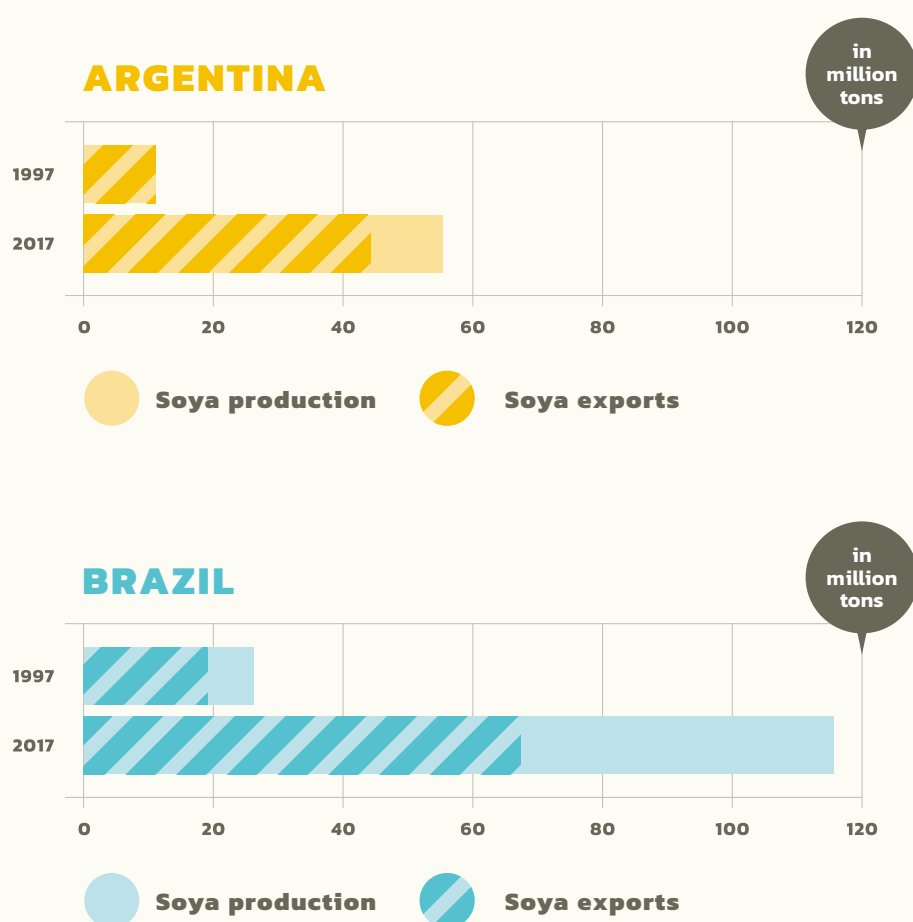
## **The Gran Chaco forests: frontier for soya and cattle expansion in Argentina, Paraguay and Bolivia**

The Gran Chaco biome spans an area of more than 1.1 million km<sup>2</sup> covering parts of Argentina, Paraguay and Bolivia.<sup>59</sup> The region holds the largest tropical dry forest in South America and the second largest forest after the Amazon.<sup>60</sup> ‘Chaco’ comes from a Quechua word meaning ‘hunting ground’,<sup>61</sup> and the biome, with its trees, thorny shrubs and grasses, is home to thousands of species of plants and hundreds of species of birds, reptiles and mammals, including jaguars, armadillos and giant anteaters.<sup>62</sup>

The Gran Chaco biome is suffering one of the highest deforestation rates in the world,<sup>63</sup> as a result of agricultural expansion for cattle ranching and soya.<sup>64</sup>

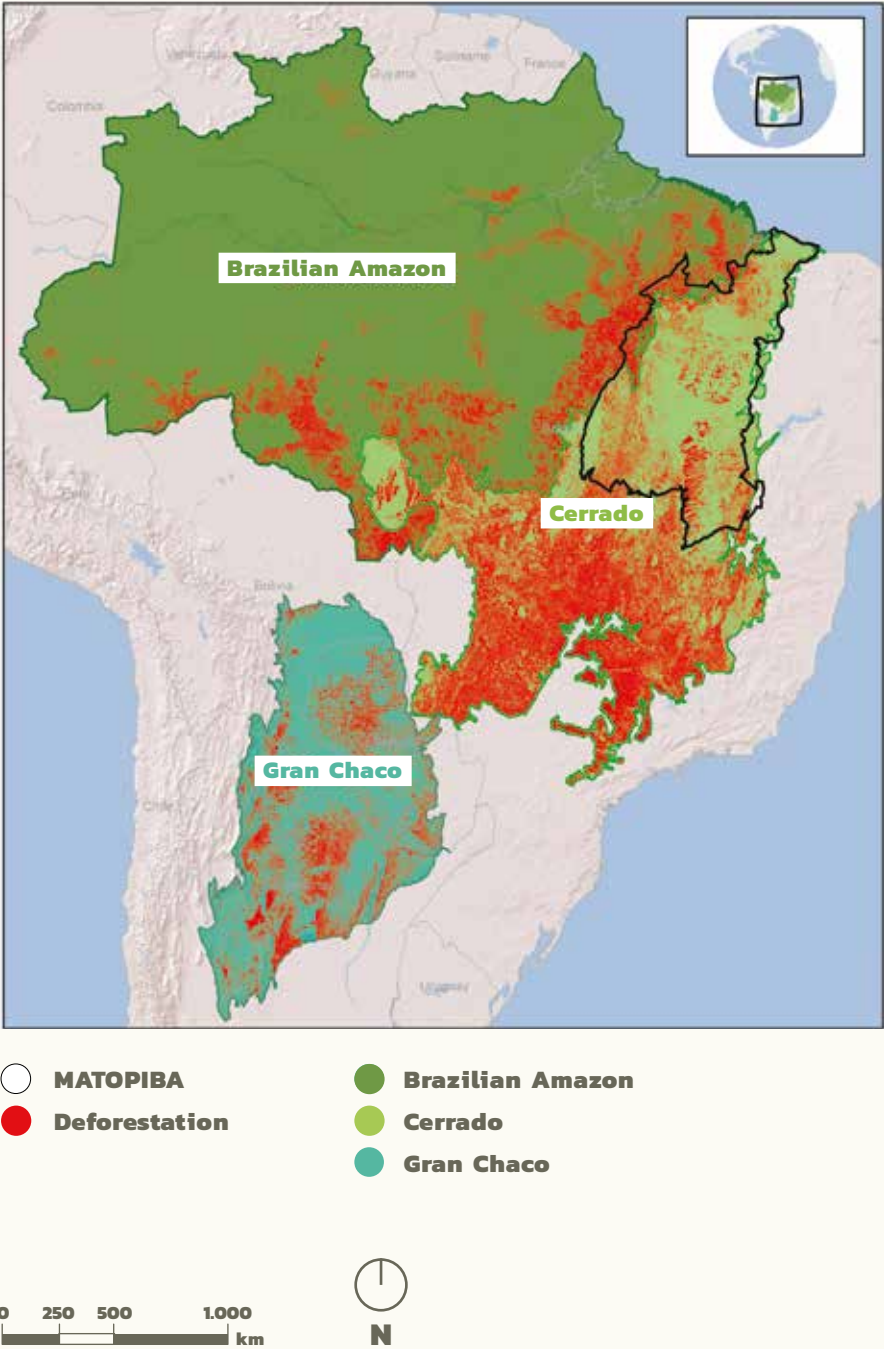
Satellite analysis reveals that 23% of the Gran Chaco (nearly 27 million ha) had been converted to cropland or grazing land by 2017.<sup>65</sup> This includes 3.4 million ha of natural forest (5% of the total forest area) lost between 2010 and 2017 alone.<sup>66</sup> The countries that share the Gran Chaco all rank among the 12 countries with the highest total tree cover loss in the period from 2010 to 2018.<sup>67</sup> Continued expansion has been linked to allegations of indigenous people working in conditions of slavery,<sup>68</sup> as well as widespread illegality.<sup>69</sup>



**FIGURE 02****GROWTH OF SOYA PRODUCTION  
AND EXPORTS  
(IN 1997 AND IN 2017)**



**FIGURE 03**      **MAP OF IMPACTED AREAS**



# ENVIRONMENTAL, SOCIAL AND HEALTH IMPACTS

## Dependence of current soya production on GM seeds and pesticides

Deforestation and the conversion and degradation of natural ecosystems are not the only negative environmental impacts of the expansion of industrial soya production. Globally, some 50% of soya produced is genetically modified (GM),<sup>70</sup> but over 95% of the soya grown in Brazil and Argentina is GM.<sup>71</sup> The technologies behind the various GM soya varieties belong to a handful of multinationals, dominated by Bayer (which took over the US giant Monsanto in June 2018).<sup>72</sup> They mainly serve to make the GM plants withstand spraying with herbicides. Of the GM soya planted in Brazil, 40% is genetically modified to be herbicide tolerant (predominantly Monsanto/Bayer's Roundup Ready® GM soya, which is tolerant to glyphosate) and 60% is genetically modified to be both glyphosate tolerant and insect resistant (Monsanto's Intacta™).<sup>73</sup> Similarly, in Argentina, 83% of GM soya is herbicide tolerant (again, predominantly to glyphosate) and 17% is Monsanto's Intacta™.<sup>74</sup>

Since the introduction of GM crops in the mid-1990s, the use of pesticides, including herbicides, per unit area has increased by more than 170% in both Argentina and Brazil.<sup>75</sup> Large-scale conversion of natural habitat to intensive soya production and heavy reliance on insect-resistant GM seeds and chemical pesticides inevitably contribute to biodiversity loss.<sup>76</sup> The broad-spectrum herbicide glyphosate was the most intensively used.<sup>77</sup> The World Health Organisation has classified glyphosate as 'probably carcinogenic to humans'.<sup>78</sup> Fungicides and insecticides are also routinely used in soya cultivation.<sup>79</sup>

A case study of a large-scale soya producer in Brazil reported the application (in 2008/2009) of 18 herbicides, 13 insecticides and 8 fungicides to its crops.<sup>80</sup> Moreover, more than 25% of soya crops in Brazil were sprayed by aircraft in 2012,<sup>81</sup> a practice that the EU banned in 2009 due to concerns about the potential health and environmental impacts.<sup>82</sup>

None of the GM soya crops grown in Brazil and Argentina are approved for cultivation in the EU, and more than a third of the pesticides currently permitted in Brazil are reportedly not licensed for use in the EU.<sup>83</sup> The disallowed pesticides include carbofuran, metolachlor, paraquat, tebuthiuron and trifluralin in Brazil<sup>84</sup> and MSMA, haloxyfop, imazethapyr, atrazine and paraquat in Argentina.<sup>85</sup> By importing soya and soya products from these countries, the EU turns a blind eye to harmful cultivation practices that it would not tolerate within its borders – an unacceptable double standard.

## Impact on biodiversity and human health

A recent study of global insect populations found that 40% of insect species may face extinction in the next few decades; it lays the blame mainly on habitat loss through land conversion to intensive agriculture and urbanisation, as well as pollution with synthetic pesticides and fertilisers.<sup>86</sup>

Such threats are even greater when translated to the highly biodiverse regions that comprise the soya frontier, including the Amazon rainforest, the Brazilian Cerrado and the Gran Chaco. These areas are home



to thousands of endemic or sensitive species directly endangered by intensive agriculture characterised by large-scale land conversion and use of pesticides and GM crops.<sup>87</sup>

In addition to the environmental damage, human health is put at risk. A 2018 report by the NGO Human Rights Watch found that rural residents in Brazil were at risk from pesticides drifting out of the target area during aerial spraying of crops.<sup>88</sup> According to the UN Special Rapporteur for the Office of the United Nations High Commissioner for Human Rights (OHCHR), official Brazilian government data recorded 5,501 cases of acute pesticide poisoning in 2017 – almost twice the rate recorded 10 years earlier.<sup>89</sup> A study in Rio Grande do Sul found workers on soya farms were exposed to a cocktail of pesticides and recommended the monitoring of genetic markers of toxicity in such workers.<sup>90</sup>

## Violation of the rights of workers, indigenous peoples and other local communities

The rapid expansion of soya production in South America has been reported to go hand-in-hand with land grabbing, displacement, debt bondage and other forms of slavery, and other human rights abuses of indigenous peoples, local communities and workers.<sup>91</sup>

These injustices are exacerbated by the failure of federal and local governments to protect indigenous peoples and local residents. At the same time, the economic and political power of the business groups and individuals that control the production and trade in soya has grown, as has land concentration in the hands of a few major landowners.

A crucial way to protect forests and curb biodiversity loss is to recognise and legally protect the land rights of indigenous peoples and local communities.<sup>92</sup>

► **The MATOPIBA region in Brazil, is considered the showcase of Brazilian agribusiness, with a high production of soy and corn for export. However, this predatory model has rushed deforestation in the biome's region, Cerrado.**

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2

# **EU APPETITE FOR MEAT AND DAIRY DRIVES SOYA IMPORTS**



The EU imports around 33 million tonnes of soya products per year<sup>93</sup> driven by its inhabitants' appetite for meat and dairy products: the average person in Western Europe consumes 85 kg of meat and 260 kg of dairy products every year, more than double the global average.<sup>94</sup>

An estimated 87% of imported soya is used for animal feed, with nearly 50% of this consumed by chickens (broilers for meat and egg-laying hens), followed by pigs (24%), dairy cows (16%) and cattle reared for meat (7%). The remainder (4%) is used for farmed fish and other meat.<sup>95</sup>

The increased use of soya for animal feed is strongly associated with the growth of factory farming. Indeed, the system of industrial meat and dairy production is dependent on the availability of large volumes of high-protein animal feed. The major trends in the European livestock sector are the growth of dairy, pork and

poultry production and an ever-increasing concentration of that production in fewer, larger and more intensive farms – with a corresponding growth in demand for concentrated feed, mainly made of soya and cereals, and associated impacts on animal welfare and antibiotic use.<sup>96</sup>

European levels of meat and dairy consumption are causing serious public health concerns. The World Health Organisation,<sup>97</sup> the World Cancer Research Fund<sup>98</sup> and numerous other health organisations and scientists have warned that our current levels of meat consumption are increasing the risk of diabetes,<sup>99</sup> heart disease<sup>100</sup> and cancers. The European Public Health Association, an umbrella organisation for public health associations and institutes in Europe, has called for 'increasing the consumption of more plant-based diets... as well as decreasing the consumption of animal-origin foods to improve health'.<sup>101</sup>

**FIGURE 04**

## EU28 SOYA IMPORTS IN 2017

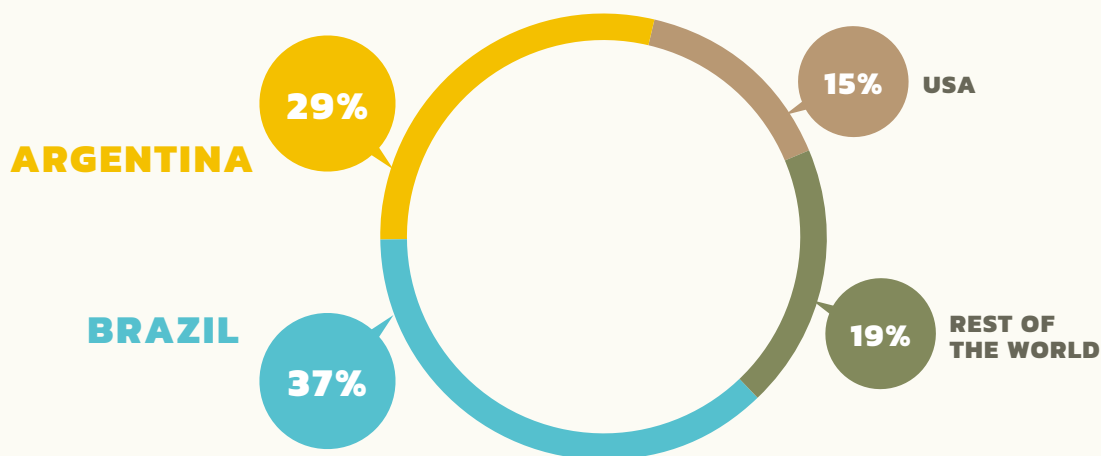
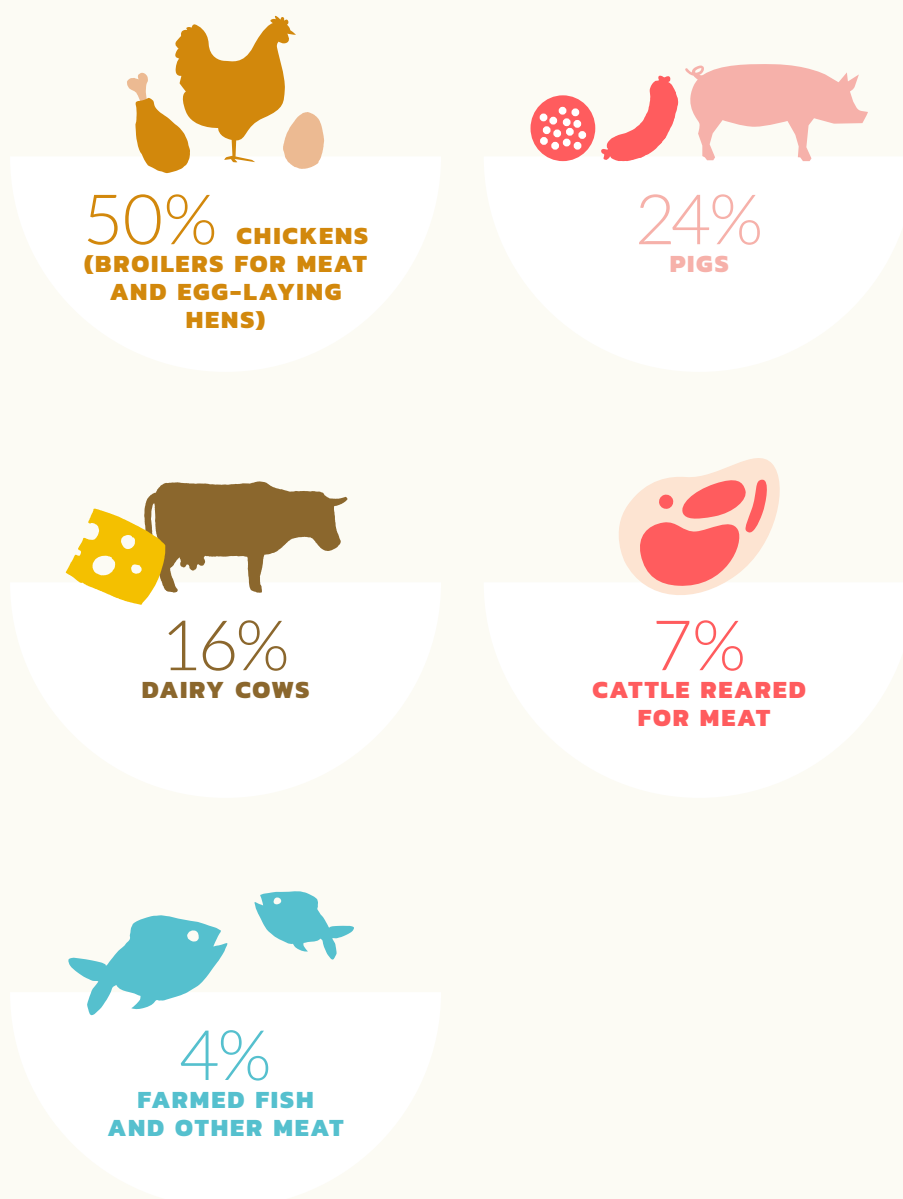
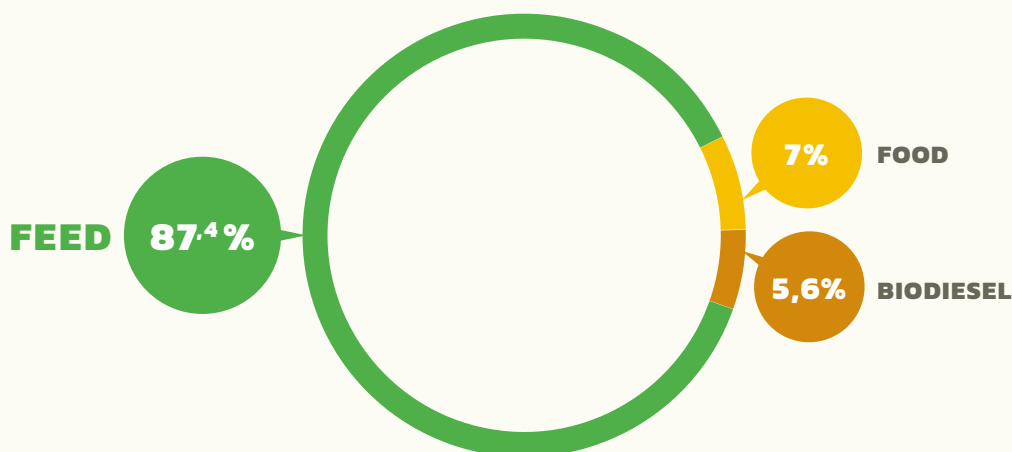


FIGURE 05

**BREAKDOWN OF SOYA ANIMAL FEED  
PER ANIMAL CATEGORY IN THE EU**



**FIGURE 06****ANIMAL FEED IS THE MAJOR END-USE OF SOYA IN THE EU**

In January 2019, a report in *The Lancet* concluded that a diet that was healthy for people and the planet requires 'substantial dietary shifts, including a greater than 50% reduction in global consumption of unhealthy foods, such as red meat,' and 'a greater than 100% increase in consumption of healthy foods, such as nuts, fruits, vegetables, and legumes'.<sup>102</sup>

**HOWEVER, AGRICULTURAL POLICIES IN THE EU PROP UP THE MEAT- AND DAIRY-BASED FOOD SYSTEM THAT SCIENTISTS AND EU PUBLIC HEALTH OFFICIALS ARE WARNING IS MAKING US AND OUR PLANET SICK.**

Almost three-quarters of EU agricultural land is dedicated to feeding livestock, not people.<sup>103</sup> About one-fifth of the EU's total annual budget – between €28.5 billion and €32.6 billion of EU funding, including Common Agricultural Policy (CAP) payments – goes to livestock farms or farms producing fodder for livestock.<sup>104</sup>

Overconsumption of meat and dairy is also contributing to the climate crisis. Animal agriculture – livestock and animal feed – is a significant driver of deforestation,<sup>105</sup> and is also responsible for approximately 60% of direct global GHG emissions from agriculture.<sup>106</sup> This is another reason why various authorities advocate a switch to plant-based diets. The UN Environment Programme's Global Environment Outlook report, published in March 2019, is the latest study to find that '[r]educing overall meat consumption [would] substantially reduce the agricultural land use footprint from food production' and therefore its environmental and climate impact.<sup>107</sup>

**UNSURPRISINGLY, SOYA IMPORTS HAVE BEEN THE EU'S NUMBER ONE CONTRIBUTOR TO GLOBAL DEFORESTATION AND RELATED EMISSIONS. AN ANALYSIS CONDUCTED BY THE EU ITSELF FOUND THAT HISTORICALLY 47% OF THE DEFORESTATION EMBODIED IN ALL EU IMPORTS HAS COME FROM SOYA ALONE.<sup>108</sup>**

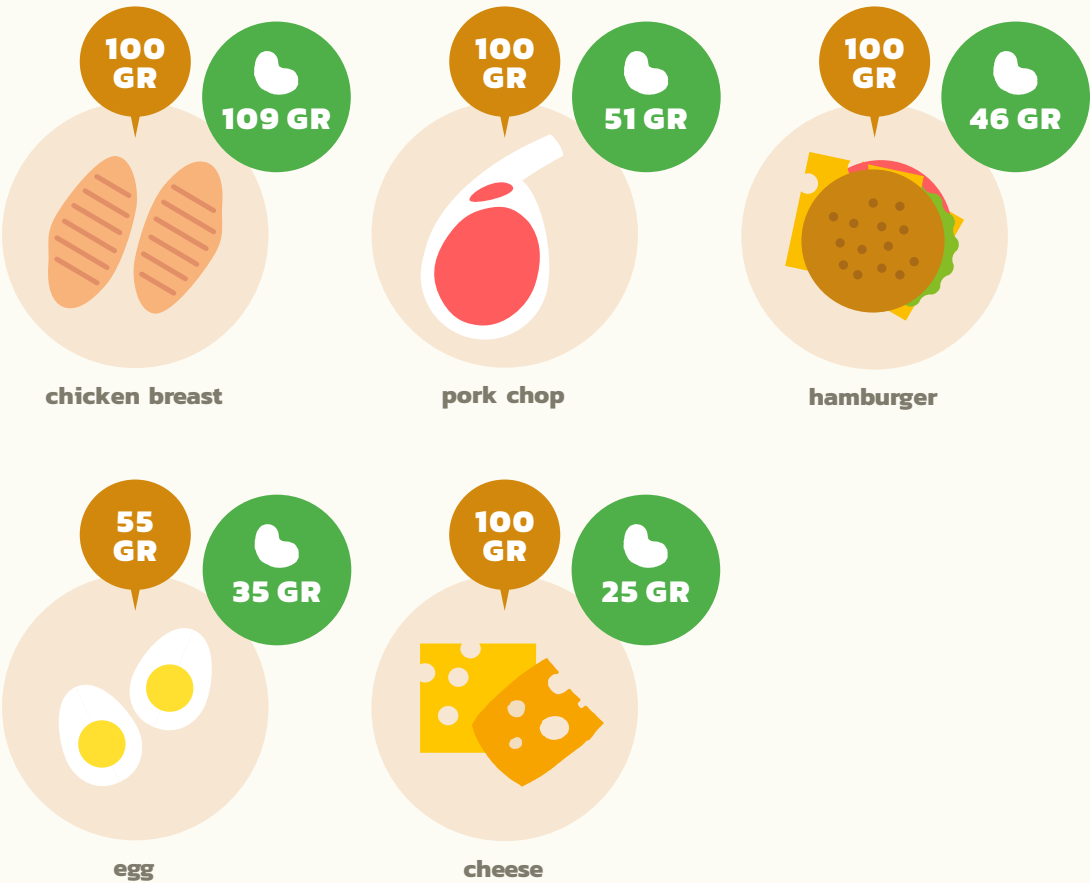
The answer is not for the EU to shift production of soya to within its borders. Around 70% of the arable land and grassland in the EU – some 1.2 million km<sup>2</sup> – is already used to feed livestock.<sup>109</sup> A further 110,000 km<sup>2</sup> (an area the size of Austria and Belgium combined<sup>110</sup>) would be needed to grow all the soya currently imported into the EU market.<sup>111</sup> Becoming self-sufficient in soya and other protein crops needed to sustain the current levels of meat and dairy production – let alone the forecast growth in the dairy, pork and poultry markets – would require the EU to turn over to this use nearly 30% of the already limited area of arable land not currently used for livestock production.<sup>112</sup> Not only would this fail to address the climate and health impacts arising from our overconsumption of meat and dairy, but it would drive human food production outside of the EU – potentially replacing one driver of deforestation with another.

**INSTEAD, TO MEET THE GOALS OF THE PARIS CLIMATE AGREEMENT<sup>113</sup> AND TACKLE THE GROWING HEALTH AND BIODIVERSITY CRISIS THE EU MUST DRAMATICALLY CUT ITS CONSUMPTION AND PRODUCTION OF MEAT AND DAIRY BY 2050.<sup>114</sup>**

This should be achieved through policy levers, including a radical reform of the CAP to prevent payments reaching factory farms and livestock producers and to redirect subsidies towards plant-based diets and ecological livestock farming.



**FIGURE 07**      **HIDDEN SOYA IN OUR DIET**



**AMOUNT OF SOYA  
USED TO PRODUCED  
OUR REGULAR DIET**

► Soybean Plantation in the Brazilian Cerrado, Amapá State.  
© Otto Ramos / Greenpeace

3

# THE FOOD AND AGRICULTURAL REVOLUTION WE NEED



# DIET FOR PUBLIC AND PLANETARY HEALTH

The global food system – in particular the production of meat and dairy products – is a strong driver of both deforestation and GHG emissions.<sup>115</sup> Agriculture, forestry and other land use are responsible for a quarter of global GHG emissions.<sup>116</sup> Animal agriculture – livestock and animal feed – is responsible for approximately 60% of direct global GHG emissions from agriculture.<sup>117</sup> Soya, used primarily for animal feed, has historically accounted for nearly half of the deforestation embodied in EU imports.<sup>118</sup>

**GREENPEACE IS CALLING FOR GLOBAL CONSUMPTION OF LIVESTOCK PRODUCTS TO HALVE BY 2050.**

For Western Europe, where meat and dairy consumption is roughly double the global average,<sup>119</sup> this means greater and faster reductions: roughly 80% by 2050. To reach such an objective the priority must be to cut the consumption of the most unsustainable types of meat and dairy production and eliminate factory farming.

Achieving this goal goes hand-in-hand with a shift to ecological farming, where our food system ensures food security and protects our climate and biodiversity. For the livestock sector, that means rearing healthy animals with respect and without imposing suffering, using land that is not required for human food production or biodiversity.

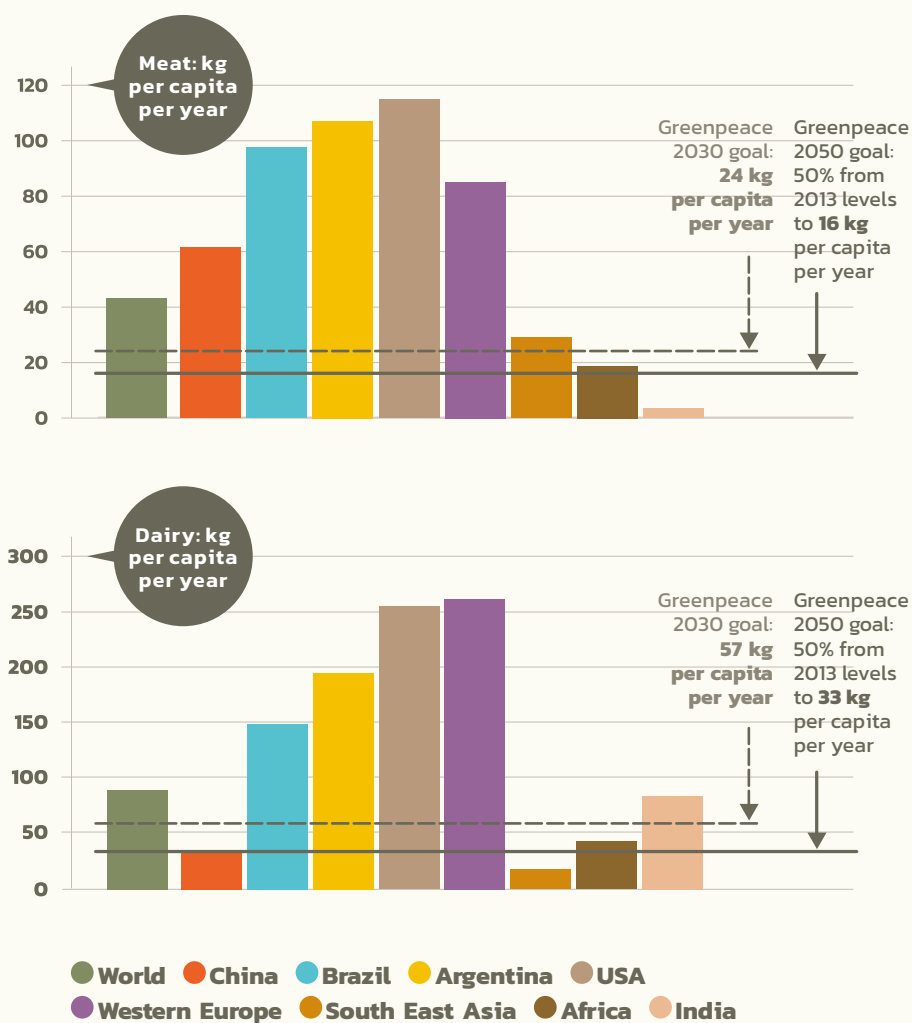
It also means replacing the current system of relying on high-protein, intensively farmed feed with an ecological approach where ruminant animals are fed on grassland and pork and poultry on waste food and crop residues.

**IN CONSUMPTION TERMS, A HEALTHIER AND MORE SUSTAINABLE LEVEL OF MEAT AND DAIRY INTAKE MEANS THAT BY 2030, THE AVERAGE PERSON WILL BE EATING NO MORE THAN 24 KG OF MEAT AND 57 KG OF DAIRY PER YEAR.**

This is closely aligned with the global planetary health diet advocated in the *EAT-Lancet* report, which included no more than 98 grams of red meat (pork, beef or lamb), 203 grams of poultry and 196 grams of fish per week: a combined total of just over 25 kg per year.<sup>120</sup>

FIGURE 08

## CURRENT AVERAGE MEAT AND DAIRY CONSUMPTION



Data for year 2013 (the latest current data available from FAOSTAT 2018).

Kg of meat refer to carcass weight, meaning raw unprocessed products at the point of retail sale, as in FAOSTAT.



# A RADICAL REFORM OF THE COMMON AGRICULTURAL POLICY

For over half a century EU agricultural policies, alongside related trade policies, have facilitated the expansion of industrial meat and dairy production. This has caused substantial public health and environmental impacts within as well as outside the EU. Public policies and public money must instead be used to enable the transition to a plant-based diet and to foster ecologically sound livestock production. The EU must speed up the transition towards agroecological farming practices.

The Common Agricultural Policy (CAP) is one of the key policy levers determining how food is produced and consumed within the EU. It has led to the concentration and industrialisation of Europe's agricultural sector, resulting in fewer and larger farms. Livestock production in the EU is now concentrated in just few countries. Germany, France, Spain and the UK, for instance, together produce 54% of the EU's cattle, 50% of its pigs and 54% of its sheep and goats.<sup>121</sup>

A radical CAP reform is vital to enable the needed shift towards healthier and more sustainable diets and to help move European farming away from the current factory farming model. The CAP reform process has already started, and the new policy is expected to apply from 2021.<sup>122</sup> Europeans have a chance to fix Europe's food system, to provide sustainable, nutritious and affordable food for everyone. Greenpeace is calling on decision makers at the EU and national level to ensure that the future CAP protects our health, the environment and the livelihood of rural communities instead of continuing to subsidise factory farms by taking the following steps:

1

## End CAP money for factory farms

CAP money is public money, and it should not reward polluters. Factory farms are huge polluters. With large numbers of animals in cramped conditions, they emit high amounts of climate-damaging methane, environmentally destructive ammonia and polluting nitrous oxide. CAP money should not support those factory farms.

2

## Promote less and better meat and dairy

CAP payments should support farms that fulfil one or more of these criteria:

- **Put in place measures to transition** towards fewer numbers of animals, thereby reducing emissions of pollutants such as methane and ammonia;
- **Raise animals in ecologically managed extensive<sup>123</sup> (low input, free-range) systems;** and
- **Eliminate routine antibiotic use** and abandon antibiotics that are also used to treat humans, to lower the risk of creating resistant bacteria.

3

## Increase support for ecological production of fruit and vegetables

Despite being responsible for 14% of global GHG emissions, the livestock sector receives substantial CAP support, both directly and via payments towards the cultivation of feed crops. Instead, CAP payments should preferentially:

- **Support ecological production of fruit, vegetables and legumes for direct human consumption;** and
- **Promote healthy diets, eg by strengthening an EU-wide school fruit and vegetables scheme** and funding campaigns on alternatives to meat.

4

## Tighten environmental conditions that farmers must fulfil to receive CAP subsidies

The European Commission has announced that it will strengthen the environmental conditions that farmers have to abide by to qualify for CAP subsidies. This must include compliance with all EU environmental protection laws, including laws protecting our water from pollution, limiting harmful emissions, managing the use of pesticides and protecting wildlife and natural habitats.





**Organic Livestock Farming  
near Vienna, Austria.**  
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**Goslings on Ecological Farm in Bulgaria.**  
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5

### **Make it mandatory for countries to reach all health, climate and environmental CAP goals**

The European Commission has proposed nine overarching goals that EU countries may pursue under their national CAP plans. Four of them concern public health, climate change and the environment. It should not be left up to governments to pick and choose from these nine goals. Countries must at a minimum comply with the health, climate and environment goals.

6

### **Strengthen current environmental measures in the future CAP**

The European Commission says it wants to increase environmental protection under the CAP, yet its new budget proposal reduces by a quarter the funding available for 'rural development' – which historically has delivered the best health and environmental protection. The amount of money dedicated to rural development, and in particular to ecological farming, organic farming and 'high nature value farming', must be substantially increased.

7

### **Dedicate at least 50% of CAP subsidies to health, climate and environmental protection**

Currently, CAP direct payments go to farmers regardless of whether they help or harm human health or the environment. The new CAP should require that at least 50% of these direct payments be spent on health and environmental protection.

8

### **Support small-scale sustainable farmers rather than the expansion of industrial agriculture**

Public money should promote diversity in our fields and on our plates. Yet, between 2005 and 2013, a quarter of Europe's farms (3.5 million businesses) were forced to close. Many of the remaining farms have continuously expanded. To support small farms engaged in or transitioning towards ecological farming, the new CAP must:

- **Set a cap on the level of subsidies a single beneficiary can get**, to effectively limit the amounts received by larger and industrial farms; and
- **Adopt 'degressive' payment schemes**, providing more money to smaller farms.



# STEPPING UP EU ACTION TO PROTECT FORESTS AND OTHER NATURAL ECOSYSTEMS

In December 2018, following calls from the European Parliament<sup>124</sup> and several European countries<sup>125</sup> to act, the European Commission announced plans to step up EU action against global deforestation and forest degradation.<sup>126</sup> It is expected to specify the measures it plans to take during the second quarter of 2019.<sup>127</sup>

The Commission acknowledged that ‘the EU, as a major importer of agricultural commodities, is part of the problem, but can also be part of the solution’.<sup>128</sup> In order to do so, a recent Commission-funded study concluded that a package of measures including new legislation would have the greatest impact.<sup>129</sup>

Greenpeace is calling on the EU to swiftly adopt a comprehensive and ambitious action plan, including new laws, to address the drivers of deforestation, forest degradation and the conversion or degradation of other natural ecosystems. The EU should aim to eliminate its destructive impact on forests and natural ecosystems, protect and restore them, and reduce its global ecological footprint, as well as to support human rights, improve governance and accelerate the transition of farming towards ecological methods. Proposals from the Commission must match the severity of the situation and the urgency of the current climate and biodiversity crises. Inaction or half-measures will result in further considerable damage to people’s lives and the environment.

EU action to protect forests and other natural ecosystems should at a minimum include the following:<sup>130</sup>

1

## New laws

**Internal market** — New legislation is needed to ensure that all forest risk commodities and derived products sold in the EU internal market (i) comply with strictly defined sustainability criteria to avoid environmental and social impacts like deforestation, forest degradation, the conversion or degradation of other natural ecosystems and human rights violations and (ii) are not produced by companies that are responsible for such environmental or social impacts. This new legislation should also impose obligations on EU-based operators, including for instance due diligence, traceability, supply chain transparency and third-party verification.

**Finance** — New legislation is needed to prevent the use of the financial system to support undertakings or activities linked to deforestation, forest degradation, the conversion or degradation of other natural ecosystems and human rights violations. This new legislation should require financial operators (including banks, investors and insurers as well as the public sector) to comply with due diligence and transparency requirements.

2

## International cooperation and dialogue

The EU should strengthen its cooperation with producer countries to ensure the protection and restoration of forests, peatlands and other natural ecosystems, as well as supporting governance and law enforcement, clarifying and strengthening land tenure, respecting human rights (including the rights of indigenous peoples and local communities) and speeding up the transition towards agroecological farming practices. In addition, the EU and its member states must engage with other major consumer countries and use their political leverage to encourage them to step up action alongside the EU.

3

## Reduced consumption

The action plan should include policy proposals aimed at promoting a reduction in the EU's consumption of meat and dairy and single-use products and packaging such as paper cups and cardboard.

4

## Long-term climate strategy

The EU is currently discussing a new long-term climate strategy. It must increase its 2030 targets and back a strategy which drastically reduces emissions in all sectors to ensure net-zero GHG emissions by 2040. To achieve this goal, the EU also has to increase carbon removal by significantly restoring its own forests, peatlands and other natural ecosystems, and protect them from further destruction.

5

## Changes to existing policies

In order to ensure overall coherence between existing EU policies and objectives of the future action plan, and to assure that these objectives are achieved, changes need to be made to a number of existing policies. These include, for instance, the CAP, EU trade policy and the policies of the EU and its member states on bioenergy.

# STRONGER EU REGULATION ON PESTICIDES AND GMOS

Greenpeace is also calling on the EU to:

1

## Stop imports of food and feed treated with banned pesticides

The EU should institute a ban on imports of food and feed treated with pesticides that are not licensed for use in the EU, or that have been banned due to health and environmental risks.

2

## Stop the export of banned pesticides

The EU should stop selling pesticides abroad that it does not allow to be used in its own territory.

3

## Introduce EU-wide GM labelling for food produced from animals fed with GM crops

The EU should mandate GM labelling for food that has been produced from animals fed with GM crops. At present, GM labelling is only compulsory for food and feed containing GM crops. Until this change is implemented, we are asking retailers to use GM-free labelling for animal products where no GM feed has been used.

4

## Reform the EU decision-making process on GM crops

The EU should reform its decision-making process on GM crops. Under current rules, the European Commission consistently allows the import of GM crops without the support of a qualified majority of EU member states, and in many cases despite the stated opposition of the European Parliament.





**A blue-crowned motmot (*Momotus momota*)  
seen in the Brazilian Amazon rainforest.**  
© John Novis / Greenpeace



**An Ipê tree in the rainforest south  
of Santarém, Pará State, Brazil.**  
© Daniel Beltrá / Greenpeace





## NOTES

- 1 144 million tonnes of soybeans were produced globally in 1997 and 353 million tonnes in 2017. Source: FAOSTAT website 'Crops'.
- 2 According to Eurostat data, almost three-quarters of the livestock units (72.2%) in the EU-28 were reared on very large farms in 2013. Source: Eurostat (2018).
- 3 FAOSTAT website 'Crops'
- 4 FAOSTAT website 'Crops'
- 5 Gibbs HK et al (2015)
- 6 Spring J (2018), Gibbs HK et al (2015) and Critical Ecosystem Partnership Fund (2017) pp51–52
- 7 Company Action on Deforestation (2018) p1
- 8 NASA Earth Observatory website 'Deforestation in Paraguay' and Oliveira G & Hecht S (2016)
- 9 Kissinger G, Herold M & De Sy V (2012) p5
- 10 Kissinger G, Herold M & De Sy V (2012) pp15, 44
- 11 See eg Prager A & Milhorange F (2018) and Lane C (nd).
- 12 International Service for the Acquisition of Agri-biotech Applications (2017) pp16–17
- 13 International Service for the Acquisition of Agri-biotech Applications (2017) p21
- 14 Pretty J & Bharucha ZP (2015), Leguizamón A (2014) and Schiesari L et al (2013)
- 15 In Argentina, pesticide application rates increased from 1.93 kg/ha in 1996 to 5.17 kg/ha in 2016, whilst in Brazil, rates increased from 1.55 kg/ha to 4.31 kg/ha. Source: FAOSTAT website 'Pesticides'.
- 16 In 2016, the EU imported 33.3 million tonnes of soya products (soybeans, soya cake, soya oil, soya paste and soya sauce). Imports consisted predominantly of soybeans (14.5 million tonnes) and soya cake (18.6 million tonnes). Source: FAOSTAT website 'Crops and livestock products'.
- 17 See Kroes H & Kuepper B (2015) pp9–11. Table 17 in this report details soya consumption in the EU embodied in different sectors. For the calculation here, we used soybean equivalents. 'Animal feed' includes soya consumed for the production of cattle and meat, eggs and egg products, dairy products and farmed fish, totalling 23.28 million tonnes of soybean equivalents. This represents 87% of the total of 26.64 million tonnes.
- 18 Greenpeace (2018) p14
- 19 Willett W et al (2019) p2, pp9–12
- 20 European Commission (2013) pp23–24. 'Embodied deforestation' refers to deforestation associated with the production of goods, commodities or services. According to the report, between 1990 and 2008, the EU imported crop and livestock products embodying 90,000 km<sup>2</sup> of deforestation. Crop products accounted for 74,000 km<sup>2</sup> (82%) of this, with oil crops having the largest share (52,000 km<sup>2</sup>). Soybeans and soya cake in turn accounted for 82% of this (42,600 km<sup>2</sup>), equivalent to 47% of the EU's total import of embodied deforestation.
- 21 Data and methodology provided to Greenpeace by the European Commission. See Greenpeace (2019) pp11, 13. For methodology and data, see also European Commission (2018a,c,d,f) and European Commission website 'Cereals, oilseeds and protein crops, rice'.  
**Note:** This calculation includes oilseed crops such as rapeseed and sunflower, which cover a total area of nearly 120,000 km<sup>2</sup>. While extracted oil is used largely as a food ingredient or for biodiesel, the meal – a co-product of the oil extraction process – is used as animal feed (see European Commission (2018d) p2). Arguably the entire cropland area under cultivation for oilseeds should be

- considered as producing animal feed within the calculation; however – taking a conservative approach in line with methods used by the European Commission itself to attribute ‘embodied deforestation’ (see European Commission (2013) Annex C p11) – the land area used was calculated proportionally, based on the percentage of the crop converted to meal as opposed to the extracted oil fraction.
- 22 CIA website ‘The World Factbook’
- 23 The EU imported 33.3 million tonnes of soya products in 2016 (source: FAOSTAT website ‘Crops and livestock products’). The average EU yield from soya production in 2016 was 3 tonnes/ha (source: European Commission (2018g), MS\_Oilseeds tab). This gives an area requirement of 110,000 km<sup>2</sup>.
- 24 In 2017, of the 1.05 million km<sup>2</sup> of arable land area in the EU, some 668,000 km<sup>2</sup> were used for fodder (see above and Greenpeace (2019) pp11, 13 for full explanation of numbers). This leaves just 382,000 km<sup>2</sup> available for direct human food production and other uses. An area requirement of 110,000 km<sup>2</sup> to produce the amount of soya currently imported by the EU equates to 30% of the arable land not already used to feed livestock.
- 25 European Council website ‘Paris Agreement on climate change’
- 26 Greenpeace (2018)
- 27 FAOSTAT website ‘Crops’
- 28 FAOSTAT website ‘Crops’
- 29 FAOSTAT website ‘Crops’
- 30 FAOSTAT website ‘Crops’
- 31 Brazil exported 19.5 million tonnes of soya products (soybeans, soya cake, soya oil and soya sauce) in 1997 and 67.3 million tonnes in 2016. (Data are not yet available for 2017 exports.) Source: FAOSTAT website ‘Crops and livestock products’.
- 32 Argentina exported 10.5 million tonnes of soya products (soybeans, soya cake, soya oil and soya sauce) in 1997 and 43.7 million tonnes in 2016. (Data are not yet available for 2017 exports.) Source: FAOSTAT website ‘Crops and livestock products’.
- 33 Gibbs HK et al (2015)
- 34 Greenpeace (2006)
- 35 Trase (2018b). DoR cites Adario P (2016) ‘10 years ago, the Amazon was being bulldozed for soy. Then everything changed’ 16 May 2016 Greenpeace UK <https://www.greenpeace.org.uk/10-years-ago-amazon-was-being-bulldozed-soy-then-everything-changed-20160516/>
- 36 Greenpeace (2014)
- 37 Greenpeace (2014)
- 38 ABIOVE & Agrosatellite (2018) p15
- 39 ABIOVE & Agrosatellite (2018) p18
- 40 Fearnside P (2017)
- 41 Freitas G Jr & Freitas T (2018)
- 42 Source: FAOSTAT website ‘Crops’.
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- 46 World Wildlife Fund website ‘Cerrado: Facts’
- 47 Strassburg B, Brooks T & Feltran-Barbieri R (2017)
- 48 World Wildlife Fund (2017) p2
- 49 TerraBrasilis website ‘Incrementos de desmatamento anuais no Cerrado Brasileiro’
- 50 Critical Ecosystem Partnership Fund (2017) pp146–151
- 51 MapBiomas Project v3.1 ‘Annual land use land cover maps of Brazil’
- 52 88.2 million ha. Source: CIA website ‘The World Factbook’.
- 53 Critical Ecosystem Partnership Fund (2017) pp51–52
- 54 Input Brasil website ‘Regions: MATOPIBA’
- 55 USDA (2012)
- 56 Carneiro Filho A & Costa K (2016) p9
- 57 Trase (2018a)
- 58 ABIOVE (2007) p10





**Organic Livestock Farming  
near Vienna, Austria.**  
© Mitja Kobal / Greenpeace



**Forest next to the Tapajós river, in Sawré  
Muybu Indigenous Land, home to the  
Munduruku people, Pará state, Brazil.**  
© Valdemir Cunha / Greenpeace



- 59 MapBiomass Chaco Project (2019) 'Collection 1 of the annual Chaco coverage and land use series' downloaded 23 May 2019 <http://plataforma.chaco.mapbiomas.org/map>
- 60 Company Action on Deforestation (2018) p1
- 61 Encyclopaedia Britannica website 'Gran Chaco'
- 62 World Wildlife Fund website 'Gran Chaco'
- 63 NASA Earth Observatory website 'Deforestation in Paraguay'
- 64 Global Forest Watch website 'Gran Chaco deforestation' and Baumann M et al (2016)
- 65 26.9 million ha. Source: MapBiomass Chaco Project (2019) 'Collection 1 of the annual Chaco coverage and land use series' downloaded 23 May 2019 <http://plataforma.chaco.mapbiomas.org/map>.
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- 73 International Service for the Acquisition of Agri-biotech Applications (2017) p17
- 74 International Service for the Acquisition of Agri-biotech Applications (2017) p17
- 75 In Argentina, pesticide application rates increased from 1.93 kg/ha in 1996 to 5.17 kg/ha in 2016, whilst in Brazil, rates increased from 1.55 kg/ha to 4.31 kg/ha. Source: FAOSTAT website 'Pesticides'.
- 76 Roy DB et al (2003)
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- 86 Sánchez-Bayo F & Wyckhuys KAG (2019)
- 87 Schiesari L et al (2013)
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- 90 Benedetti D et al (2013)
- 91 See eg Prager A & Milhorange F (2018) and Lane C (nd).
- 92 Tauli-Corpuz V, Alcorn J & Molnar A (2018)
- 93 The EU imported 33.3 million tonnes of soya products (soybeans, soya cake, soya oil, soya paste and soya sauce) in 2016. Imports consisted predominantly of soybeans (14.5 million tonnes) and soya cake (18.6 million tonnes). Source: FAOSTAT website 'Crops and livestock products'.
- 94 Greenpeace (2018) p14
- 95 Kroes H & Kuepper B (2015) pp9–11
- 96 Greenpeace (2019)

- 97 International Agency for Research on Cancer/ World Health Organisation (2018)
- 98 World Cancer Research Fund/American Institute for Cancer Research (2018)
- 99 Talaei M et al (2017)
- 100 Tharrey M et al (2018)
- 101 European Public Health Association (2017) p5
- 102 Willett W et al (2019) p2
- 103 According to data provided by the European Commission, of the 1.79 million km<sup>2</sup> of agricultural land available in the EU in 2017, some 1.27 million km<sup>2</sup> were used for fodder production. Source: Greenpeace (2019) p13.
- 104 Greenpeace (2019) p15
- 105 Fearnside P (2017)
- 106 IPCC (2014a) pp822–824. Total direct agricultural emissions amount to ~5.8 GtCO<sub>2</sub>e/yr. Of this, animal products (all livestock emissions) account for:
  - 2.1 GtCO<sub>2</sub>e/yr from enteric fermentation of animals
  - 0.99 GtCO<sub>2</sub>e/yr from manure
  - 0.34 GtCO<sub>2</sub>e/yr from fertiliser emissions (of total 0.68; at least 50% are directly for feed)Total direct emissions from livestock (industrial or otherwise) therefore amount to 3.43 GtCO<sub>2</sub>e/yr, which is 59% of total direct agricultural emissions.
- 107 United Nations Environment Programme (2019) p42
- 108 European Commission (2013) pp23–24. Between 1990 and 2008, the EU imported crop and livestock products embodying 90,000 km<sup>2</sup> of deforestation. Crop products accounted for 74,000 km<sup>2</sup> (82%) of this, with oil crops having the largest share (52,000 km<sup>2</sup>). Soybeans and soya cake accounted for 82% of this (42,600km<sup>2</sup>), equivalent to 47% of the EU's total import of embodied deforestation.
- 109 Data and methodology provided to Greenpeace by the European Commission. See Greenpeace (2019) pp11, 13. For methodology and data, see also European Commission (2018a,c,d,f) and European Commission website 'Cereals, oilseeds and protein crops, rice'.  
**Note:** This calculation includes oilseed crops such as rapeseed and sunflower, which cover a total area of nearly 120,000 km<sup>2</sup>. While extracted oil is used largely as a food ingredient or for biodiesel, the meal – a co-product of the oil extraction process – is used as animal feed (see European Commission (2018d) p2). Arguably the entire cropland area under cultivation for oilseeds should be considered as producing animal feed within the calculation; however – taking a conservative approach in line with methods used by the European Commission itself to attribute 'embodied deforestation' (see European Commission (2013) Annex C p11) – the land area used was calculated proportionally, based on the percentage of the crop converted to meal as opposed to the extracted oil fraction.
- 110 CIA website 'The World Factbook'
- 111 The EU imported 33.3 million tonnes of soya products in 2016 (source: FAOSTAT website 'Crops and livestock products'). The average EU yield from soya production in 2016 was 3 tonnes/ha (source: European Commission (2018g), MS\_Oilseeds tab). This gives an area requirement of 110,000 km<sup>2</sup>.
- 112 In 2017, of the 1.05 million km<sup>2</sup> of arable land area in the EU, some 668,000 km<sup>2</sup> were used for fodder (see above and Greenpeace (2019) pp11, 13 for full explanation of numbers). This leaves just 382,000 km<sup>2</sup> available for direct human food production and other uses. An area requirement of 110,000 km<sup>2</sup> to produce the amount of soya currently imported by the EU equates to 30% of the arable land not already used to feed livestock.
- 113 European Council website 'Paris Agreement on climate change'



- 114 Greenpeace (2018)
- 115 Smith P et al (2014) and Erb K-H et al (2016)
- 116 IPCC (2014a) p820 Figure 11.2
- 117 IPCC (2014a) pp822–824. Total direct agricultural emissions amount to ~5.8 GtCO<sub>2</sub>e/yr. Of this, animal products (all livestock emissions) account for:
  - 2.1 GtCO<sub>2</sub>e/yr from enteric fermentation of animals
  - 0.99 GtCO<sub>2</sub>e/yr from manure
  - 0.34 GtCO<sub>2</sub>e/yr from fertiliser emissions (of total 0.68; at least 50% are directly for feed)Total direct emissions from livestock (industrial or otherwise) therefore amount to 3.43 GtCO<sub>2</sub>e/yr, which is 59% of total direct agricultural emissions.
- 118 European Commission (2013) pp23–24
- 119 Greenpeace (2018) p14
- 120 For dairy, the global planetary health diet includes between 0 and 500 grams per week with a median figure of 250 grams/week, which translates into an annual range of between 0 and 183 kg with a median figure of 91 kg/year. While this is higher than in Greenpeace’s vision, it represents a reduction of nearly two-thirds from the current average for Western Europe. Source: EAT-*Lancet* Commission (2019) p10.
- 121 Greenpeace (2019) p7
- 122 European Commission website ‘Future of the common agricultural policy’
- 123 Ecological livestock integrates farm animals as essential elements in the agriculture system; they help optimise the use and cycling of nutrients and, in many regions, provide an important part of the farm workforce. Ecological livestock relies on grasslands, pasture and residues for feed, minimising use of arable land and competition with land for direct human food production and protecting natural ecosystems within a globally equitable food system (see Greenpeace (2013).
- 124 See eg European Parliament (2018), which calls for a ‘meaningful EU Action Plan on deforestation and forest degradation that includes concrete and coherent regulatory measures... to ensure that no supply chains or financial transactions linked to the EU cause deforestation, forest degradation, or human rights violations’.
- 125 See eg Ellemann-Jensen J (2018), written on behalf of the member states of the Amsterdam Declarations Partnership, and Ministère de la Transition Écologique et Solidaire (2018) p16.
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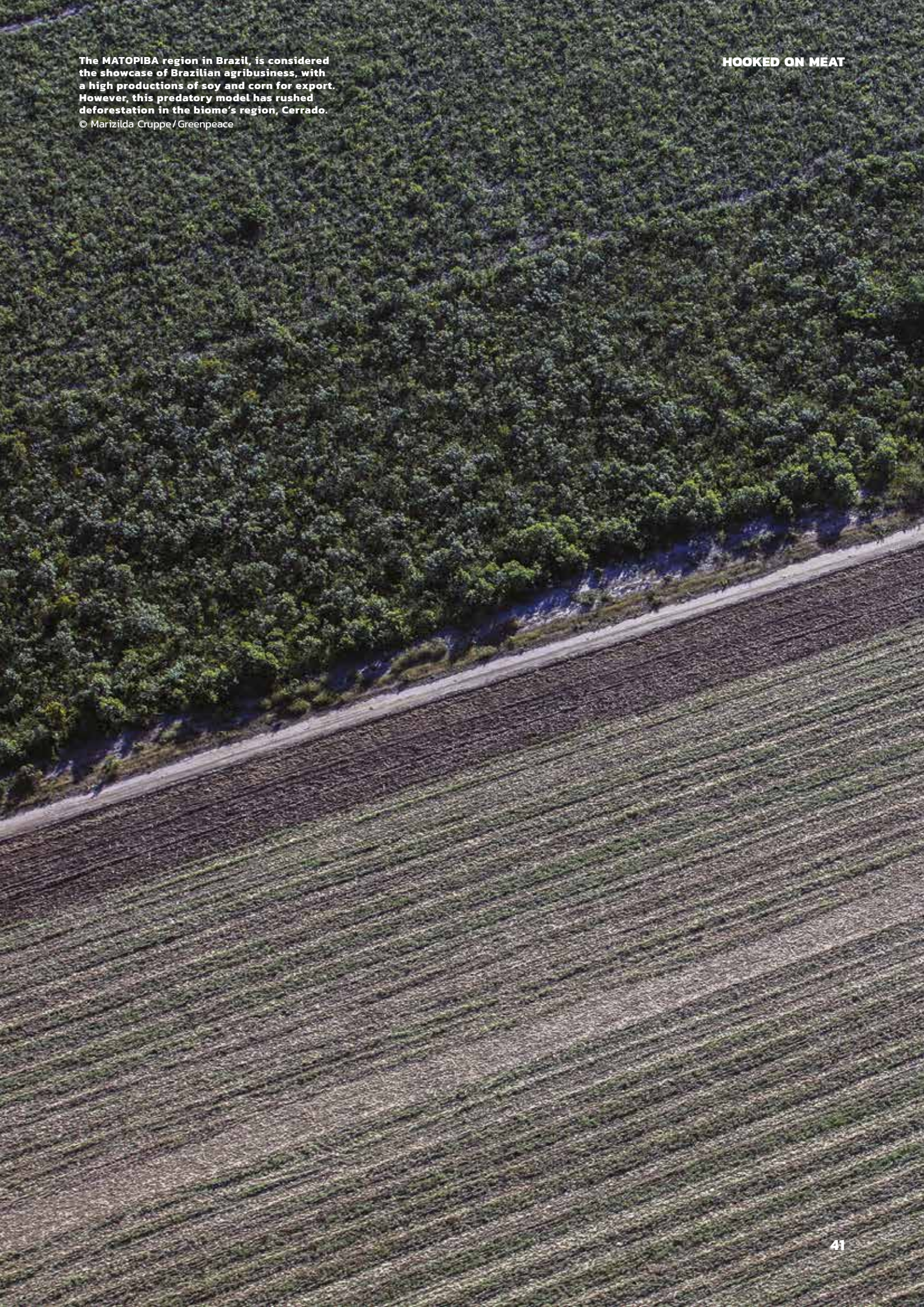
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**The MATOPIBA region in Brazil, is considered the showcase of Brazilian agribusiness, with a high productions of soy and corn for export. However, this predatory model has rushed deforestation in the biome's region, Cerrado.**

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**Forest Fires in Brazilian Amazon,  
in a region between the states  
of Amazonas, Acre and Rondônia, 2018.**

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