INDUSTRIAL AGRICULTURE AND CLIMATE CHAOS

AN INFORMATIONAL BOOKLET
BY THE CLIMATE COLLECTIVE

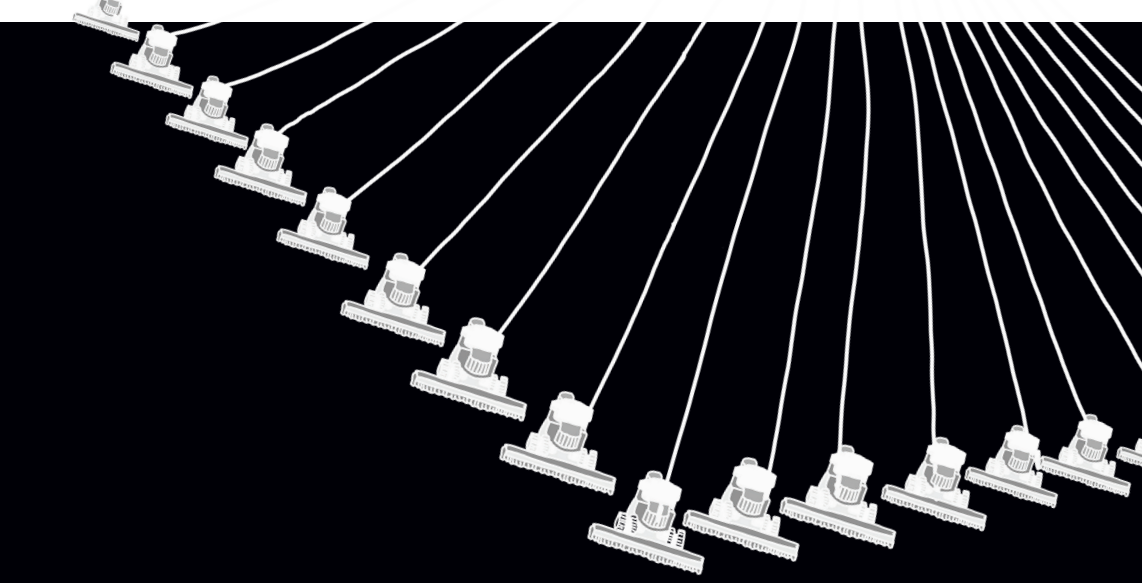
SMASH INDUSTRIAL AGRICULTURE FOR CLIMATE JUSTICE

It's time to recognize the major role of industrial agriculture in causing the climate crisis.

The climate justice movement has had great success exposing how the fossil fuel industry is brutally killing the planet for profit, but so far the industrial agricultural system has largely gone under the radar. This booklet will show how agricultural businesses are enforcing false and dangerous solutions to the climate crisis, only to expand their markets and continue their harmful businesses as usual. Let us, individuals and groups fighting for global climate justice, widen the focus of the climate justice movement and dismantle the industrial agricultural system, together!

The industrial agricultural system dispossesses small-scale farmers of their land and creates monocultural production on mega-plantations, producing crops for the global market, for bio-fuel, animal feed, and ingredients for processed foods. Industrial agriculture produces without concern for nature, biodiversity, or local food-security, and is one of the main causes of the climate crisis.
It is estimated, that between 44% and 57% of the global greenhouse-gas (GHG) emissions originate from industrial agriculture. The production and use of synthetic fertilizer alone stands for 10% of global GHG emissions, if the industry's use of gas and its dependence on fracking and land degradation is taken into account. Large fertile areas are destroyed in the search for scarce minerals and cheap gas.

It's no coincidence that the same few companies who are producing fertilizers, pesticides and crops are also the ones dominating global political processes and agricultural policymaking, coming up with false 'solutions' for how to solve the climate crisis. They are doing this with the purpose of expanding the reach of their markets, e.g. by forcing small farmers to use synthetic fertilizers, pesticides and patented seeds. The only purpose of their proposed 'solutions' is to keep us locked in a deadly industrial agricultural production system.



STOP THE EXPLOITATION OF THE EARTH

We need to stop the devastating practices of the industrial agricultural system and the few companies that control it. We already know what the solutions look like: agroecology, sustainable farming practices and food sovereignty, which secure self-determination over the food systems.
Let's smash industrial agriculture for climate justice! Let's educate ourselves, share our knowledge, create networks of resistance, take direct action, and hit the producers where it hurts the most.

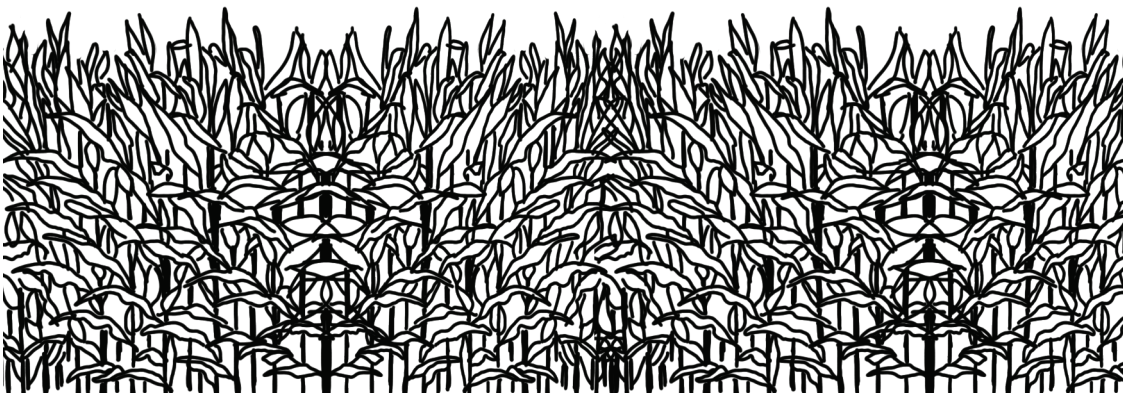
In 2019 a mass action in Northern Europe against one of the main 'players' in the system of industrial agriculture will take place. The action aims to stop the destruction at its origin, and to put on display the devastating practices of the agricultural industry.

Food for people not crops for profit!

INDUSTRIAL AGRICULTURE

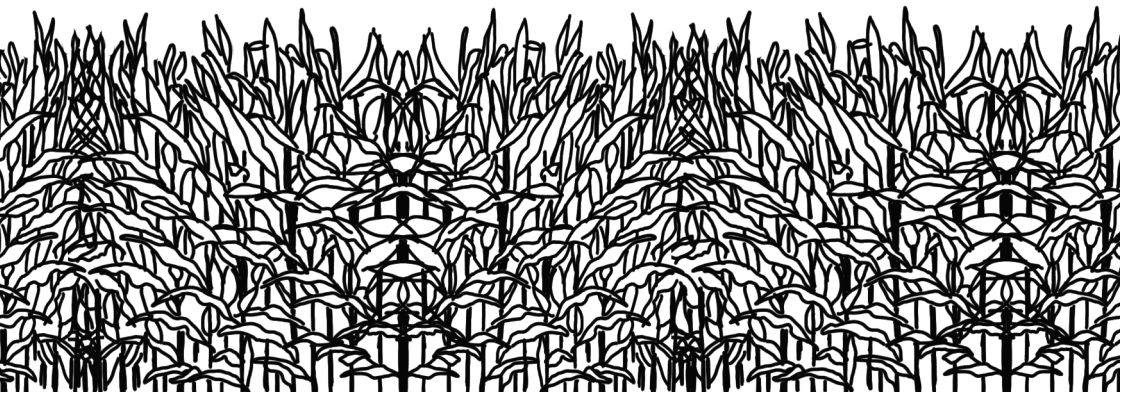
Agriculture as we know it today is a result of the capitalist development of industrial society. Especially in the time after the Second World War, the agricultural methods of the West have become increasingly industrialized. Industrial agriculture is characterized by:

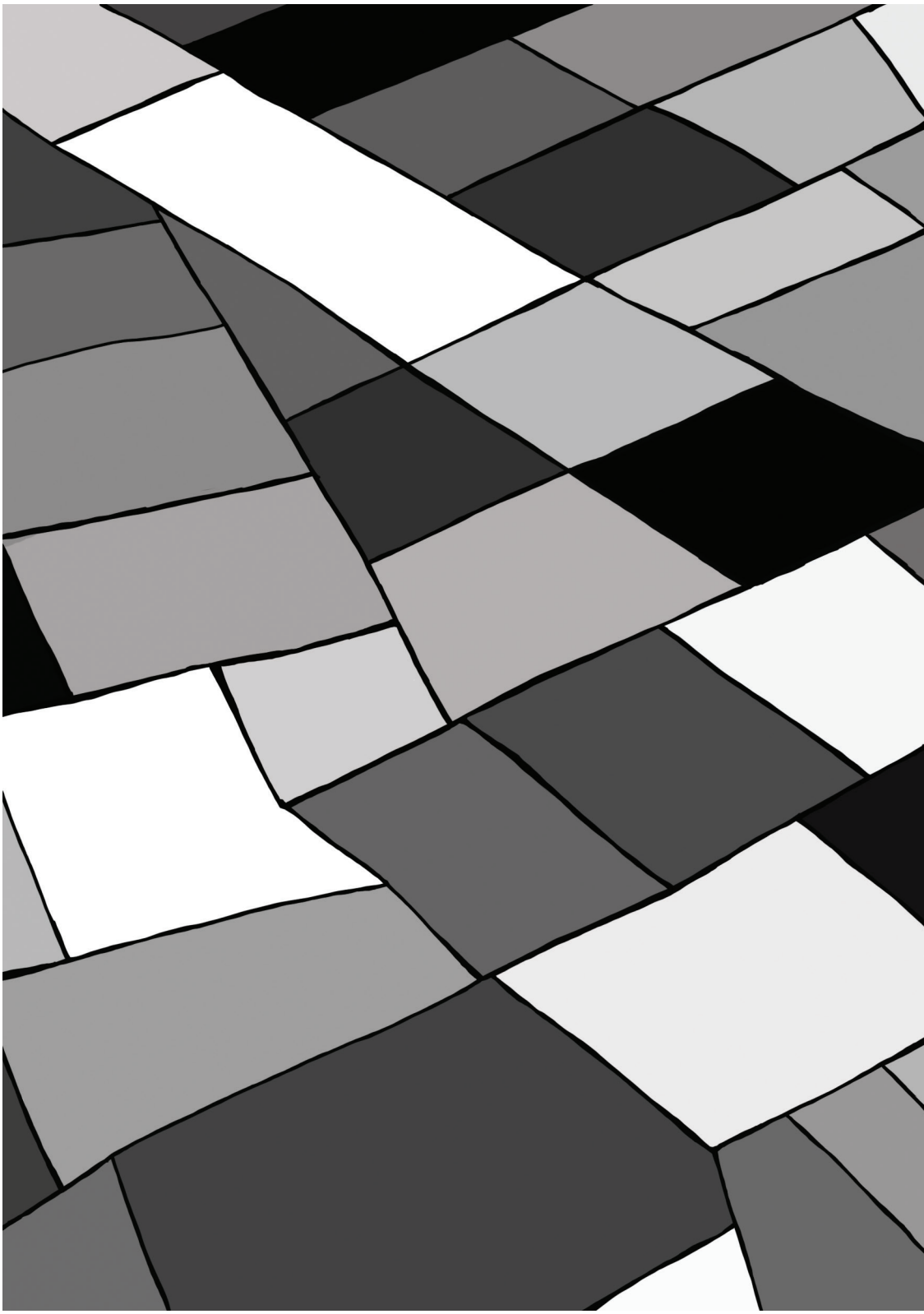
- *Specialization* - Industrial agriculture is typically specialized towards one product, for instance dairy- or wheat-production.
- *Mechanization* - Increasingly large machines and new technology means that only a small amount of labor is required in agricultural production. This also entails the need for large investments in technological equipment.
- *Centralization* - Farming is concentrated on fewer and larger areas. The land of small-scale farmers is bought and pooled, and as a consequence very few agro-industrial companies own enormous farming grounds.
- *Immense use of synthetic fertilizer and pesticides* - Traditional farming methods are replaced by production based on the injection of industrially manufactured products, for instance synthetic fertilizers.
- *Mono-culture* - Typically, only one crop is being grown on large areas. Production of especially exportable crops for animal feed, bio-fuel, and base-ingredients for processed foods, are being prioritized. Globally soy, corn, rapeseed, wheat, sugarcane, rice, and palm oil are increasingly produced at the expense of local food security and biodiversity.



Following the expansion of capitalism to virtually all corners of the earth, the agricultural methods of production have also been submitted to the leading principles of capitalism: competition, profit and price. The goal of agriculture today is to produce as much, as quickly, and as cheaply as possible, without consideration for the social and environmental consequences. This is the basis of industrial agriculture. The agricultural industry also has a huge responsibility for the climate crisis, amongst other due to the use of synthetic fertilizers as well as technology and machines that are in need of incredible amounts of fossil energy.

In the system of industrial agriculture, the multinational companies are the winners. They cash in enormous sums from sales of genetically modified (GM) crops, synthetic fertilizers, hormones, antibiotics and advanced agricultural technology, and the farmers are receiving less and less of the yield.





CONFRONTING THE SYSTEM OF INDUSTRIAL AGRICULTURE

Despite the growing understanding of the effects agricultural systems have on climate change there are no politicians willing to challenge the current model of production. Multinational companies and governments all over the world focus instead on false 'solutions', like "Climate Smart Agriculture", drought-resistant GM-crops, or large-scale geoengineering.

If agriculture is going to be part of the solution to the climate crisis, we need to fundamentally change the globalized industrial agricultural system that is controlled by multinational corporations, and work towards local systems run by small-scale farmers. By ensuring a redistribution of the land towards small-scale farmers, combined with methods that recreate the fertility of the soil and politics that support local returns, the role of agriculture in the climate crisis can be strongly reduced and the global GHG emissions halved within few decades. We don't need significant amounts of new technology or research if we simply employ some of the agricultural practices that small-scale farmers have used before the industrial revolution.

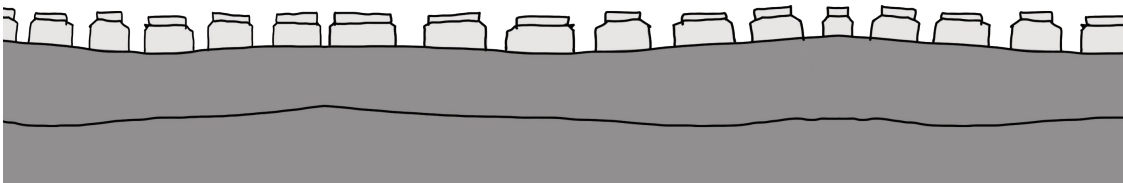
The most intensive agricultural country in the world is Denmark.
60% of its total landmass is used for farming. Only 10% are used for direct production of food for humans. 81% is used for production of animal feed. This means that 49% of the total Danish landmass is used for an unnecessary and absurd meat-industry.

AGRO-INDUSTRY, CAPITALISM AND COLONIALISM

Industrial agriculture and the escalating climate crisis are connected. Despite the fact that global agriculture during the last decades has had a growing output, global food-security has not improved – millions of people do still not have sufficient access to food, since the aim of industrial agriculture isn't to produce food, but to produce profit. The food is just a by-product.

The global, industrialized, and export-oriented system of agriculture as we know it today is a continuation of earlier colonial patterns. As Europeans colonized Africa in the 1800s, the most fertile lands were confiscated; a process today known as 'land-grabbing'. The small farms that for centuries had produced local food for local consumption were appropriated by European colonizers and turned into huge plantations that could produce export crops – such as coffee and sugar. This led to an instantaneous reduction of food production to the locals and a complete destruction of local food-security. The need for continuous expansion of the plantations led to the clearing of millions of hectares forest and other wild areas. This caused massive environmental destruction, for instance through erosion and desertification.

The industrial agriculture of our time destroys local food production by focusing exclusively on production of crops for industrial processing and sale on the global market. Most of these crops are used for bio-fuels, feed for the animal-industry, or as ingredients in processed foods. One example is the meat-industry in northern Europe that seizes huge areas in for instance Argentina, Brazil and the US for production of soybeans for animal feed.

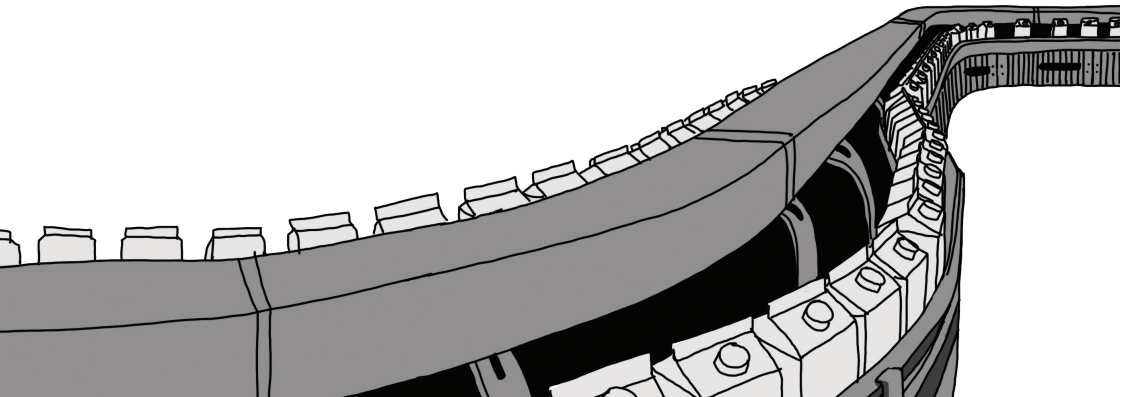


Small-scale farmers today are under increasing pressure. States and big agricultural companies acquire huge areas of farming lands through coercive methods that fall within a legal gray area, ignoring the land rights of the local population, robbing them of their access to land, water and food. Despite the fact that the agro-industry owns the vast majority of the world's farming grounds, it is still small-scale farmers, that produce the majority of the world's food. These small-scale farms are typically more productive when it comes to yield per unit, and has a greater potential for increasing their production using ecologically sustainable methods.

> It is estimated that around 72% of the world's farms are smaller than one hectare. These small-scale farmers only control 8% of the world's farmable land. Nonetheless it is estimated, that small-scale farmers in Asian and African countries are responsible for 70% of the worlds food production.

LOCAL OWNERSHIP OF LAND AND LOCAL TURN AROUND

One of the solutions for the climate crisis, and for creating actual food security for all, is to dismantle the big agro-industrial complex and return the lands to small-scale farmers. They can produce more effectively and in ways, that are more gentle on the planet and emits far less GHGs. A large part of the emissions of the agricultural system can also be cut by focusing on fresh foods and local production, rather than processed foods and cheap meat.



How industrial argriculture contributes to the climate crisis

44-55% of all GHGs originate from the global agricultural system.

Based on GRAIN's "The great climate robbery."

11-15% AGRICULTURAL
Agriculture accounts for be
emissions, mostly deriving
like synthetic fertilizers, fue
and excess manure from in

3-4% TRASH The system of indust
from the farm throu

2-4%
REFRIG

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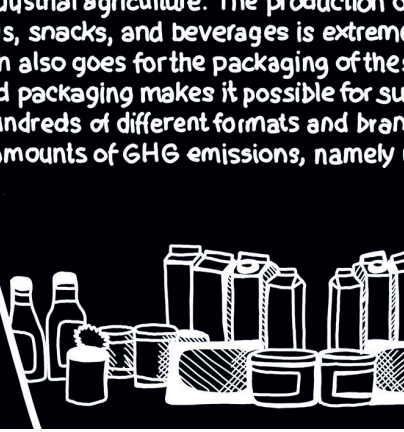
fo

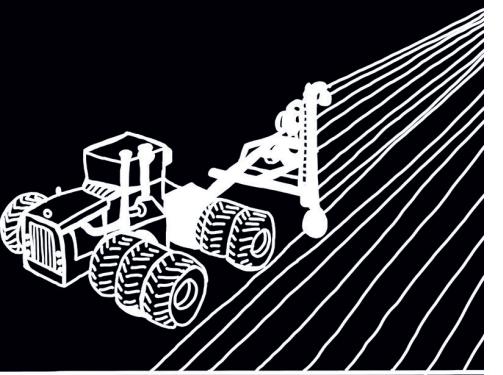
15-18% DEFORESTATION
Industrial agriculture is constantly searching for more land for cultivation. Savannas, wetlands, and forests are worldwide destroyed and taken over. According to FAO (Food and Agriculture Organization of the UN) agriculture is causing between 70-90% of global deforestation, accounting for 15-18% of global GHG emissions.

8-10% PROCESSING AND PACKAGING
Processing is a very profitable part of the
of industrial agriculture. The production o
meals, snacks, and beverages is extrem
which also goes for the packaging of thes
and packaging makes it possible for su
hundreds of different formats and bran
amounts of GHG emissions, namely



PRODUCTION

etween 11-15% of global GHG
from the use of industrial inputs,
l fortractors, watering systems,
ntensive meat-production.



rial agriculture discards up to half of the food that is produced. It is discarded on its long trip
ugh processing-plants to the retailers or restaurants. Of the global GHG
emissions, between 3,5-4,5% are caused by trash, 90% of which
stems from agriculture.

ERATION AND RETAILING

Coolers are the pivotal point of the modern
supermarkets and the global retailing system. Cooling is
responsible for 15% of energy use worldwide, and, alongside
chemical leakages from coolers, contributes to 1-2%
of global GHG emissions. Retail
distribution of food
accounts for the
same.

-6% TRANSPORT

lost of our food is transported thousands
f kilometers to reach our plates. Animal feed could
or instance have been produced in Argentina, fed to chickens
in Chile, brought to China where it is processed, to finally
being served at a McDonald's in Germany. A conservative
estimate is that agriculture causes a fourth of all GHG emissions linked to
transport, accounting for 5-6% of all emissions.

G

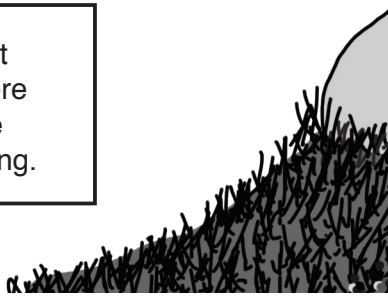
system
f ready-made
ely energy intensive,
se products. Processing
permarkets to be filled with
ds, but also generates large
up to 8-10% of global emissions.

Synthetic fertilizers: Nitrogen (N), phosphorus (P), potassium (K) The 'ingredients' in synthetic fertilizers are naturally occurring substances. Phosphorus and potassium are both found in certain rocks. The most important source of phosphorus is phosphate – a non-renewable resource that takes 10-15 million years to form. When the phosphorus runs dry, which with the current developments will happen in less than a century, it will be impossible to sustain a model of industrial agriculture that produces as high a yield. Nitrogen fertilizer is produced almost exclusively from natural gas in an extremely energy-intensive process.

The capitalist principle of profit-maximization is clearly seen in the use of synthetic fertilizer that is used to increase the yield far beyond what the soil can withstand, if it is to maintain its fertility. Industrial agriculture is exploiting the soil to such an extent that synthetic fertilizers will become a necessity. Synthetic fertilizers are the largest source of GHG emissions from agriculture. The production of synthetic fertilizers, especially nitrogen, needs incredible amounts of energy. It is estimated that the production of synthetic fertilizers takes up 1-2% of the global energy use, and production grows every year. Despite the extremely energy-intensive process at production level, the majority of the emissions connected to synthetic fertilizers happen when it is brought onto the fields as it becomes washed out or evaporates.

Synthetic fertilizers are artificially made plant nutrition made up of combinations of nitrogen (N), phosphorus (P), and potassium (K). They are all naturally occurring in the soil, but through intensive farming they are depleted faster than they can naturally regenerate.

Every time 100kilo nitrogen-fertilizer is brought onto the fields, 1 kilo ends up in the atmosphere as nitrous oxide; a gas, that is 300 times more potent than CO2 and extremely ozone-depleting.



CLIMATE CULPRITS

The global fertilizer-industry is dominated by a small number of corporations. The fertilizer-company **Yara**, which is partially owned by the Norwegian state, dominates the global market for nitrogen-fertilizer, while the phosphorus- and potassium-market is managed by a handful of companies, including US-based **Mosaic** and the Canadian **PotashCorp.**

MORE FERTILE FARMLAND

If we stop using synthetic fertilizers, the global GHG emissions are immediately brought down. The loss of organic matter in the soil is the main cause of the emissions of industrial agriculture. By restructuring agriculture towards agroecology and by using more gentle methods, we can regenerate the soil exploited by industrial agriculture and thereby ensure more fertile farmland, which once again would be able to store more CO2 from the atmosphere. If we are committed to this process, the amount of organic matter in the soil could be brought back to pre-industrial levels within 50 years; about the same time it has taken the system of industrial agriculture to break it down. This kind of soil improvement could reduce global GHG emissions by 25-30%.

PESTICIDES

The use of synthetic fertilizers and pesticides has been leading the way for the development of industrial agriculture, and is one of the main reasons for the overexploitation of the soil. Pesticides are used for fighting plants, insects, fungi, rodents, and other organisms designated as harmful. While synthetic fertilizers are the main source of emissions of industrial agriculture, the ecological effects of pesticides are less direct. Their negative effects on the environment are disregarded due to their importance for industrial agriculture, for maintaining the status quo and the immense power of the pesticide industry. The extreme misuse of pesticides leads to pollution of the ground water, huge loss of biodiversity, erosion and degradation of the soil– which again increases the need for synthetic fertilizers.

The use of pesticides deteriorates the soil and leads to loss of organic material. This contributes to creating climate chaos as it is the organic material that binds CO2 in the soil. The use of pesticides is also inseparable from a model of agriculture that demands efficiency through large areas of monoculture and the use of large machinery. Farmland is treated as an infinite resource that can be replaced with new and better soil, once the old is exploited and poisoned. It is this catastrophic mentality that has led to the pesticide-industry gaining immense power. A power which is held by a handful of companies.

MORE CLIMATE CULPRITS

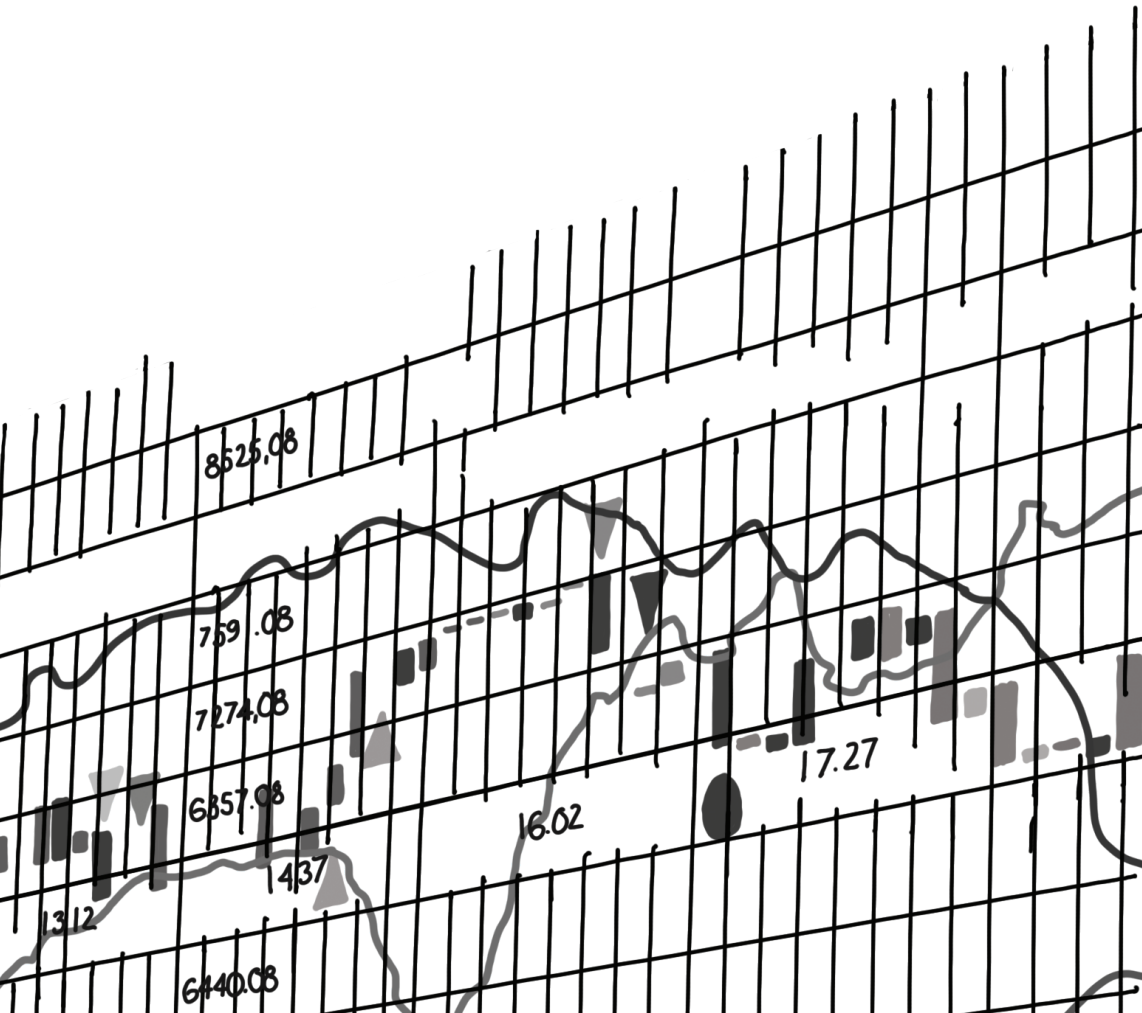
The few companies that dominate the pesticide-industry also dominate the market for commercial seeds. This gives them a huge influence on the global development of agriculture. The last few years has seen a development towards fewer and fewer companies. Some of the largest companies in 2017, **Dow**, **DuPont**, **Bayer**, **Monsanto**, **BASF** and **Syngenta**, control 75% of the global market for pesticides, and 63% of the market for commercial seeds.

STOP THE USE OF CHEMICALS

Let's stop the use of chemicals in agriculture, and instead find a pesticide that can exterminate capitalism. By returning to more climate friendly and diverse farming practices, which are suited to local conditions, we can regenerate the farming grounds, increase the yields and create a better food production.The necessary knowledge about sustainable agriculture that does not count on chemicals still exists among small-scale farmers around the world.

CLIMATE SMART AGRICULTURE OR CORPORATE SMART AGRICULTURE

The agro-industry and the large fertilizer- and pesticide companies work tirelessly to green-wash their products, and present false ‘solutions’ to the climate-crisis. It is primarily one organization, GACSA (Global Alliance for Climate Smart Agriculture) that addresses the role of agriculture, within international climate-talks. GACSA is supposed to look like a voluntary, action-oriented coalition run by farmers, and with many partners. Despite this, only a few farmer-organizations have become part of the alliance, that to a large extent is dominated by large fertilizer-companies, including Yara.



In 2009 the term ”Climate Smart Agriculture” was launched to ”promote a paradigm-shift within agriculture on all levels”. The term doesn’t refer to a specific type of production, but is supposed to identify which practices and farming-programs best respond to the challenges, that climate-change create for food security. However, this term holds no specific indicators for how and when to value practices and programs as sustainable or not. Climate Smart Agriculture is a misleading term, that makes it possible for destructive practices to be branded as “climate smart”, despite their clearly harmful effects. In this way, multinational companies and their partners can use the CSA-brand to promote any project – a clear green-washing strategy. As the dominating membership of GACSA is made up of the fertilizer-industry, it is especially practices, that promote fertilizer as part of the solution on the climate-crisis, that are being put forward as “Climate Smart Agriculture”. Further misleading terms like “sustainable intensification” and “climate compatible agricultural growth” are also being presented. These false and dangerous ‘solutions’ also prevent any real action and change towards food security and more sustainable farming practices.

AGROECOLOGY, NOT "CLIMATE SMART" SOLUTIONS

We need to show, that GACSA and Climate Smart Agriculture are not part of the solution, but rather a continuation of the destruction of our climate. We need to work towards a system build on agroecology; farming-systems, that are modeled on the functions of local ecosystems, and natural processes that ensure a good nutrient circulation and high biodiversity. By utilizing synergies between many different plants and animals we can create sustainable as well as productive farming practices. As a social movement agroecology is about individuals and communities contributing to building sustainable and just farming systems with focus on local ownership and sustainable consumption.

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THE CLIMATE COLLECTIVE

The Climate Collective is a Danish affinity-based political collective. We work to confront the underlying causes of climate change – in words and in actions. We see ourselves as a part of the larger global movement against climate change and the capitalist system. This informational booklet is aimed primarily towards other organizations and groups who fight for global climate justice. The aim is to inform about the influence of industrial agriculture on the climate crisis and to encourage action.

Klimakollektivet.wordpress.com // facebook.com/climatecollective