

Lexicon for the Free the Soil Campaign

People involved in FtS should be able to educate themselves. It is important that we know what words mean and especially what we mean when we are using them ourselves. Often there are several words with the same or almost the same meaning. It is important that we use the correct term and use them in a consequent way. We are from different countries and have different languages as native language. Often translations will be required. For this reason it is important to know as well the right meanings and translations of the most used terms in several languages. Probably at least English, German, Danish and Dutch translations will be good to have. So feel free to expand this document with more words and more translations.

Synthetic fertilizers, artificial fertilizers or chemical fertilizers?

During one of the first Free the Soil meetings we decided to use the term **synthetic fertilizers** in our campaign. Other terms used are **artificial fertilizers**, **chemical fertilizers**, **manufactured fertilizers**. But artificial doesn't say much and sounds too friendly. Chemical is often used, but strictly all fertilizers are chemical. Synthetic means that something can't be produced by natural processes. This is for us the correct distinction between the fertilizers we oppose and the rest. And we are not the only ones using this.

Related are the terms mineral or inorganic fertilizers. This can be more or less processed:

- simple mineral fertilizers, e.g. urea, ammonium nitrate and sulphate, etc.;
- complex mineral fertilizers, e.g. NP, NK and NPK mixtures;
- mineral-organic fertilizers, e.g. calcium cyanamid.

In Dutch / in het Nederlands: **kunstmest**. Andere woorden zoals synthetische mest of synthetische minerale mest worden niet veel gebruikt. In een artikel of bij een presentatie kan het wel goed zijn om de term in elk geval een keer te gebruiken.

In German / auf Deutsch: **Kunstdünger**.

Organic fertilizers

Fertilizers that are not synthetic fertilizers are organic fertilizers. This is not the same 'organic' as the 'organic food'. The latter includes some more criteria.

Different categories of organic fertilizers:

- manure
- other organic fertilisers such as compost, sewage sludge, industrial waste.
- green manures – nitrogen fixing plants – clover, vetch, rye.

In Dutch / in het Nederlands: Also in Dutch 'organische mest' is not the same as 'biologische mest'. Organische mest is mest uit plantaardige en dierlijke grondstoffen van natuurlijke oorsprong. Dus meestal de poep (urine) van beesten en soms compost. 'Biologische mest' is coming from an certified organic farm.

Types of organic fertilizers

Manure

Manure is organic matter, mostly derived from animal feces. An exception is green manure. In the past, the term manure included inorganic fertilizers, but this usage is now very rare.

There are different types of animal manure with very different characteristics.

In German / auf Deutsch: Dünger.

In Dutch / in het Nederlands: mest.

Liquid manure / slurry

On the one side there is the liquid manure, a mixture of the urine and feces collected in the stables and spread over the land or injected in the soil. This practice bad for the soil and results in a lot of emissions. Comparable to the use of synthetic fertilizers.

In German / auf Deutsch: Gülle.

In Dutch / in het Nederlands: drijfmest of gier.

(Solid) Manure

It seems that there is no good English word especially for solid manure. Feces and urine mixed with straw. If this has been composted it becomes a good fertilizer to

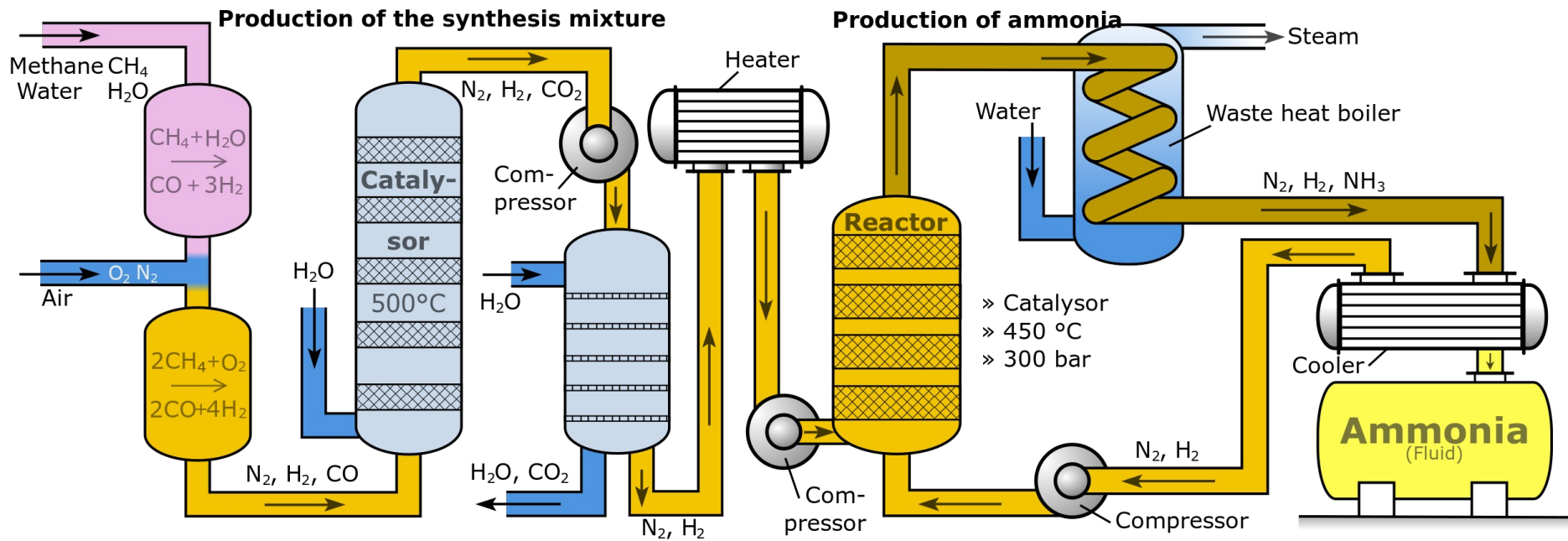
improve the soil and the increase the amount of organic matter.

In Dutch / in het Nederlands: (gecomposteerde) potstalmest

In German / auf Deutsch: Mist

Compost

Compost is organic matter that has been decomposed. Composting is an aerobic method (meaning that it requires the presence of air) of decomposing organic solid wastes. It can therefore be used to recycle organic material. The process involves decomposition of organic material into a humus-like material, known as compost, which is a good fertilizer for plants.



Terms related to nitrogen and nitrogen fertilizers

English		German		Dutch	
<i>The information is not always available in all languages. And despite a large Danish involvement in FtS this language is lacking so far.</i>					
nitrogen	Nitrogen is the chemical element with the symbol N.	Stickstoff		stikstof	Stikstof is een scheikundig element met symbool N . Het vormt een een reukloos en kleurloos gas (distikstof of stikstofgas) dat 78% van de aardatmosfeer uitmaakt. Stikstof is nodig voor de synthese van aminozuren, de bouwstenen van alle eiwitten. Hoewel de atmosfeer grotendeels uit stikstofgas bestaat, zijn de meeste planten niet in staat direct van deze bron gebruik te maken maar alleen via de hulp van bepaalde bacteriën.
dinitrogen or nitrogen gas	At standard temperature and pressure, two atoms of N bind to form dinitrogen, a colourless and odourless diatomic gas with the formula N ₂ . Dinitrogen forms about 78% of Earth's atmosphere.	Distickstoff		distikstof	Distikstof of moleculaire stikstof (N ₂) is de belangrijkste enkelvoudige stof van het element stikstof. Het is onder normale druk en temperatuur een kleurloos, reukloos, smaakloos en inert gas. Het wordt ook wel stikstofgas genoemd. Distikstof maakt 78,06 % van het volume van de aardatmosfeer uit.
nitrate	Nitrate is a polyatomic ion with the molecular formula NO ₃ ⁻ . Organic compounds that contain the nitrate ester as a functional group (R-O-NO ₂) are also called nitrates. Nitrate salts are found naturally on earth as large deposits, particularly of nitratine, a major source of sodium nitrate. Nitrates are produced by a number of species of nitrifying bacteria. Nitrates are found in fertilizers. As a byproduct of lightning strikes in earth's nitrogen-oxygen rich atmosphere.	Nitrat		nitraat	De algemene naam van een polyatomisch anion (NO ₃ ⁻) of functionele groep (R-O-NO ₂) die één stikstofatoom en drie zuurstofatomen bevat. Chemisch gezien is salpeterzuur (HNO ₃) de stamverbinding van de nitraatgroep.
ammonia	Ammonia is a compound of nitrogen and hydrogen with the formula NH ₃ . The simplest pnictogen hydride , ammonia is a colourless gas with a characteristic pungent smell. It is a common	Ammoniak		ammoniak	(ook wel watervrije ammoniak genoemd) een anorganische verbinding van stikstof en waterstof met als brutoformule NH ₃ . Ammoniak is bij kamertemperatuur een kleurloos, giftig en brandbaar gas met een karakteristieke, sterk

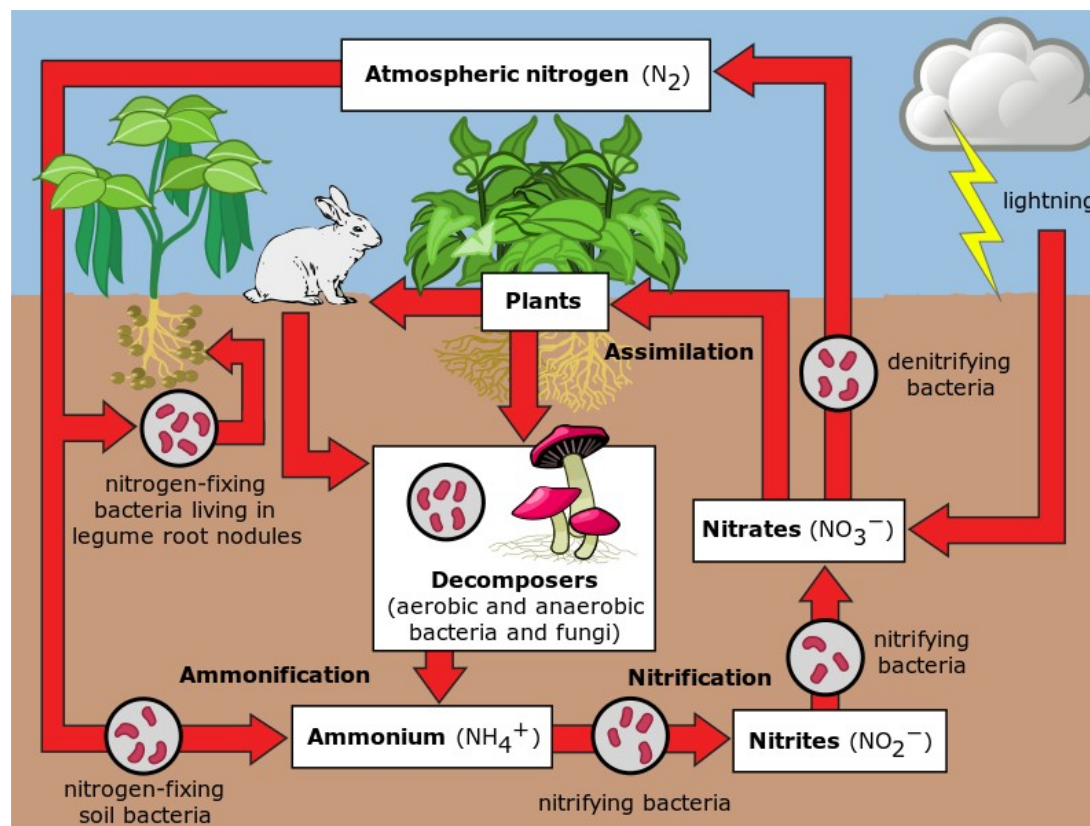
	nitrogenous waste , particularly among aquatic organisms, and it contributes significantly to the nutritional needs of terrestrial organisms by serving as a precursor to food and fertilizers .				prikkelende geur. Ammoniak wordt in grote fabrieken gemaakt door hydrogenering van stikstof uit de lucht onder hoge druk met hulp van een katalysator (Haber-Boschproces).
ammonia solution	also known as ammonia water, ammonium hydroxide, ammoniacal liquor, ammonia liquor, aqua ammonia, aqueous ammonia, or (inaccurately) ammonia, is a solution of ammonia in water. It can be denoted by the symbols NH ₃ (aq).	Salmiakgeist / Ammoniakwasser		Ammonia (ook wel: <i>ammoniumhydroxide</i> of <i>salmiakgeest</i> genaamd)	een oplossing van het gas ammoniak in water . In symbolen: NH ₃ (aq)
Haber-Bosch Process	The way in which most ammonia is produced by heating nitrogen gas and hydrogen gas without oxygen in contact with a high pressure catalyst. The process was developed in 1909 by Fritz Haber and Carl Bosch and patented in 1910.	Haber-Bosch-Verfahren		Haber-Boschproces	De wijze waarop de meeste ammoniak wordt geproduceerd, door stikstofgas en waterstofgas zonder zuurstof in contact met een katalysator onder hoge druk te verhitten. Het proces is in 1909 door Fritz Haber en Carl Bosch ontwikkeld en in 1910 gepatenteerd.
nitrogen fertilizers	are made from ammonia (NH ₃), which is sometimes injected into the ground directly. The ammonia is produced by the Haber-Bosch process . ^[6] In this energy-intensive process, natural gas (CH ₄) usually supplies the hydrogen , and the nitrogen (N ₂) is derived from the air . This ammonia is used as a feedstock for all other nitrogen fertilizers, such as anhydrous ammonium nitrate (NH ₄ NO ₃) and urea (CO(NH ₂) ₂).	Stickstoffdünger		stikstof(kunst)mest	Meststof met als basis ammonia dat geproduceerd wordt met het Haber-Boschproces. Vaak dient ammonia als basis voor andere meststoffen zoals ureum, calciumnitraat, natriumnitraat, ammoniumnitraat en diverse samengestelde meststoffen met stikstof. Daarbij wordt ruwweg 3,3% van de wereldjaarproductie aan aardgas verbruikt (ongeveer 0,75% van het wereldenergieverbruik). Waterstofproductie via de elektrolyse van water is niet kostenefficiënt (te duur).
ammonium nitrate	a chemical compound , the nitrate salt of the ammonium cation . It has the chemical formula NH ₄ NO ₃ , simplified to N ₂ H ₄ O ₃ . It is a white crystal solid and is highly soluble in water. It is predominantly used in agriculture as a high-nitrogen fertilizer	Ammoniumnitraat		Ammoniumnitraat	Een zeer goed in water oplosbaar zout van salpeterzuur en ammoniak , met als brutoformule NH ₄ NO ₃ . Ammoniumnitraat is een belangrijke kunstmeststof omdat het zowel het kation (NH ₄ ⁺) als het anion (NO ₃ ⁻) stikstof bevat.
urea	an organic compound with chemical formula CO(NH ₂) ₂ . This amide has two NH₂ groups joined by a carbonyl (C=O) functional group .	Harnstoff		Ureum	Ureum is een stikstofhoudende organische verbinding met als molecuulformule (NH ₂) ₂ CO. Ureum is een afvalproduct bij de eiwitstofwisseling in de lever . Het wordt gebruikt

					als meststof in de plantenteelt.
salpeter		Salpeter	den Trivialnamen einiger häufig vorkommender Nitrate, insbesondere weißes oder hellgraues Salz der Salpetersäure.	salpeter	Salpeter is de triviale naam voor een aantal salpeterzure metaalzouten zoals 'gewone salpeter' of kaliumnitraat (KNO ₃), Chilisalpeter of natriumnitraat (NaNO ₃), kalksalpeter of calciumnitraat (Ca(NO ₃) ₂), of ammoniumsalpeter ammoniumnitraat (NH ₄ NO ₃). Salpeter wordt onder andere gebruikt als meststof en voor het maken van explosieve mengsels zoals zwart buskruit.
nitric acid	Nitric acid (HNO ₃), also known as <i>aqua fortis</i> (Latin for "strong water") and <i>spirit of niter</i> , is a highly corrosive mineral acid. The main industrial use of nitric acid is for the production of fertilizers. Nitric acid is neutralised with ammonia to give ammonium nitrate. Another main applications is the production of explosives.	Salpetersäure		salpeterzuur of waterstofnitraat	Een anorganische verbinding met als brutoformule HNO ₃ . De belangrijkste toepassingen liggen in de kunstmest- en explosievenindustrie.
Nitrous oxide	Nitrous oxide, commonly known as laughing gas or nitrous,[2] is a chemical compound, an oxide of nitrogen with the formula N ₂ O.	Lachgas oder Distickstoffmonoxid		Lachgas of distikstofmonoxide	Lachgas is een anorganische verbinding van stikstof en zuurstof met als brutoformule N ₂ O. Als broeikasgas is lachgas circa 250 maal sterker dan koolstofdioxide. In het algemeen is de uitstoot van lachgas relatief beperkt, ook op wereldschaal. Het kan echter tot anderhalve eeuw euren voordat het afgebroken is. Daarom wordt het ook tot de belangrijkste broeikasgassen gerekend, waarbij het tot 7% van het broeikas effect verklaart. Een belangrijkste bron van lachgas is de landbouw (33,5%) De oorzaken zijn met name het gebruik van mest en kunstmest. Lachgas komt ook vrij door het scheuren (omploegen) van grasland.
UAN	UAN is a solution of urea and ammonium nitrate in water used as a fertilizer .	AHL (Ammoniumnitraat-Harnstoff-Lösung)	AHL (oder auch UAN = Urea Ammonium Nitrate) ist eine stickstoffhaltiger Flüssigdünger. Es ist eine farblose flüssige Mischung aus Ammoniumnitraat , Harnstoff und	UAN	UAN is een geconcentreerde oplossing van ureum en ammoniumnitraat . De oplossing wordt gebruikt als vloeibare kunstmest . Het meest voorkomende type UAN is UAN 32.0.0 (32%N), welke 44.3% ammoniumnitraat, 35.4% ureum en

			Wasser. Handelsübliche Qualitäten besitzen 32, 30 oder 28 Gewichts-% Stickstoff.		slechts 20.4% water bevat.
NPK	NPK fertilizers are three-component fertilizers providing nitrogen, phosphorus, and potassium. NPK ratings consist of three numbers separated by dashes (e.g., 10-10-10 or 16-4-8) describing the chemical content of fertilizers. The first number represents the percentage of nitrogen in the product; the second number, P ₂ O ₅ ; the third, K ₂ O. Fertilizers do not actually contain P ₂ O ₅ or K ₂ O, but the system is a conventional shorthand for the amount of the phosphorus (P) or potassium (K) in a fertilizer.	Volldünger oder NPK	Dünger, die Stickstoff (N), Phosphat (P) und Kalium (K) – die Kernnährelemente – enthalten, werden als Volldünger oder NPK-Dünger bezeichnet.	NPK en NP	Een kunstmest dat een combinatie van stikstof, fosfor en kalium bevat. De combinatie van stikstof en fosfor wordt NP genoemd.
CAN, calcium ammonium nitrate	Calcium ammonium nitrate or CAN, also known as nitro-limestone or nitrochalk, is a widely used inorganic fertilizer, accounting for 4% of all nitrogen fertilizer used worldwide in 2007.	Kalkammonsalpeter	Kalkammonsalpeter ist ein Stickstoffdünger mit 27 % N und 10 % Ca.	Kalkammonsalpeter (KAS) /MAS	Een stikstofhoudende kunstmest in korrelvorm die de plantengroei stimuleert. Het bevat ammoniumnitraat en calciumcarbonaat (CaCO ₃). Een deel van de meststof is snelwerkend, omdat nitraat NO ₃ ⁻ direct door de plantenwortels wordt opgenomen. het ammonium (NH ₄ ⁺) ion daarentegen moet eerst door het bodemleven worden omgezet in nitraat voordat het door de plant opgenomen kan worden. Dit wordt nitrificatie genoemd. Kalkammonsalpeter wordt door hobbyisten vaak gebruikt voor het maken van rookbommen, dit wordt gemaakt van een mengsel van suiker en KAS.
Ammonium phosphate, DAP and MAP	Ammonium phosphate is the salt of ammonium and phosphate. It is a highly unstable compound with the formula (NH ₄) ₃ PO ₄ . Because of its instability, it is elusive and of no commercial value. The related diammonium phosphate (DAP) (NH ₄) ₂ HPO ₄ and monoammonium salt (MAP) (NH ₄)H ₂ PO ₄ are valued as in water dissolvable fertilizer.			Ammoniumfosfaat, DAP en MAP	Diamoniumfosfaat en Mono-ammoniumfosfaat. Een vloeibare stikstof- en fosfaathoudende kunstmest, of een water oplosbaar kristal om deze vloeistof te maken.
Ammonium	The primary use of ammonium sulfate is	Ammoniiumsulfat		Ammoniiumsulfaat	Een ammoniumzout van zwavelzuur, met als

sulfate	as a fertilizer for alkaline soils. It is also used as an agricultural spray adjuvant for water-soluble insecticides, herbicides, and fungicides.			/ AS	brutoformule $(\text{NH}_4)_2\text{SO}_4$. Ammoniumsulfaat wordt hoofdzakelijk als kunstmest gebruikt en wordt dan vaak zwavelzure ammoniak genoemd.
Ammonium nitrate	A chemical compound, the nitrate salt of the ammonium cation. It has the chemical formula NH_4NO_3 . It is predominantly used in agriculture as a high-nitrogen fertilizer. Its other major use is as a component of explosive mixtures used in mining, quarrying, and civil construction.	Ammoniumnitraat		ammoniumnitraat / AN	Ammoniumnitraat is een zeer goed in water oplosbaar zout van salpeterzuur en ammoniak, met als brutoformule NH_4NO_3 . Ammoniumnitraat is een belangrijke kunstmeststof omdat het zowel het kation (NH_4^+) als het anion (NO_3^-) stikstof bevat. De stof wordt ook in combinatie met benzine als explosief gebruikt en het heeft in de mijnbouw dynamiet grotendeels verdrongen

Source: Most information in this table comes from Wikipedia, sometimes slightly edited.



What we should free

The soil

Auf deutsch: Boden

In het Nederlands: bodem

Soil is a mixture of organic matter, minerals, gases, liquids, and organisms that together support life. Earth's body of soil, called the pedosphere, has four important functions:

- as a medium for plant growth
- as a means of water storage, supply and purification
- as a modifier of Earth's atmosphere
- as a habitat for organisms

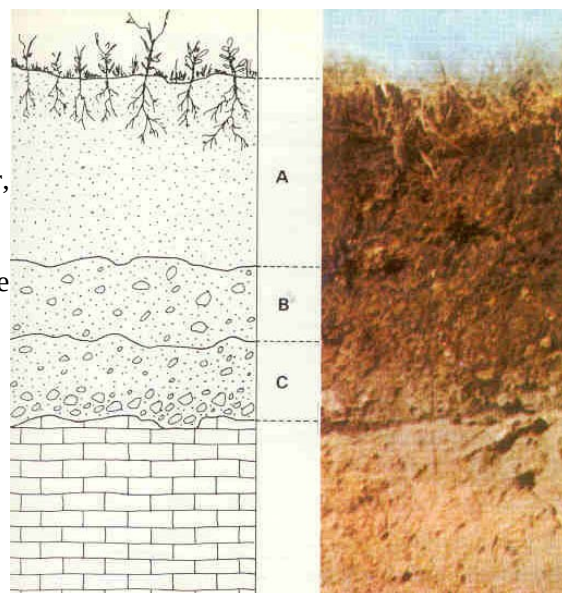
All of these functions, in their turn, modify the soil.

Soil is also commonly referred to as earth or dirt; some scientific definitions distinguish dirt from soil by restricting the former term specifically to displaced soil.¹

Soil organic matter

Soil organic matter (SOM) is the organic matter component of soil, consisting of plant and animal detritus at various stages of decomposition, cells and tissues of soil microbes, and substances that soil microbes synthesize. SOM provides numerous benefits to the physical and chemical properties of soil and its capacity to provide regulatory ecosystem services. SOM is especially critical for soil

¹ Source: <https://en.wikipedia.org/wiki/Soil>



A, B & C represent the soil profile
(source: wikipedia)

functions and quality.

The benefits of SOM result from a number of complex, interactive, edaphic factors; a non-exhaustive list of these benefits to soil function includes improvement of soil structure, aggregation, water retention, soil biodiversity, absorption and retention of pollutants, buffering capacity, and the cycling and storage of plant nutrients. SOM increases soil fertility by providing cation exchange sites and being a reserve of plant nutrients, especially nitrogen (N), phosphorus (P), and sulfur (S), along with micronutrients, which the mineralisation of SOM slowly releases. As such, the amount of SOM and soil fertility are significantly correlated.

SOM also acts as a major sink and source of soil carbon (C). Although the C content of SOM varies considerably, SOM is ordinarily estimated to contain 58% C, and "soil organic carbon" (SOC) is often used as a synonym for SOM, with measured SOC content often serving as a proxy for SOM. Soil represents one of the largest C sinks on Earth and is significant in the global carbon cycle. Therefore, SOM/SOC dynamics and the capacity of soils to provide the ecosystem service of carbon sequestration through SOM management have received considerable attention recently.

The concentration of SOM in soils generally ranges from 1% to 6% of the total mass of topsoil for most upland soils. Soils whose upper horizons consist of less than 1% of organic matter are mostly limited to deserts, while the SOM content of soils in low lying, wet areas can be as great as 90%. Soils containing 12% to 18% SOC are generally classified as organic soils.²

In het Nederlands: organische stof (in de bodem)

Auf deutsch: organische Bodensubstanz (OBS)

Humus

In soil science, humus (derived from the Latin humus for earth, ground) denominates the fraction of soil organic matter that is amorphous and without the "cellular cake structure characteristic of plants, micro-organisms or animals". Humus significantly affects the bulk density of soil and contributes to its retention

² Source: https://en.wikipedia.org/wiki/Soil_organic_matter

of moisture and nutrients.

The importance of chemically stable humus is thought by some to be the fertility it provides to soils in both a physical and chemical sense, though some agricultural experts put a greater focus on other features of it, such as its ability to suppress disease. It helps the soil retain moisture by increasing microporosity, and encourages the formation of good soil structure. The incorporation of oxygen into large organic molecular assemblages generates many active, negatively charged sites that bind to positively charged ions (cations) of plant nutrients, making them more available to the plant by way of ion exchange. Humus allows soil organisms to feed and reproduce, and is often described as the "life-force" of the soil.

In agriculture, "humus" sometimes also is used to describe mature or natural compost extracted from a woodland or other spontaneous source for use as a soil conditioner. It is also used to describe a topsoil horizon that contains organic matter (humus type, humus form, humus profile).³

Industrial agriculture

Often used to describe what we don't want. But what exactly do we mean by this term?

Industrial agriculture is the system of chemically intensive food production developed in the decades after World War II, featuring enormous single-crop farms and animal production facilities.⁴

The industrialised production of livestock, poultry, fish, and crops is called industrial agriculture. Industrial agriculture includes techno scientific, economic, and political methods. Methods like inventing new agricultural machines, adopting new farming methods, creation of new markets for consumption, ensuring patent protection to genetic information, using genetic technology and global trade are used in industrial agriculture. It is using these methods that most of the meat, dairy, eggs, fruits, and vegetables available in supermarkets nowadays are produced. Industrial agriculture is also called as industrial farming.⁵

³ Source: <https://en.wikipedia.org/wiki/Humus>

⁴ <https://www.ucsusa.org/our-work/food-agriculture/our-failing-food-system/industrial-agriculture>

⁵ <https://definitions.uslegal.com/i/industrial-agriculture/>

This seems to be a good description. It should be clear though that not all those mentioned methods have been used before you can call something industrial agriculture. But this immediately shows that there is no hard line between industrial agriculture and the rest. Only using new machines doesn't necessarily make it industrial. Just trading globally neither.

Components of Industrial Farming:

Specialisation – in industrial agriculture farmers specialise in one crop for example wheat or dairy. This usually leads to farming on a huge scale.

Mechanisation – large scale farming requires heavy reliance on machinery and more technology, leading to less labour being required. This requires large investment into technological equipment and this makes farmers dependent from capital and banks and is a disadvantage for small farmers.

Centralisation – control is in the hands of the few, who have power over seed supplies, fertilizers, pesticides, and herbicides which are necessary components of this way of farming. Land is also concentrated and sits in the hands of the few.

Massive use of chemical fertilizers and pesticides – the scale is so big that these are deemed necessary to control your farming. The circumstances are adjusted to the desired crops and type of farming instead of the other way around; adjusting crops and farming to the local soil and climate.

Monoculture – happens if you have specialisation, the belief is that bigger is better hence huge scale fields of only one crop growing in it. Creates greater risk of disease and thus heavier reliance on chemicals. Damages to soil as soil cannot replenish itself with the nutrients that have been taken through the crop's life cycle. Production of especially exportable crops for animal feed, bio-fuel, and base ingredients for processed foods, are being prioritised.

Standardised crops – growing for the export market – resulting in huge loss of biodiversity and local food security. Today the four most grown crops are wheat, rice, maize / corn and soybean. If you imagine that we have thousands of varieties of each crop, knowing that only four dominate the food system is a scary thought.

Producing for export oriented market – therefore you standardise your crops. Takes the focus away from producing for your family, local community, country etc. Leads to a system that is reliant on trade, and focuses on producing crops for profit instead of food for people.

On the alternative and nice side

Regenerative agriculture

Regenerative agriculture is an approach to food and farming systems which aims to [regenerate topsoil](#), increase [biodiversity](#), improve water cycles, enhance [ecosystem services](#), support [biosequestration](#), increase resilience to climate fluctuation, and strengthen the health and vitality of farm soil, by recycling as much farm waste as possible, as well as adding compost material from outside the farm." source: wikipedia. It is increasingly seen as a way to reverse climate change.

The danger is that when large farms talk about 'regenerative agriculture' they often include "no till" and/or "low till" (no or less ploughing) aided by the use of herbicide tolerant genetically modified seed.

An organisation promoting RA is Regeneration International⁶

Agro forestry

Agroforestry is a [land use](#) management system in which trees or shrubs are grown around or among crops or pastureland. This intentional combination of [agriculture](#) and [forestry](#) has varied benefits, including increased biodiversity and reduced erosion.

Soil cover is a crucial factor in preventing erosion. Cleaner water through reduced [nutrient](#) and [soil surface runoff](#) can be a further advantage of agroforestry. The runoff can be reduced by decreasing its velocity and increasing infiltration into the soil. Compared to row-cropped fields nutrient uptake can be higher and reduce nutrient loss into streams. (source: wikipedia).

Agro forestry can be divided into:

- *Agro-sylviculture*, the combination of trees and the production of crops (arable farming, gardening)
- *Sylvopastoralism*, the combination of trees and livestock farming.

⁶ Website: <https://regenerationinternational.org>

Perennial cropping

Using perennial plants to produce food or animal feed. To successfully grow annuals, farmers have to suppress or kill the vegetation (weeds) that compete with crops for sunlight, nutrients, and water, especially when the crops are seedlings. Over millennia, farmers traditionally used implements such as hoes and plows to eliminate vegetation from the landscape before sowing annuals. This soil disturbance has caused significant amounts of soil carbon loss (which ends up in the atmosphere as CO₂), soil erosion, nutrient leakage, and changes in soil organisms. Using perennials could be the answer to those problematic side effects, but it is important to develop varieties with higher yields and/or change peoples diets.

Possible further reading: <https://landinstitute.org/our-work/perennial-crops> & <https://www.drawdown.org/solutions/coming-attractions/perennial-crops>

Organic agriculture

IFOAM's (The International Federation of Organic Agriculture Movements) uses the following definition: "*Organic Agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic Agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.*"⁷

Often products produced by organic agriculture are regulated and labelled. The main requirements are no use of synthetic fertilizers, hardly any use of pesticides and no GMOs. There are some strict rules and those are controlled by national organisations. The advantage is that the term can not easily be misused and public knows that labelled products are really produced according to those rules. The disadvantage is that the label doesn't say anything about other aspects like the labour conditions, production scale, water use or transport.

Agro Ecology

There is not just one definition of agro ecology. We have chosen to publish this one from the European Association for Agroecology: "Agroecology is considered jointly as a science, a practice and a social movement .

It encompasses the whole food system from the soil to the organization of human

⁷ <https://www.ifoam.bio/en/organic-landmarks/definition-organic-agriculture>

societies. It is value-laden and based on core principles.

As a science, it gives priority to action research, holistic and participatory approaches, and transdisciplinarity that is inclusive of different knowledge systems.

As a practice, it is based on sustainable use of local renewable resources, local farmers' knowledge and priorities, wise use of biodiversity to provide ecosystem services and resilience, and solutions that provide multiple benefits (environmental, economic, social) from local to global.

As a movement, it defends smallholders and family farming, farmers and rural communities, food sovereignty, local and short food supply chains, diversity of indigenous seeds and breeds, healthy and quality food.”⁸

Permaculture

Permaculture is a set of design principles centered on whole systems thinking simulating or directly utilising the patterns and resilient features observed in natural ecosystems. It uses these principles in a growing number of fields from regenerative agriculture, rewilding, and community.

It has many branches that include, but are not limited to, ecological design, ecological engineering, regenerative design, environmental design, and construction. Permaculture also includes integrated water resources management that develops sustainable architecture, and regenerative and self-maintained habitat and agricultural systems modelled from natural ecosystems.

The 12 principles of permaculture most commonly referred to are first described by David Holmgren in his book *Permaculture: Principles and Pathways Beyond Sustainability*. They include: Observe and Interact, Catch and Store Energy, Obtain a Yield, Apply Self Regulation and Accept Feedback, Use and Value Renewable Resources and Services, Produce No Waste, Design From Patterns to Details, Integrate Rather Than Segregate, Use Small and Slow Solutions, Use and Value Diversity, Use Edges and Value the Marginal, and Creatively Use and Respond to Change. Source: wikipedia

There are debates about the question if permaculture can be used in a large scale to feed the population. Or how flexible some of the principles can be interpreted, while still calling it permaculture.

⁸ <http://agroecology-europe.org/our-approach/our-understanding-of-agroecology/>

Food Sovereignty

Food Sovereignty is a political concept developed by La Via Campesina⁹, the international movement of peasants and farm workers. It refers to the rights of peoples, communities and countries to define their own agricultural labour, fishing, food and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and cultural appropriate food and to food producing resources and the ability to sustain themselves and their societies.

Another often used definition Food Sovereignty “is a concept that is broadly defined as the right of peoples to democratically control or determine the shape of their food system, and to produce sufficient and healthy food in culturally appropriate and ecologically sustainable ways in and near their territory.”¹⁰

Food sovereignty has been introduced as reaction on the term **Food Security**. According to the report of the 1996 (UN) World Food Summit food security “exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.”¹¹ This leaves out the power struggles, control over the resources and the democratic control.

Other terms for nice alternatives, that can be used in confusing ways though:

Regional - For some people this means within 20 kilometres while for other the EU is one region. Also **local** can be between 5 and 250 kilometres. If you use those terms be clear about what you have exactly in mind.

Small scale – Good to use as alternative to large corporations and monocultures. But what is meant by small scales diverse per region and even person. And too small scale can also become inefficient.

Sustainable. This should mean that you can keep on going for a long time. So it should be really strong and good. But it is one of the most misused term in the world. A dirty company can even use it to say that it wants to sustain its profit and existence. Be clear when you use this word and mistrust companies using it.

⁹ <https://viacampesina.org/en/food-sovereignty/>

¹⁰ <https://www.grain.org/article/entries/4872>

¹¹ <http://www.fao.org/3/w3613e/w3613e00.htm>

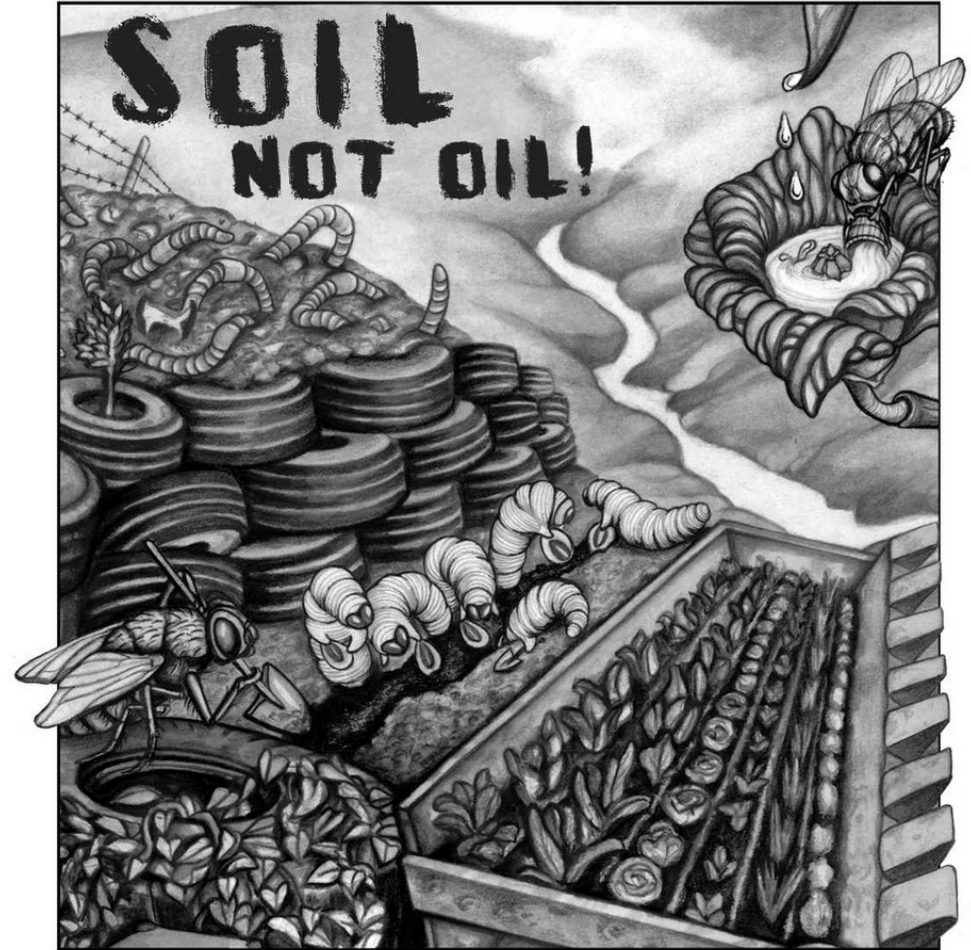
What do we want? Climate Justice!

But what does this term actually mean? The explanation on Wikipedia is quite useful; Climate justice is a term used for framing global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature. This is done by relating the effects of climate change to concepts of justice, particularly environmental justice and social justice and by examining issues such as equality, human rights, collective rights, and the historical responsibilities for climate change. A fundamental proposition of climate justice is that those who are least responsible for climate change suffer its gravest consequences.

The ability of populations to mitigate and adapt to the negative consequences of climate change are shaped by factors such as income, race, class, gender, capital and political representation. As low-income communities and communities of color possess few if any adaptive resources, they are particularly vulnerable to climate change. People living in poverty or in precarious circumstances tend to have neither the resources nor the insurance coverage necessary to recover from environmental disasters. On top of that, such populations often receive an unequal share of disaster relief and recovery assistance. Additionally, they generally have less say and involvement in decision-making, political, and legal processes that relate to climate change and the natural environment.

The term climate justice is also used to mean actual legal/judicial action on climate change issues.

https://en.wikipedia.org/wiki/Climate_justice



Drawing from the Behive Collective