



TerraFjur[®]

innovation awakening life

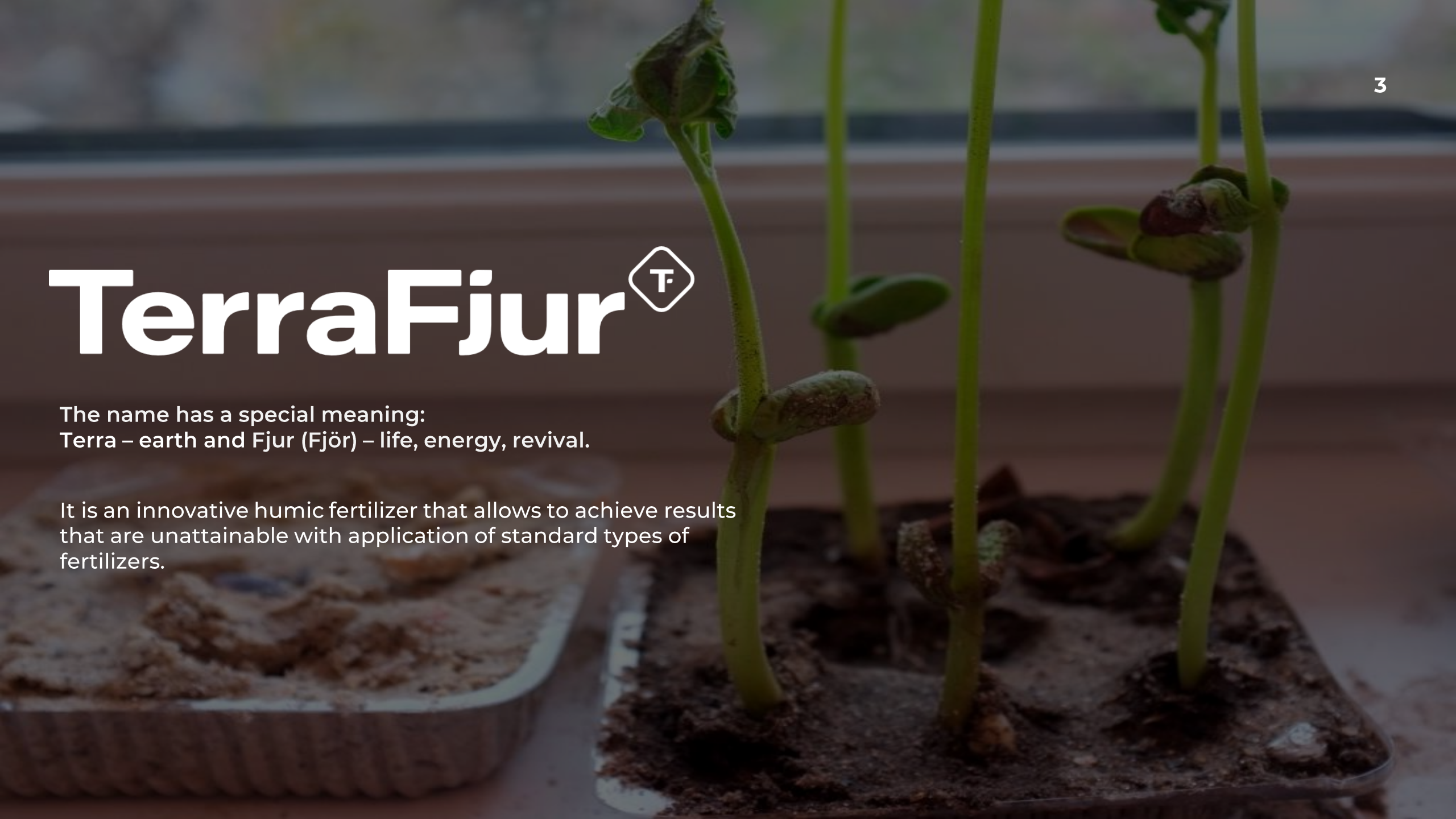
Content

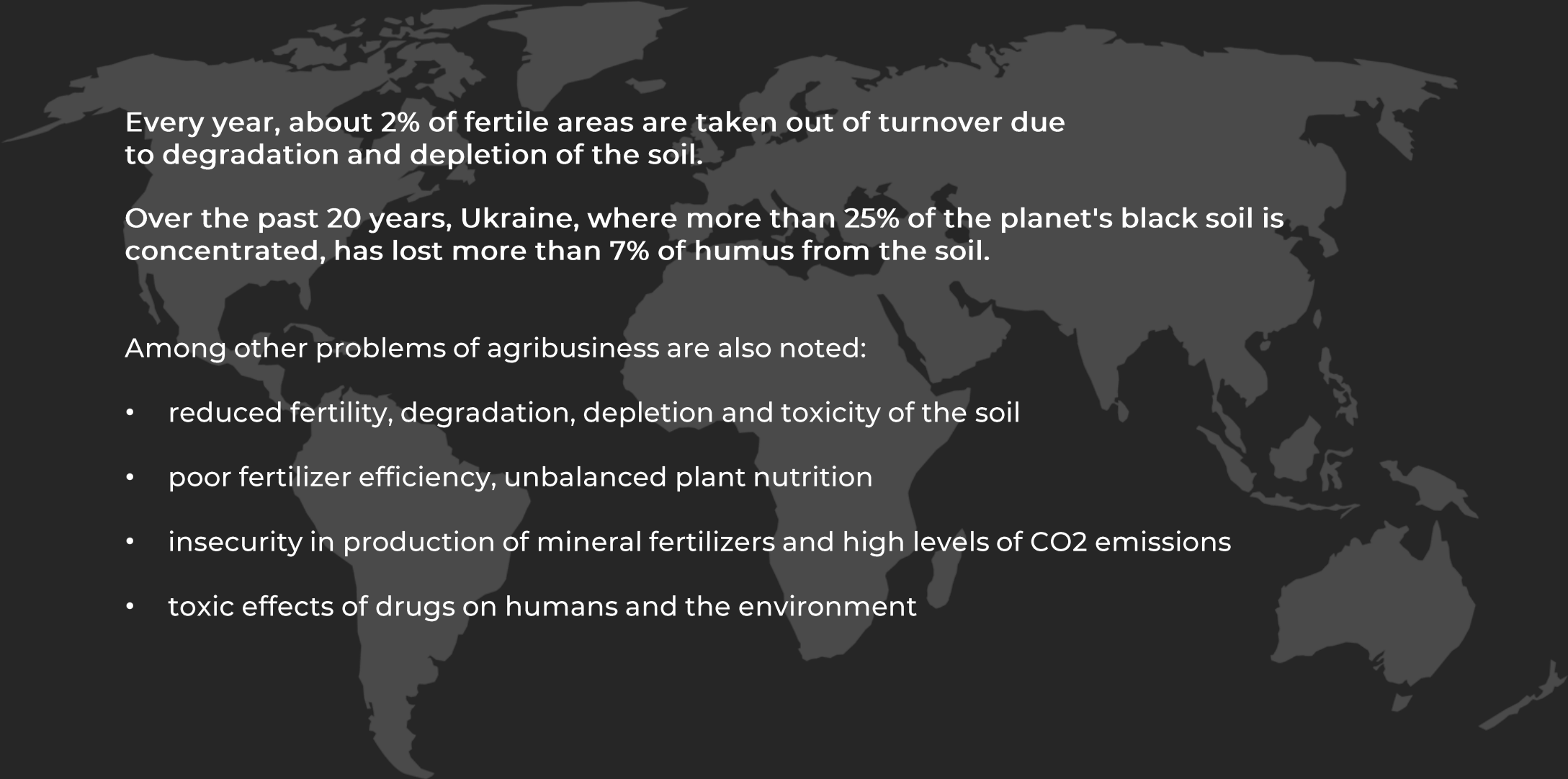
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TerraFjur[®]

The name has a special meaning:
Terra – earth and Fjur (Fjör) – life, energy, revival.

It is an innovative humic fertilizer that allows to achieve results that are unattainable with application of standard types of fertilizers.





Every year, about 2% of fertile areas are taken out of turnover due to degradation and depletion of the soil.

Over the past 20 years, Ukraine, where more than 25% of the planet's black soil is concentrated, has lost more than 7% of humus from the soil.

Among other problems of agribusiness are also noted:

- reduced fertility, degradation, depletion and toxicity of the soil
- poor fertilizer efficiency, unbalanced plant nutrition
- insecurity in production of mineral fertilizers and high levels of CO₂ emissions
- toxic effects of drugs on humans and the environment

TerraFjur[®]

The use of **TerraFjur[®]** fertilizers makes it possible to effectively solve the issue of plant nutrition and at the same time maintain and increase soil fertility. The low cost of fertilizers, the possibility of organizing their production in any region in practically unlimited quantities can significantly affect the qualitative change in agricultural technologies towards soil conservation. It is able to form a fertile soil layer even on sands, which proves its exceptional uniqueness and effectiveness.

TerraFjur[®] is a completely natural fertilizer, the production of which does not require chemical components, there are no harmful emissions inherent in the production of traditional fertilizers, our fertilizers are completely safe for humans and the environment, both in production and in use.

Main benefits of **TerraFjur[®]**

Efficiency

provides high-quality complete nutrition of plants at low application rates. Effective in stressful weather conditions, poor soils and soils with high concentrations of toxic chemicals.

Impact on soil

preserves and raises soil fertility, improves its physical and mechanical properties, increases moisture capacity, enhances microbiological activity, provides soil detoxification from agrochemicals.

Comprehensiveness

contains a high concentration of active humic acids and a balanced complex of macro- and microelements.

Safety

does not contain chemicals, harmless to humans and the environment. Approved for use in organic farming, can be used as a food supplement for feeding livestock.

Accessibility/ Versatility

the most affordable humic fertilizers on the market. Suitable for use in any soil and climatic conditions for any crops.

TerraFjur[®]

Passed strict **state certification**, has a certificate of state registration of Ukraine and is approved for use as fertilizers.

Passed **Organic Standard** certification, approved for use in organic farming.



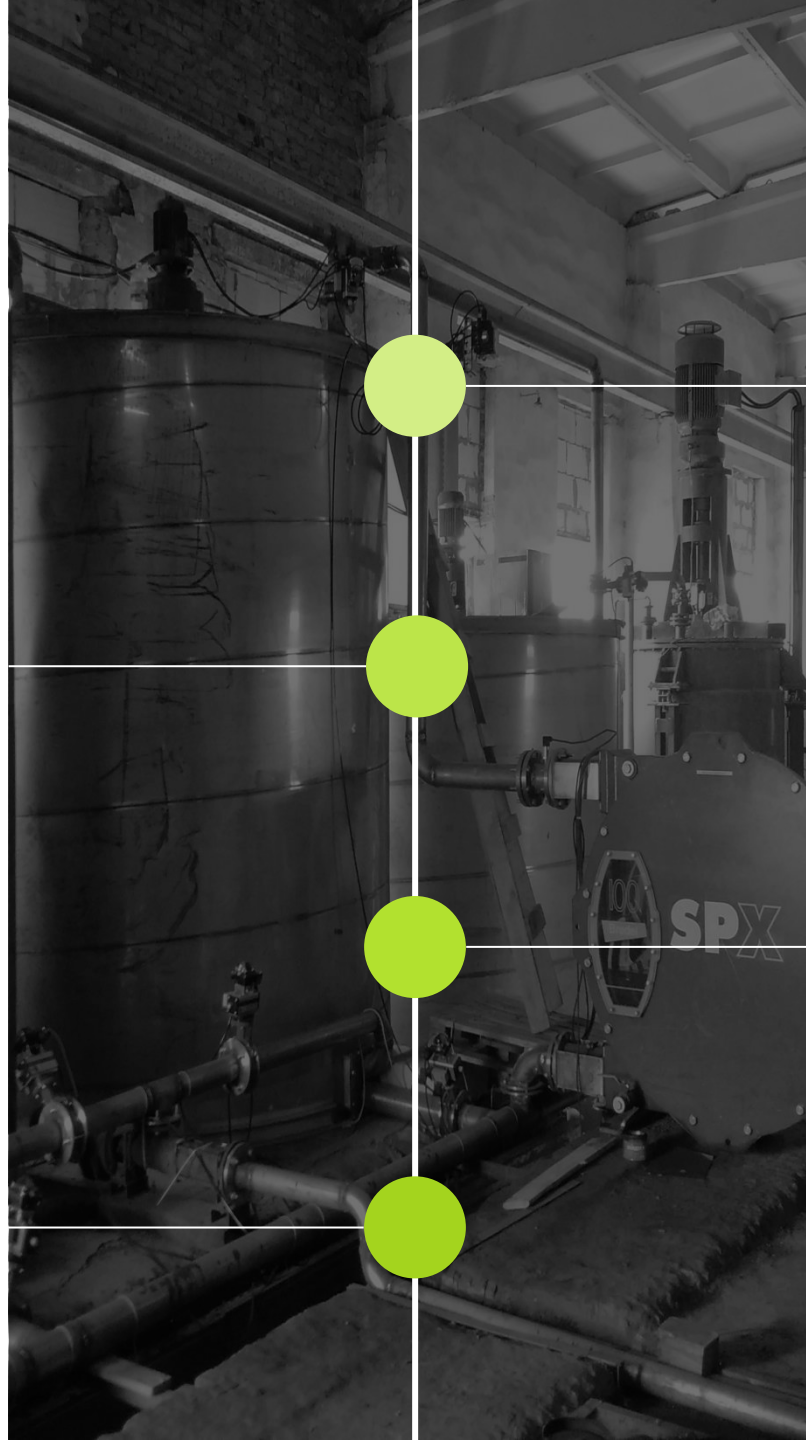
A laboratory setting featuring a large graduated cylinder on the left filled with a dark liquid, marked with volume levels from 50 to 250ml. In the background, a smaller graduated cylinder contains a mound of dark granules. In the foreground, a clear plastic container is tipped over, spilling dark granules onto a reflective surface. The entire scene is dimly lit, with the text 'About technology and the product' overlaid in white.

About technology and the product

Technology

It is possible **to sterilize** and **detoxify**
raw materials in one process

It is possible to produce compositions
based on **humic** and **mineral fertilizers**



The developed production technology makes it possible to produce fertilizers with a high content of active humic and fulvic acids **without the use of chemical components.**

The technology allows to produce them **in flow mode**

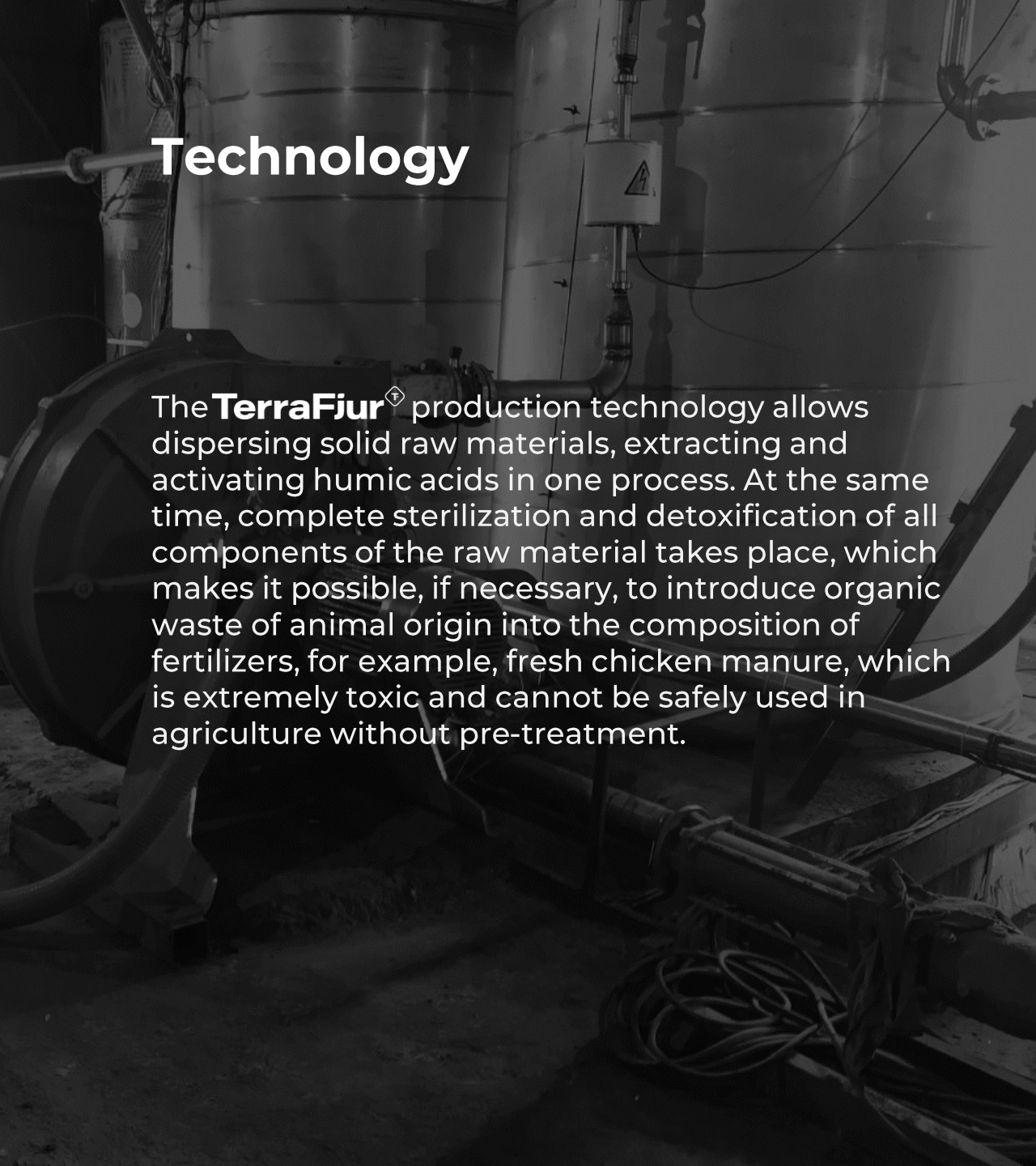
Technology

TerraFjur[®] is much cheaper and more technologically advanced in the production of traditional humates. The high cost of humates and the low manufacturability of their production do not allow them to be used in effective norms. Humates are used exclusively as plant growth stimulators and antidepressants in extremely low rates of 0.5-5 kg/ha. In such norms it is impossible to reveal the potential of humic fertilizers.

For the production of **TerraFjur[®]**, our own unique technology has been developed, which allows the production of fertilizers with a high content of active humic and fulvic acids without the use of chemical components used in traditional production technology.

TerraFjur[®], like standard humates, has a high concentration of humic acids, which makes it a separate class of highly effective humic fertilizers.

Unlike humates, the production of **TerraFjur[®]** occurs in a streaming mode with extremely low costs, which ensures the production of fertilizers in large volumes at a low cost. This feature makes it possible to apply **TerraFjur[®]** in ameliorative norms of 100-500 kg/ha and above without a significant increase in the costs of agricultural producers. High application rates allow to achieve a significant increase in yield, as well as have a significant positive effect on the soil and have a long-term effect.



Technology

The **TerraFjur**® production technology allows dispersing solid raw materials, extracting and activating humic acids in one process. At the same time, complete sterilization and detoxification of all components of the raw material takes place, which makes it possible, if necessary, to introduce organic waste of animal origin into the composition of fertilizers, for example, fresh chicken manure, which is extremely toxic and cannot be safely used in agriculture without pre-treatment.

Complex organic fertilizers based on **TerraFjur**® and chicken manure

Thanks to the **TerraFjur**® production technology, the introduction of fresh chicken manure into its composition makes it possible to obtain completely sterile, safe fertilizers with additional positive properties, and at the same time the issue of toxic waste disposal is solved. We have received and tested experimental batches of fertilizers with chicken manure, which gave excellent field results. The microbiological analysis of fertilizers showed the absence of pathogens and proved their complete safety. Our technology has made it possible to increase the yield of nutrients from chicken manure in a form available for plant nutrition.

Technology

As part of the work to expand the range of production of **TerraFjur[®]** with desired properties, a lot of work has been done to create and test liquid organomineral fertilizers based on standard mineral fertilizers - ammonium sulfate, carbamide, ammonium nitrate, ammonium water, ammophos, diamphos, etc.

Our technology makes it possible to quickly change the composition and proportions of components without reconfiguring the equipment.

The combination of humic and mineral fertilizers in one composition helps to optimize costs, to achieve the solution of specialized tasks when it is necessary to fill the urgent need for specific nutrients in the shortest possible time.

Complex organic-mineral fertilizers based on **TerraFjur[®]** and standard mineral fertilizers

The experience of using the **TerraFjur[®]** and mineral fertilizers in the same composition showed their great potential. Such compositions make it possible to reduce the application rates of both mineral and humic fertilizers without reducing the yield. Our specialists constantly work to unlock the potential of production technology and conduct research aimed at obtaining fertilizers with new properties and capabilities.

TerraFjur[®] is available in liquid and dry form, which allows to adapt the product to the needs of a client. Application rates depend directly on conditions and purposes of fertilizer application.

TerraFjur[®] base



liquid base composition

TerraFjur[®] extra



finely dispersed powder



granular composition

Liquid forms are divided into two types according to composition: **ballast** and **ballastless**.

The ballast composition is best suited for the **main application to the soil** and **top dressing** – this is the most complete and complex composition, especially effective in affecting the soil. **However, due to the presence of insoluble organic and inorganic compounds in its composition, a precipitate is formed, therefore, during its transportation, storage and application, constant mixing is required.** In the presence of specialized equipment, working with the basic composition does not cause problems, however, if the necessary equipment is not available or the technology for using liquid fertilizers requires compositions without sediment (for example, in drip irrigation), we recommend using liquid ballastless **TerraFjur[®]**.

Application rate: 50-1000 L/ha.

The ballastless liquid **TerraFjur[®]** is much easier to use and is excellent for foliar applications and applications where liquid fertilizer sedimentation is unacceptable - drip irrigation, greenhouses, etc. The ballastless **TerraFjur[®]** is very effective as a foliar fertilizer, growth stimulator, phytoimmunity enhancer and antidepressant, as well as a stubble destructor. The norms for using the ballastless composition are significantly lower than the norms for applying the base.

Application rate: 1-200 L/ha.

TerraFjur[®] extra

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To simplify the work and reduce the costs associated with the delivery of fertilizers over long distances and warehousing, dry forms have been created in granular and finely dispersed form.

Dry finely dispersed TerraFjur[®] is a fertilizer easily soluble in cold water.

Powdered TerraFjur[®] composition is designed to dissolve in water and work with it in liquid form. This type of fertilizers is intended for **foliar feeding**, can be used in **drip irrigation systems, greenhouses**.

Application rate: 0,1-50 kg/ha.

The minimum ratio of water to finely dispersed TerraFjur[®] for complete dissolution is 1:5, for various types of top dressing, dilution with water makes 1:10-1:1000.

Granular TerraFjur[®] composition is designed for **direct application to the soil**; can be of two types.

The first type in its qualities is a complete analogue of the liquid base **TerraFjur[®]** – it is the most effective and complex product.

Application rate: 10 – 100 kg/ha.

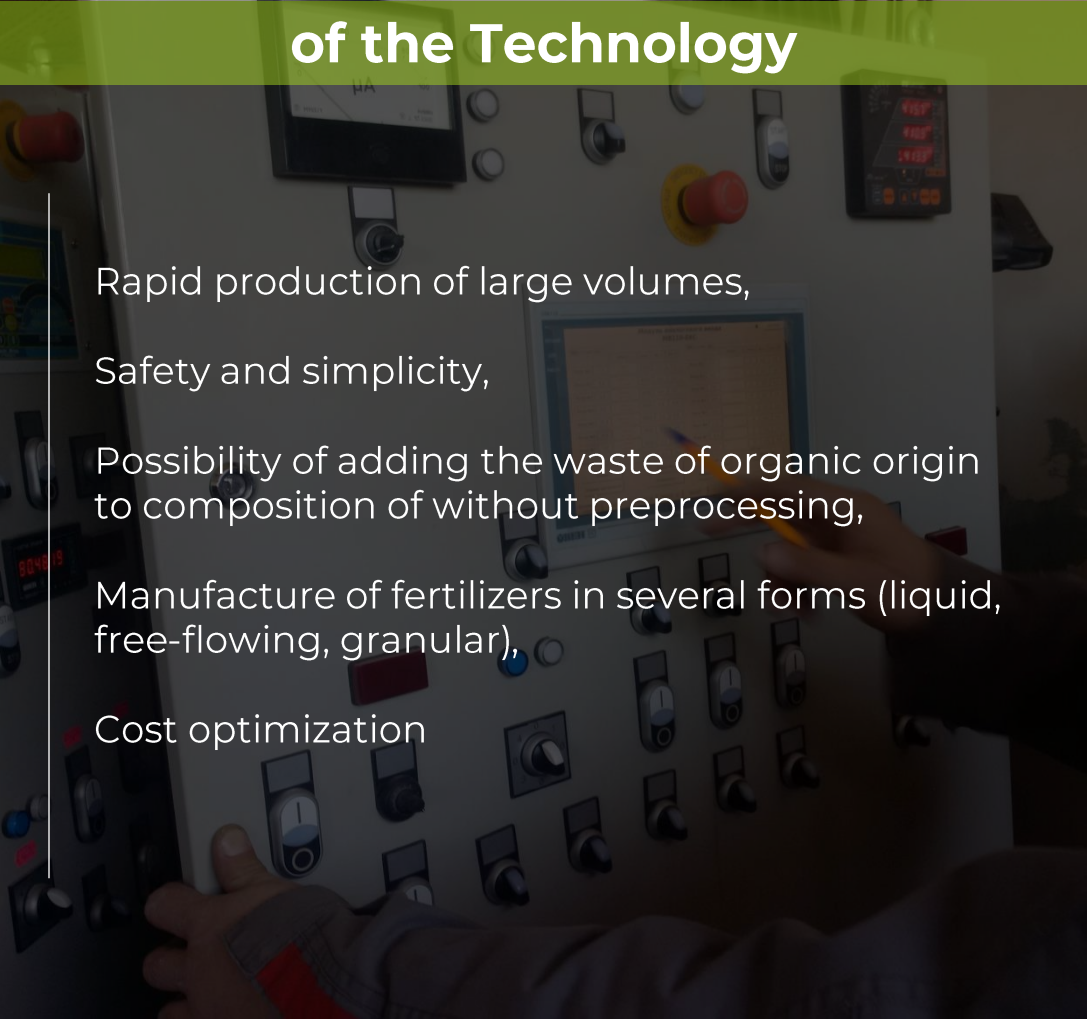
The second type in its composition may contain a larger percentage of various mineral and organic components to solve the necessary problems.

Application rate: 50-3000 kg/ha.



Advantages

of the Technology



Rapid production of large volumes,
Safety and simplicity,
Possibility of adding the waste of organic origin
to composition of without preprocessing,
Manufacture of fertilizers in several forms (liquid,
free-flowing, granular),
Cost optimization

of the Product



Adaptable to the needs of the client and
applicable in any climatic conditions,
Provides complete nutrition to plants and
improves soil structure,
Can replace other types of fertilizers,
Harmless to both humans and the environment,
Much more economical than existing analogues

Compliant with the goals of sustainable development

From the production side:

Responsible production:

- efficient use of resources;
- Production without CO₂ emissions;
- no harmful emissions;
- complete safety for employees and the environment.

Development of innovations:

- new technology developed by the company;
- a new look at coal.

Equal rights for all employees



From the product side:

Dealing with the effects of climate change and preserving the ecosystem:

- recovery of soil structure;
- adaptation to any climate conditions;
- provides complete nutrition to plants;
- organic composition that does not harm the environment.

Contribute to reduction of hunger through a rapid and high-quality increase in yield levels

The background of the slide is a photograph of a green plant, likely a pea plant, with several large, heart-shaped leaves and a small, light-colored flower. The image is slightly blurred and has a dark green overlay. A thin white vertical line is positioned to the left of the text.

Practical confirmations

Laboratory studies

As part of laboratory studies, work was carried out to determine the effective norms for using the **TerraFjur[®]** for seed germination, root and foliar top dressing with single, multiple and regular use. Numerous experiments have been carried out on growing plants without soil (on sea sand and filter paper) using only our fertilizers as top dressing. A large research work has been started to create a fertile layer in the sand in a short time.

During laboratory experiments, the complete safety of the **TerraFjur[®]** for plants has been proven. **TerraFjur[®]** has proved to be highly effective at all stages of plant development, starting from seed germination. Experiments on growing plants without land have convincingly proved the ability of fertilizers to provide plants with all the elements necessary for development.

TerraFjur[®] showed great potential for creating a fertile layer on sandy and lean soils.

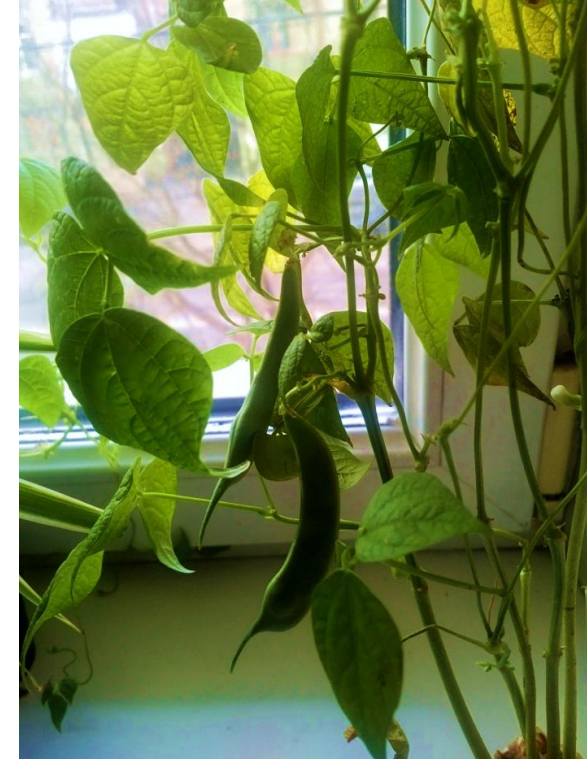
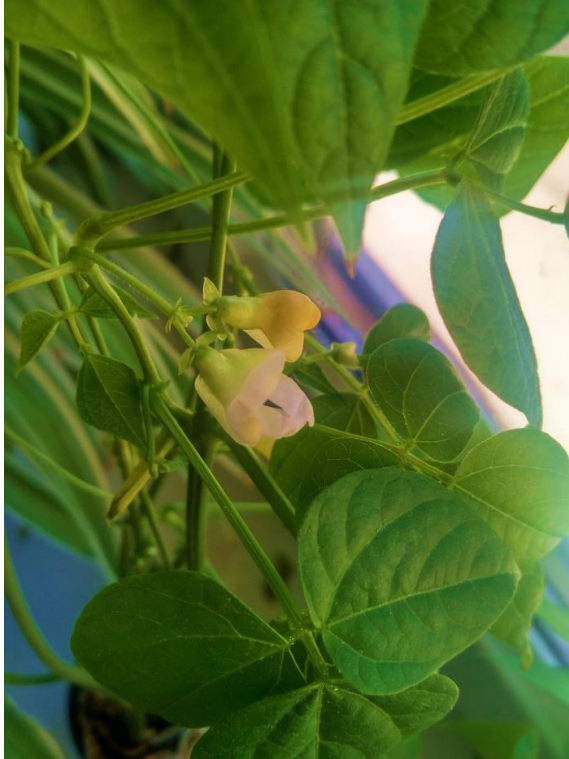
Experiment to grow beans on sea sand

An experiment on growing beans on sea sand showed that the **TerraFjur[®]** really has the ability to ensure the full development of plants with a crop. The ability to neutralize the negative effects of toxins contained in sea sand has also been proven.

Plants of the control group could not grow without **TerraFjur[®]**.



Experiment without the use of soil



In this experiment, plants were grown using only a nutrient solution based on a **TerraFjur[®]** that ensured intensive growth and full development of plants. The powerful root system, leaf color and appearance of the plants indicated a very good development of the plants, and the beans obtained proved the usefulness of the **TerraFjur[®]** as the only source of nutrition.

Big experiment on filter paper



Plants from the control group showed a retard from the first phases of development. The control group of plants was unable to lay pods and died.

All plants, where the **TerraFjur**™ was used, developed very intensively, the plants bloomed well and laid pods. Due to the forced interruption of the experiment in the last stages, there was a decrease in productive pods and a decrease in the number of seeds in a pod.

In the course of this experiment, the development of bean plants was compared without the use of soil. For the control group, only watering was used, the rest of the plants were fed with different norms of **TerraFjur**™.

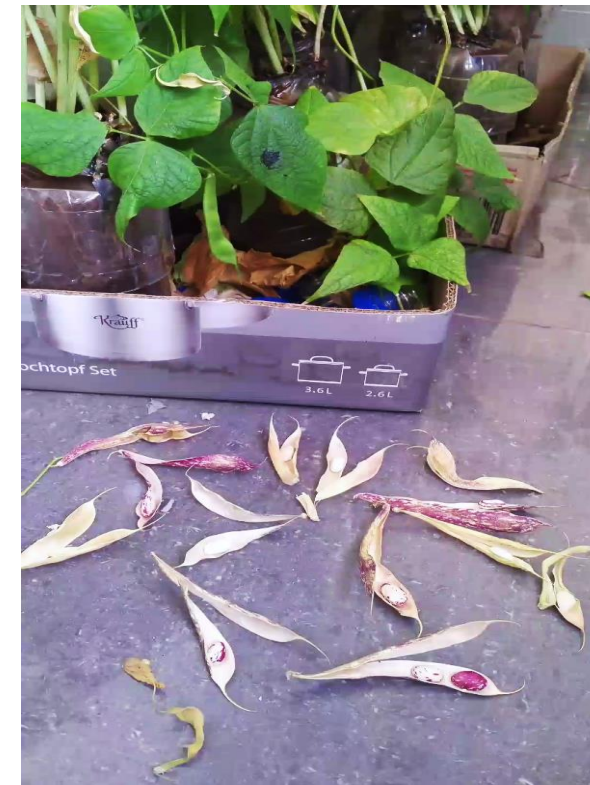
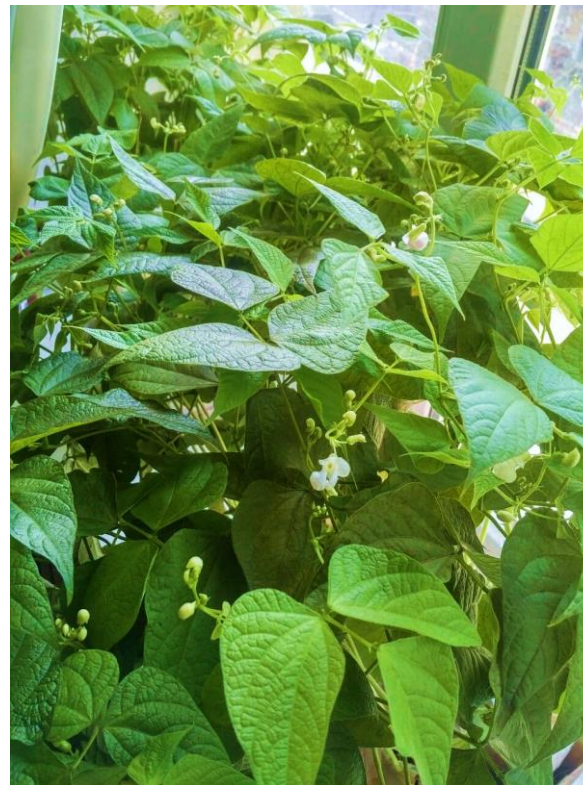
Big experiment on filter paper



Comparison of the development of the root system of plants from the control group (left) with the root system of plants where top dressing was used with **TerraFjur**® (right)

Big experiment on filter paper

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Tests in fields

For 4 years, field tests were carried out to confirm the effectiveness of the developed fertilizers. During this time, more than 15,000 tons of the **TerraFjur**® have been used on more than 10,000 hectares of research areas.

As a result, it was confirmed that **TerraFjur**® is able to remove the toxicity of the soil and significantly improve its structure, and the yield on the experimental fields is 2 times higher than on the areas where traditional methods of tillage are used.

Results



Comparison of plants in one phase using standard technology (on the left side of the photo) and using the **TerraFur**™ (on the right side of the photo)

Results



2016-2017, winter wheat, p. Staroverovka, Kharkiv region.

On the upper part there is a photo of a plant from the area treated with **TerraFjur[®]** at a rate of 3.5 t/ha before sowing, below the same wheat from a plot without treatment. Other fertilizers and agrochemicals were not used. 114.2 centners/ha were harvested (compared to the regional average of 50 centners/ha).

Results



October, 2018. Comparison of a winter field using standard technologies (top) with a field where the **TerraFjur[®]** was applied at a rate of 500 kg/ha (bottom)

Results



March 28, 2019. Comparison of a winter field using standard technologies (top) with a field where **TerraFjur[®]** was applied at a rate of 500 kg/ha (bottom)

Results



April 22, 2019. Comparison of a field of winter wheat using standard technologies (left) with a field where **TerraFjur** was applied at a rate of 500 kg/ha (right)

Results



Plant comparison. On the left is a sunflower from a field where standard agricultural technology was used, on the right is a plant from a field where **TerraFjur[®]** was applied at a rate of 500 kg/ha

Results



July 5, 2019. Comparison of a corn field using standard technologies (left) with a field where **TerraFjur[®]** was applied at a rate of 500 kg/ha (right)

Results



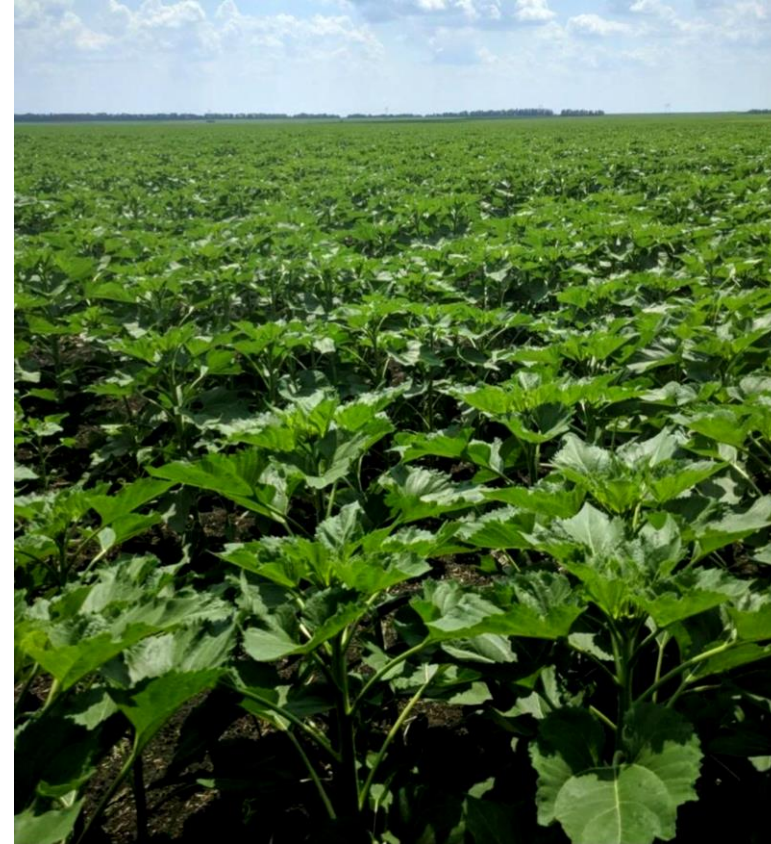
May 29, 2019. Comparison of a sunflower field using standard technologies (left) with a field where **TerraFjur**[®] was applied at a rate of 500 kg/ha (right)

Results



June 12, 2020. Comparison of a sunflower field using standard technologies (left) with a field where **TerraFjur[®]** was applied at a rate of 500 kg/ha (right)

Results



June 20, 2020. Comparison of a sunflower field using standard technologies (left) with a field where **TerraFjur[®]** was applied at a rate of 500 kg/ha (right)

Results



In both photos on the right side of the field with the application of **TerraFjur**®, on the left - without

Results



Comparison of a field using standard technologies (left) with a field where **TerraFjur[®]** was applied (right)

Results



Application of **TerraFjur** in organic farming

Results



Examples of using standard technologies without **TerraFjur** 

Results



Examples of using fertilizer **TerraFjur**™

Field examples



Examples of fields where **TerraFjur** was applied

Field examples



Examples of fields where **TerraFur** was applied

Field examples



Examples of fields where **TerraFur** was applied

TerraFur

Field examples. 2021 year





TerraFjur[®] capabilities

The most difficult questions encountered during TerraFjur[®] testing

47

1

Unstable weather conditions

4

Excess content of agricultural chemicals in the soil. Soil toxicity

2

Decrease in soil fertility and quality

5

Structural disturbances in the organization of soil microflora, a decrease in the biological activity of the soil

3

Insufficient, unbalanced nutrition

6

Decrease in profitability of crop production



Unstable weather conditions



Extremely hot or cold environments



Lack of moisture in the air and soil



TerraFjur[®]

It makes it possible to significantly reduce the stress on plants associated with sudden changes in weather conditions. Showed very high efficiency in unstable weather conditions of autumn and spring, for example, in severe drought conditions.



Decrease in soil fertility and quality



Declining soil fertility requires higher costs for fertilizers and other agrochemicals



The deterioration of the soil structure leads to a violation of the water and air regimes of the soil. Processing costs are rising



The moisture capacity of the soil decreases, its buffer properties worsen, the mineralization of organic residues slows down



TerraFjur[®]

The composition of fertilizers includes humic acids, humins and ash in the form of nanoparticles, which contributes to an increase in the proportion of humus in the soil, moisture retention and soil structure formation. The high content of carbon and sterile organic compounds enhance the microbiological activity of the soil



Insufficient, unbalanced nutrition



As a rule, no more than 2-5 basic nutrients are introduced into the soil in a relatively balanced form, the rest of the elements are provided by the soil to the plants. With a decrease in soil fertility, the supply of plants with nutrients also decreases



Plants do not receive the necessary elements for growth



Yield is decreasing



TerraFjur[®]

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Contains almost all the nutrients necessary for plant growth in proportions balanced by nature. The elements are in a form readily available for plant nutrition. Humic acids make it possible to transfer the elements contained in the soil from a form inaccessible to plant nutrition to an accessible form, providing plants with good nutrition.





Excess content of agricultural chemicals in the soil. Soil toxicity



Excessive use of mineral fertilizers leads to a violation of the acid balance of the soil, which significantly reduces its fertility



The accumulation of toxic agrochemicals in the soil significantly retards the development of plants, reduces yields, and worsens soil quality.



The crop obtained on soils with a high concentration of agrochemicals is unsafe for human health



TerraFjur[®]

It has the ability to bind and destroy toxic compounds, disinfecting the soil from accumulated agrochemicals. Does not contain chemicals, completely safe for humans and the environment.





Structural disturbances of soil microflora, decrease in soil biological activity



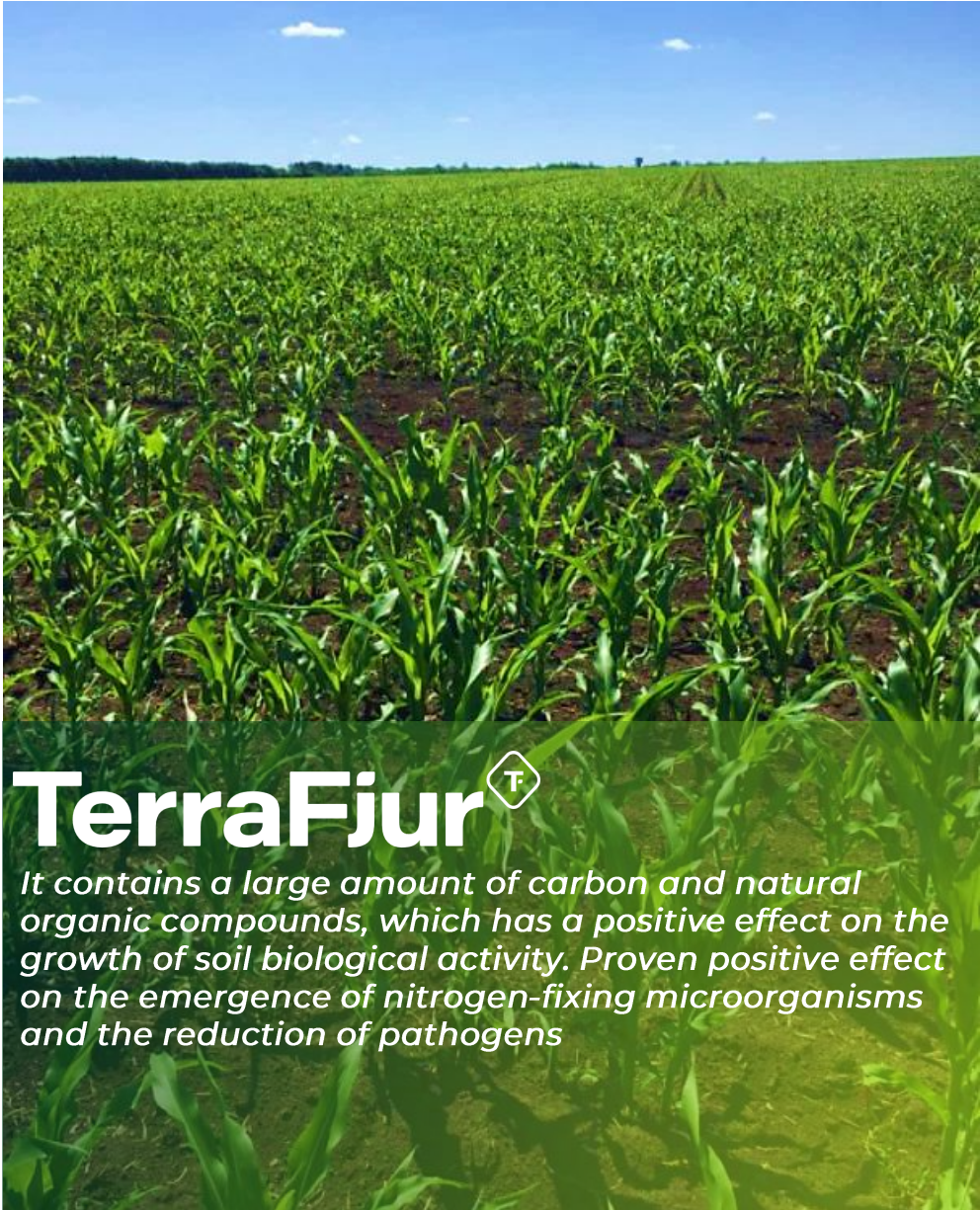
The processes of soil formation and restoration of the humus layer are slowed down



The rate of destruction of organic matter decreases, the rate of nitrogen denitrification increases

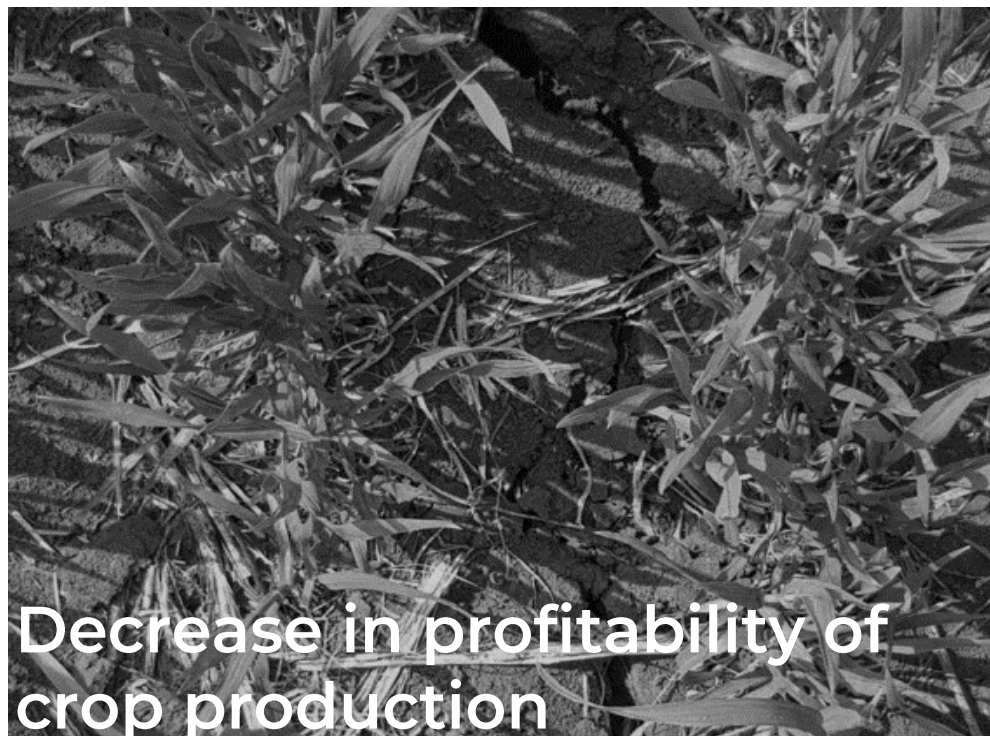


Long-term negative effects



TerraFjur[®]

It contains a large amount of carbon and natural organic compounds, which has a positive effect on the growth of soil biological activity. Proven positive effect on the emergence of nitrogen-fixing microorganisms and the reduction of pathogens



Decrease in profitability of crop production



Unstable weather conditions, drought, deterioration of soil quality, increased chemicalization lead to a decrease in yield and its quality



Growth in the cost of agrochemicals and fertilizers associated with rising prices, an increase in the norms and nomenclature of their use



Growth in the cost of tillage and the application of agricultural preparations and fertilizers, associated with the deterioration of soil quality



TerraFjur[®]

The use of fertilizers allows to get a high total income, both by increasing yields and improving its quality, and by reducing costs. Both the direct costs of agrochemistry and the costs associated with soil preparation are reduced by improving its quality.



TerraFjur[®] peculiarities

TerraFjur[®]

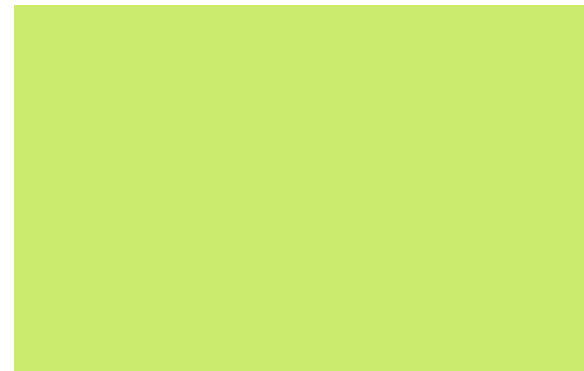
It contains a high concentration of humic and fulvic acids, which allows it to compete with the best humic preparations (humates) on the market at a cost ten times lower.

TerraFjur[®] completely replaces these preparations, while it has properties inaccessible to them - this is a complete plant nutrition and a qualitative positive effect on the soil.

TerraFjur[®]

Has a significant effect on yield

- Provides fast complex nutrition to plants
- Accelerates the vegetation of plants
- Reduces plant stress associated with adverse weather conditions and the use of agrochemicals
- Guaranteed to increase yield in any soil and climatic conditions
- Improves the quality characteristics of the crop



TerraFjur[®]

Designed as an effective fertilizer that preserves and improves the soil

The ability to have a long-term positive impact on the soil qualitatively distinguishes it from all existing fertilizers and preparations on the market.



Increases the content of active humic acids in the soil.
Promotes the growth of humus in the soil

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Improves soil structure, its physical and mechanical properties, moisture capacity



Enhances the biological activity of the soil. Promotes the growth of nitrogen-fixing bacteria and reduces pathogens



Binds and neutralizes toxic compounds in the soil.
Disinfects the soil from agrochemicals



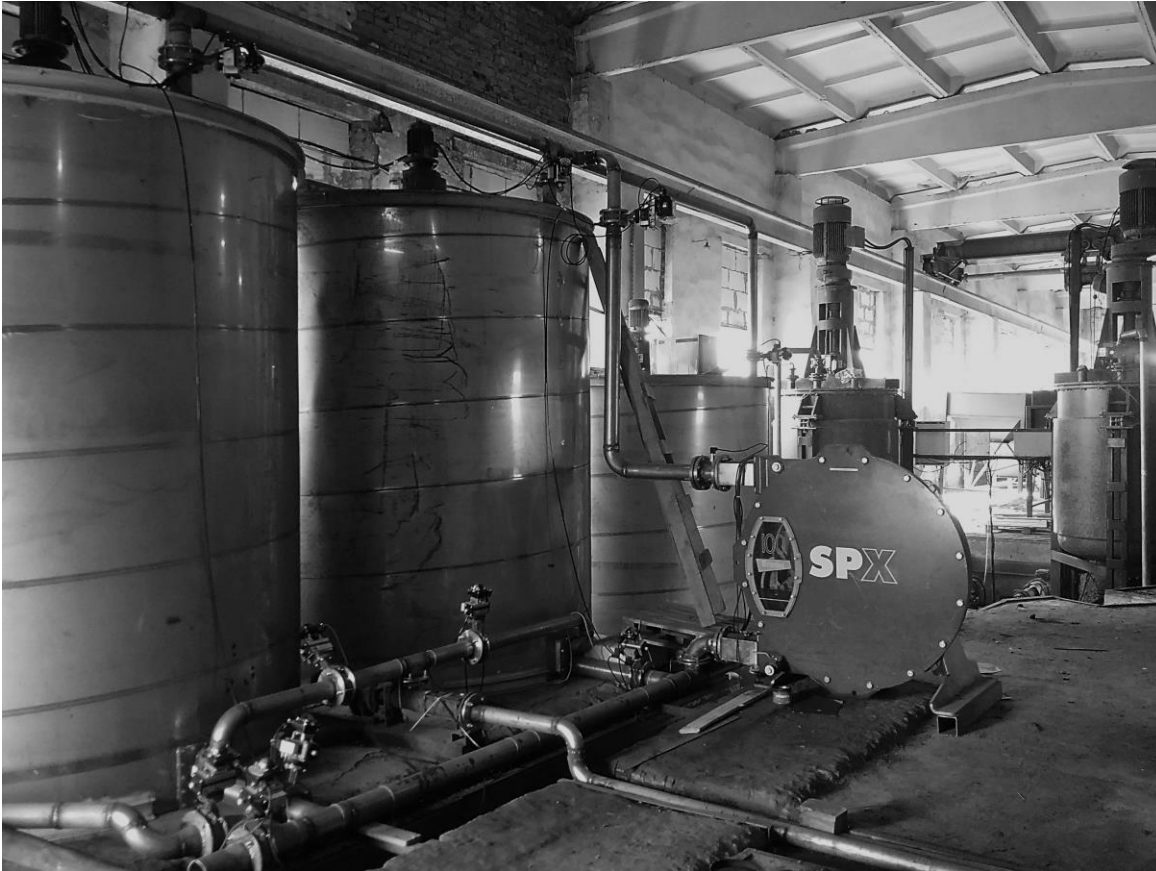


TerraFjur[®]

certified for use in organic farming

Has very high efficiency both on field, and on fruit and berry cultures.

Improves organoleptic properties of the harvest.



TerraFjur^T

has significant advantages in using



Reduces the need for fertilizers and agricultural chemicals



Can be applied in liquid, granular and dry instant form



Non-toxic, does not require special protection to work with it

A close-up, low-angle shot of a lush green wheat field. The wheat stalks are tall and full of grain, with their heads clearly visible. The background shows a flat horizon line under a clear, bright blue sky. The overall lighting is bright and natural, suggesting a sunny day.

Summing up

TerraFjur[®] capabilities

61

1

Provides fast complex nutrition to plants

4

Improves the quality characteristics of the crop

7

Accelerates the vegetation of plants

2

Provides soil detoxification from agrochemicals

5

Increases the content of active humic acids in the soil

8

Enhances soil microbiological activity

3

Reduces plant stress associated with adverse weather conditions and the use of agrochemicals

6

Improves the physical and mechanical properties of the soil, increases its moisture capacity

9

Provides accelerated stubble destruction, converts soil nutrients into a form available for plant nutrition



TerraFjur[®]

Thanks to the unique production technology, it is possible to create a product not only in a liquid state, but also in a dry and granular form.

Changes in the composition provide an opportunity to offer the most effective product option for each individual case.



Benefits of use

- ✓ High level of profitability of **TerraFjur[®]** application
- ✓ Improvement of soil quality and structure
- ✓ Increasing yields not only in the short term, but also in the long term
- ✓ Obtaining a guaranteed surplus yield even in adverse conditions

