



HIGHLY ACTIVE HUMUS FERTILIZER
natural humus concentrate



Our technological experts have developed a process that makes it possible for problematic organic waste, which has a 30-year decomposition period in nature, to decompose in 90 days.

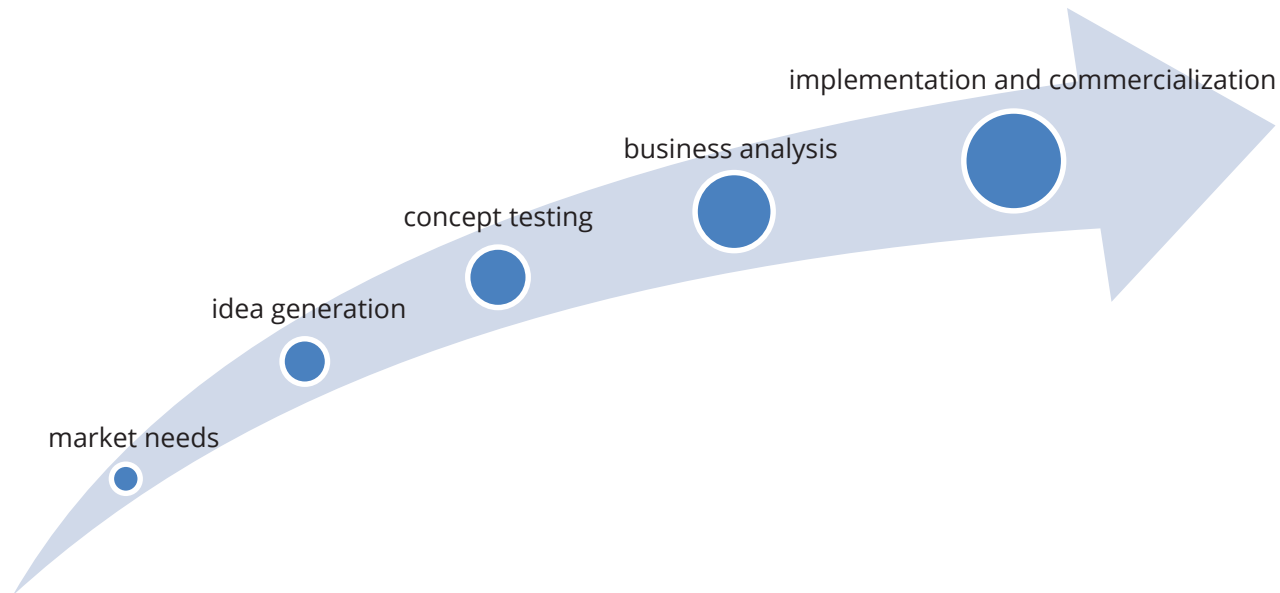
The result of this process is **BioAktiv®**, an active organic fertilizer that **increases yield by up to 35%**, confirmed by independent institutions.

The process is completely natural and uses little energy and water (compared to two average residential houses) and does not smell.

BioAktiv® Brand Creation Process



Based on the innovation-process model with six fundamental stages, which has been used for several decades, we approached the development of the product through six key phases, of which five have already been completed; only the implementation of the product is still in progress:



Mineral Fertilizers vs. BioAktiv®



- 38% of agricultural land worldwide is no longer fertile due to chemical pollution and the effects of synthetic fertilizers
- Rising prices of synthetic fertilizers and restrictions on their use
- Local biological waste

Mineral Fertilizers:

- Damage agricultural land
- Pollute groundwater
- 2-3 week delay before effects appear
- Effectiveness decreases over time

BioAktiv®:

- + Reactivates damaged agricultural land
- + Does not pollute groundwater
- + Acts immediately
- + Made from local biological waste
- + Does not smell (unlike other natural fertilizers)
- + 25-35% higher agricultural yield

Why BioAktiv® I



The product is sold under the name BioAktiv®, which is essentially a concentrated humus fertilizer made through aerobic fermentation of organic material. Because of its components, it cannot be viewed only as a fertilizer, since it does not bring only essential nutrients into the soil, but also:

1. Since one of its components is hard-to-decompose humus, it adds reserves of nitrogen and organic carbon to the soil.
2. Due to the high concentration of beneficial microorganisms (300,000,000 per gram), it accelerates the humification of organic matter in the soil.
3. It increases the activity of mineral fertilizers and creates a mineral-organic complex with them, which acts as an intermediary between the plant and the mineral fertilizer.
4. It contains carbonized covers that absorb toxic substances delivered through the roots of certain plants, which are then broken down by microorganisms (this material is also used for making biofilters).
5. The bacteria used grow on dead organic matter in good, healthy soil and live in symbiosis with plants. One of the bacteria grows as a network that binds soil particles together.

Why BioAktiv® II



6. In addition, because of the activity of microorganisms and the substances in the fertilizer, the benefits for the soil also include: better aeration, improved water regime (resulting in less irrigation), faster humification of organic matter present in the soil (instead of using herbicides, weeds are simply incorporated into the soil with cultivators, which additionally enriches the soil). In this way as well, and through the action of microorganisms, substances such as vitamins and growth hormones become available to plants.
7. The humates present in the fertilizer create a buffering system that maintains a constant pH factor in the soil.
8. The use of the fertilizer is simple and needs to be applied only once during the lifespan of the crop (no additional fertilization is necessary).
9. Because it is made exclusively from natural materials, it is recommended for the production of organic food.
10. After two or three applications, the soil can be easily worked immediately after rain, especially heavy soils with high clay content.
11. It is completely free of pathogenic bacteria, nitrites, and antibiotics.



BioAktiv® is also suitable for greenhouses. In addition to the benefits already mentioned, the advantages of using BioAktiv® in greenhouses include:

1. Soil replacement is not required due to the effect of BioAktiv® mycorrhiza.
2. BioAktiv® does not contain weed seeds, so weed removal is not necessary.
3. Uniform plant nutrition due to the buffering effect of BioAktiv®.

Product List



1. "Regular" BioAktiv®.
2. Ecological complexes specialized for different agricultural sectors:
 - Viticulture and fruit growing
 - Vegetable production
 - Grain and cereal production
 - Other

Organic complexes are a combination of BioAktiv® and various proportions of synthetic fertilizers (NPK). These products are suitable for integrated farming, which produces organic ecological products. The complex functions in the soil as a natural organic fertilizer with mixtures containing up to 20% synthetic fertilizers.

3. Soil remediation for land polluted with oil and gasoline.

Desert Sand Test



Test: Christmas wheat was planted in a mixture of:
50% desert sand and 50% regular BioAktiv®.

The test results are shown in the images.



Hemp Test



BioAktiv® (result on the right) in Switzerland on hemp.





Test with NPK

A test was carried out by the company Horticulture Alt, which grows crops in plastic tunnels, comparing Bioaktiv with NPK fertilizers.

TEST ON CUCUMBERS

Area	Fertilizer	Number of plants	Production	Production per plant
67 m ²	70 L of BioAktiv	200 plants	880 kg	4,40 kg
67 m ²	8 kg NPK	200 plants	710 kg	3,55 kg

TEST ON PEPPERS

Area	Fertilizer	Number of plants	Production	Production per plant	Fruit drop	Height
67 m ²	70 L of BioAktiv	400 plants	492 kg	1,23 kg	2%	55 cm
67 m ²	8 kg NPK	400 plants	380 kg	0,95 kg	5%	75 cm

Greater yield in the fields treated with BioAktiv[®] was achieved mainly due to the formation of a large number of flowers and a smaller number of aborted flowers.



Test with Other Fertilizers I

A test using different planting substrates for grapevine was set up near Ptuj by Klet Haloze. The vineyard was planted on a slope; the soil was loam-sand, plowed to a depth of 35 cm and loosened to a depth of 40 cm.

For the experiment, the grape variety Kerner was planted on Kober 5 BB rootstock.

The test included the following substrates:

Name	Applied amount	Characteristics
BIOPOST	0,5 L per plant	0,8-1,4%N, 0,2-0,5% P ₂ O ₅ , 0,5-1,0% K ₂ O, pH=7,5
BioAktiv	1,0 L per plant	NPK=2:1,5:2, pH=7,4
HUMOVIT V	2,0 L per plant	9%OG, pH=6,5
HUMOVIT V vineyard	2,0 L per plant	15%OG, pH=6,5

OG = organic fertilizer containing 1-1,3%N, 0,8-1% P₂O₅, 0,8-1% K₂O

Measurements were taken of plant growth length.

The measurements were carried out in autumn on 600 plants, i.e., 12 varieties.

The test was performed with a control sample in two repetitions.



Test with Other Fertilizers II

Results of the test with the following average values:

Name	Avarage growth	INDEX
BIOPOST	114,6 cm	105,13
BioAktiv	178 cm	163,30
HUMOVIT V	145 cm	133,02
HUMOVIT V vineyard	170,5 cm (used double quantity)	156,42
CONTROL:	109 cm (used double quantity)	100

Comment:

From the collected data, we obtained the following order of substrate quality based on the quantities used and the described soil conditions:

Order	Fertiliser
1	BioAktiv
2	HUMOVIT V vineyard
3	HUMOVIT V
4	BIOPOST

Pictures of our laboratory and pilot production



Vrtine 11
Sv. Anton pri Kopru
Slovenia



VISOKO AKTIVNO ORGANSKO GNOJILO

3,3 – 4 – 3,9
MIKROELEMENTI
34 % HUMUSA
68% ORG. SNOVI

Izboljšuje fizikalno
strukturo tal,
zračnost in vlažnost
tal.

Preprečuje izpiranje
hranil z erozijo.

Pospešuje
nastajanje humusa
v tleh.

Obnova hranilnih
snovi v tleh.



Brez bolezenskih
klic, glist in semen
plevelov.

Iz popolnoma
naravnih sestavin.

Drevesa:
2-3 L/drevo

Vrtnine:
60 L / 100 m²

18,00 €
30 L

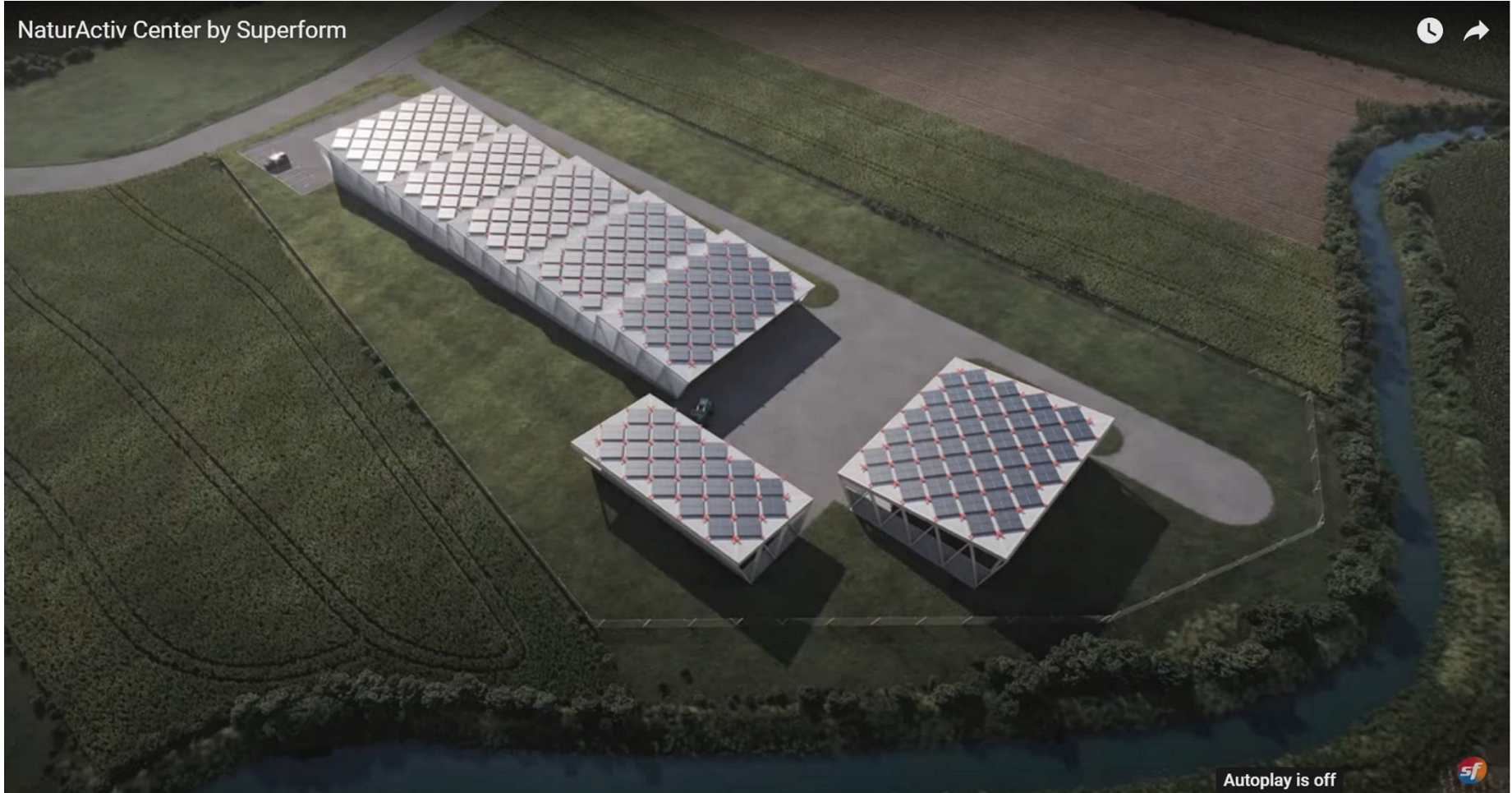
 **SLOVENSKI
PROIZVOD**

AL F. Koper

NaturActiv Center – Future Production



NaturActiv Center by Superform



NaturActiv Center



NaturActiv Center by Superform



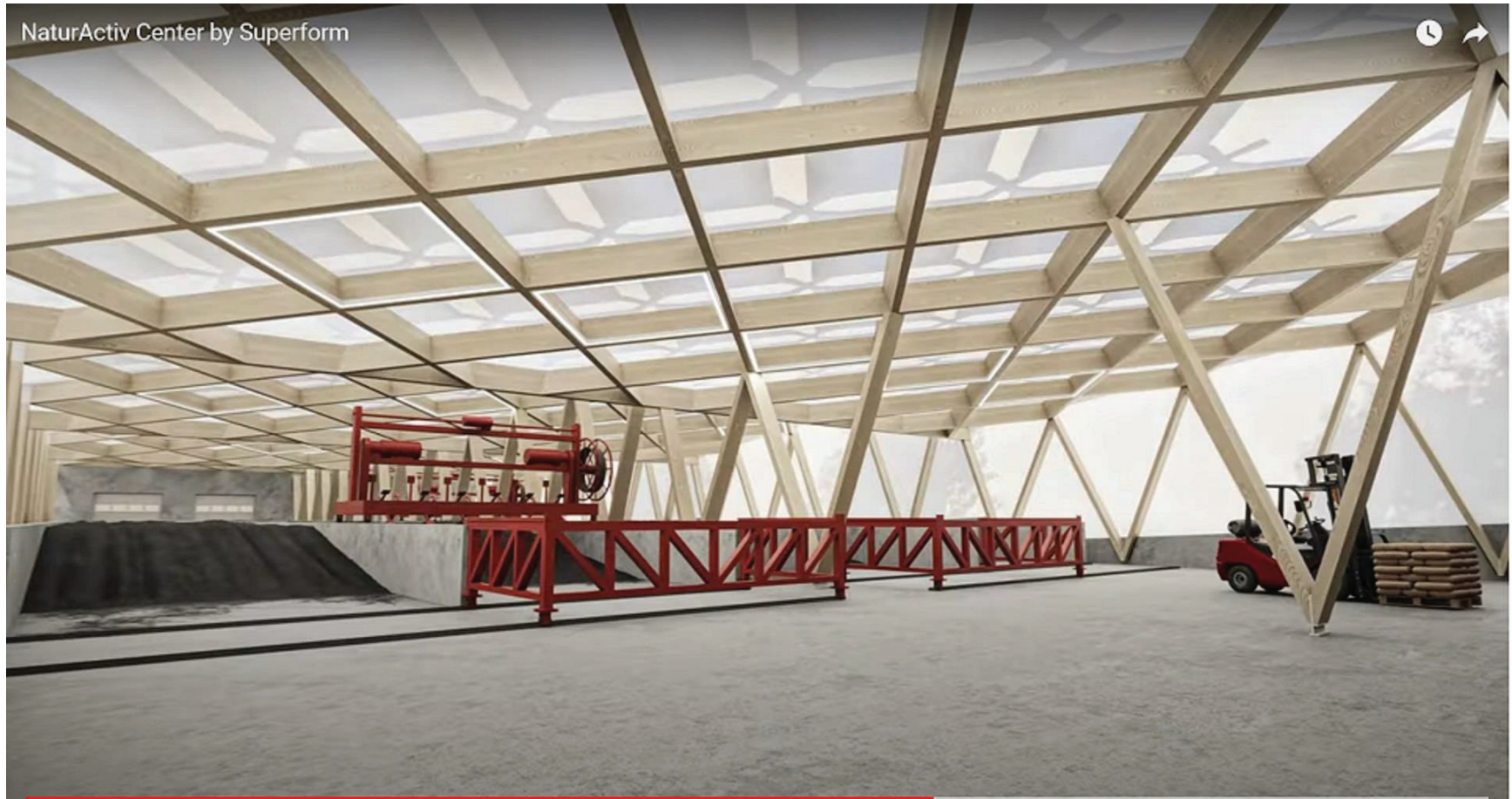
NaturActiv Center - Handling Area



NaturActiv Center by Superform



NaturActiv Center - Production Area





The raw materials that can be used in the process are:

- Poultry manure (chicken, turkey, etc.)
- Pig manure
- All types of fruit pomace or waste
- Waste from waste-processing facilities
- Waste from biogas plants, etc.

The process can be adapted for the use of raw materials that are available around the location of the production–development facility.



- + Care for nature
- + Higher agricultural yield
- + Waste management
- + Rapid return on investment

**HIGHLY ACTIVE HUMUS FERTILIZER,
NATURAL HUMUS CONCENTRATE.**



Industrial building

Production: 15.000 tons per year

Costs: 16–20 employees + electricity + transport, (approx.) 4 ha plot

Required electricity: 200 kW

Water demand – depends on the availability of raw materials

Confirmed Sales



Foreign markets

1. Switzerland – 20.000 bags

Signed letter of intent for the purchase of more than 80.000 bags.

2. Croatia – Poljopromet d.d. – 10.000 bags

Signed letter of intent for purchase.

3. Montenegro – 10.000 bags

Ongoing negotiations for signing a contract for 178. 000 bags annually.

Domestic customers

1. KZ Sloga Kranj – 30.000 bags

Signed contract for 178.000 bags.

2. Agraria Koper – 5.000 bags

Signed letter of intent for purchase; currently already supplying smaller quantities.

3. Semenarna Ljubljana – 6.000 bags

Signed letter of intent for purchase.



What is S4?

Smart specialisation represents a platform for directing development investments into areas where Slovenia has a critical mass of knowledge, capacities, and competencies, and where it has innovation potential for positioning itself in global markets and thereby strengthening its visibility.



Among the areas of smart specialisation, the BioAktiv[®] project aligns most directly with Area 3 – Networks for the Transition to a Circular Economy, and also shows relevance to Area 6 – Factories of the Future.

3. Networks for the transition to a circular economy

Networks for the transition to a circular economy through the processing of biomass, the development of new biological materials, technologies for the use of secondary raw materials, and the production of energy from alternative sources.

6. Factories of the future

Factories of the future with optimization and automation of production and manufacturing processes, including supporting technologies.

Criteria of the BioAktiv® for the Circular Economy



Fulfilled criteria of the BioAktiv® project for eligibility for funds intended to promote the circular economy:

- ✓ solutions that extend the lifespan of products and/or materials,
- ✓ use of renewable/recycled resources,
- ✓ increased efficiency and effectiveness in resource consumption,
- ✓ products that allow complete recycling or decomposition,
- ✓ innovative technologies that enable the development of circular business models.

Financial Plan Summary



Annual production capacity: 15.000 t/year
Operating rate (90%): 13.500 t/year

Revenue: $13.500 \text{ t} \times \text{€}800/\text{t} = \text{€}10.800.000$
Operating costs: $\text{€}2.718.818$

Estimated operating profit: $\text{€}8.081.182$ (before depreciation, taxes, etc.)

Detailed financial model available upon signing an NDA.



Thank you for your time!

For more information please contact our official representative:

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