

Kestrel infographic description

A supplied description of an infographic. It is presented as supplied background material, not as a new experimental result.

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Editorial note

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Description of the infographic summary on the influence of the beetle on the beet variety Kestrel (June 2026)

Infographic summary

The figure presented is a summary infographic report (memo) for June 2026 addressed to Klavinescu. The figure systemizes data on the emergent effect of the application of the bioproduct ChitoHumus in ultra-low doses (ULD) on the crops of the beet variety Kestrel. The information is structured in four interrelated blocks.

1. Comparative Yield (t/ha)

The histogram shows the yield of four experimental varieties of beet variety Kestrel:

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NPK0 (Absolute Control): 41.36 t/ha.

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NPK CONTROL (Mineral background): 55.33 t/ha (application of 500 kg/ha of YM NPK 11-11-21).

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NPK0 C2 (No fertilizer + ChitoHumus 0.2 l/ha): 57.67 t/ha. A qualitative leap was recorded – emergency effect (+39.4% to absolute control NPK0), exceeding the indicators of the full mineral background.

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NPK C1 (Mineral background + ChitoHumus 0.1 l/ha): 62.84 t/ha. The maximum synergistic effect is shown in the graph – yield increase of 13.6% compared to NPK control.

2. Section: Root Specific Density Analysis

The section shows the mathematical calculation of the changes in the physical structure of the root crop tissues (assuming an ideal spherical shape for standardization of the comparison):

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Control (NPK0): $m = 184 \text{ g}$, $r = 3.4 \text{ cm}$, $V = 164.64 \text{ cm}^3$, physical density $\rho = 1.118 \text{ g/cm}^3$.

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Processed (NPK0 C2): $m = 251 \text{ g}$, $r = 3.45 \text{ cm}$, $V = 172.01 \text{ cm}^3$, physical density $\rho = 1.459 \text{ g/cm}^3$.

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The central vector shows an increase in tissue density by 30.5%, which indicates a denser stacking of cellular structures under the influence of the drug.

3. Section: Leaf Top Growth & Linear Density

Assess morphometric shifts of the leaf apparatus:

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Control (NPK0): Stock weight = 76 g, leaf length = 40.1 cm, linear density (ρ_{lin}) = 1.895 g/cm.

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Treated (NPK0 C2): Stock weight = 166 g, leaf length = 42.0 cm, linear density (ρ_{lin}) = 3.952 g/cm

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Two key changes are graphically shown: intensive growth of the stump biomass by 118.4% and increase of the linear (specific) leaf density by 108.5% (forming a thicker leaf plate).

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4. Module “Scientific Assessment: Non-Linear Bio-Modulation”

The diagram reveals the internal physiological and biochemical mechanisms that explain the nonlinear growth observed in beet. Since direct chemical analysis of beet plant tissues in this test cycle was limited, the maximum verified values from parallel experiments of the same research centre (Stendes PC, 2025) on other crops were integrated into the block:

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Phosphorus (P) and potassium (K) data: taken from the report on vegetative experiments on peas. The maximum unlocking rates of hard-to-reach elements in soil were +323% for P and +133% for K. On the diagram this is linked to root exudate and soil microbiota stimulation.

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Magnesium (Mg) data: taken from the report on the qualitative analysis of lettuce. The increase of magnesium concentration in dry matter was 34.8%. On the diagram this indicator is directly related to the intensification of photosynthesis, since magnesium is the structural center of the chlorophyll molecule (its chemical formula is presented).

Justification for including external data in the drawing (for illustration)

The inclusion of data on phosphorus, potassium (from experiments on peas) and magnesium (from experiments on lettuce) in the general infographic on the beet variety Kestrel is done in order to model the cross-sectional scientific-physiological rationale and is due to the following reasons:

- 1.

Filling the direct data gap: Due to the lack of detailed tissue analysis for chemical elements specific to beet, related crop data serve as a proven biological model for the action of ChitoHumus.

- 2.

Common fundamental mechanisms: The processes of mobilizing phosphorus/potassium in the rhizosphere and accumulating magnesium to build chlorophyll are universal to higher plants. Extrapolation of the maximum verified parameters (Stendes PC, 2025) allows to visualize the “black box” of internal processes.

- 3.

Illustration of the causal relationship: The figures illustrate to Professor Klavinisch and the expert panel why beet grows thicker (+108.5% density) and the roots become more dense (+30.5% density), even with the very low dose without fertilizer. The figures for P, K and Mg serve as evidence of the trigger (elixir) effect of the drug on metabolism.

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