Granular NPK Fertilizers

Blaukorn®

NovaTec®
Blaukorn®/NovaTec® general benefits

- Premium quality granular complex compound fertilizers.
- All granules containing N, P, K, Mg, S and trace elements.
- Low chloride (potassium from SOP).
- Fast acting Nitrogen source with both ammonium and nitrate N.
- Perfect granulometry (90% granules within 2–4 mm) for even application.
- Highly available source of phosphate (> 80% water-soluble).
- Low in dust and high in granule strength for best spreading properties.
- Available in common nutrient efficiency (Blaukorn®) or in enhanced nutrient efficiency (NovaTec®).
- German quality packaging.

Blaukorn® physical and chemical properties

Advantages of complex compounds vs blended compounds

- No differential segregation of granules.
- Superior homogenous nutrient distribution in the field.
- More accurate spreading is possible.
- High nutrient efficiency.
- Easier and labour saving handling.
- Less storage capacity required.

Homogenous granulometry 2–4 mm for superior distribution

special crops

extensive crops

No separation during spreading

2–4 mm

2–5 mm
Blaukorn®/NovaTec® product range

**Blaukorn® range**
- Blaukorn® classic 12-8-16 (+3+TE)
- Blaukorn® 12-12-17 (+2+TE)
- Blaukorn® premium 15-3-20 (+3+TE)
- Blaukorn® suprem 21-5-10 (+3+TE)
- Blaukorn® N-Max 24-5-5 (+2+TE)
- Blaukorn® pro 14-7-17 (+2+TE)

**NovaTec® range (with DMPP)**
- NovaTec® classic 12-8-16 (+3+TE)
- NovaTec® 12-12-17 (+2+TE)
- NovaTec® premium 15-3-20 (+3+TE)
- NovaTec® suprem 21-5-10 (+3+TE)
- NovaTec® N-Max 24-5-5 (+2+TE)
- NovaTec® pro 14-7-17 (+2+TE)

**Blaukorn®/NovaTec® application guidelines**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Annual demand Blaukorn®/NovaTec® (kg/ha)</th>
<th>Application frequency per year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Blaukorn®</td>
</tr>
<tr>
<td>Greenhouse vegetables</td>
<td>800–2000</td>
<td>3–4</td>
</tr>
<tr>
<td>Brassicae</td>
<td>1600–2500</td>
<td>3–4</td>
</tr>
<tr>
<td>Lettuce, carrots, onions</td>
<td>700–1200</td>
<td>2</td>
</tr>
<tr>
<td>Strawberries</td>
<td>700–1000</td>
<td>2</td>
</tr>
<tr>
<td>Fruit trees</td>
<td>300–800</td>
<td>2</td>
</tr>
<tr>
<td>Soft fruits</td>
<td>600–1100</td>
<td>2</td>
</tr>
<tr>
<td>Grapevines</td>
<td>300–600</td>
<td>2</td>
</tr>
<tr>
<td>Potatoes</td>
<td>500–1200</td>
<td>2–3</td>
</tr>
</tbody>
</table>

For detailed recommendation please contact your local Blaukorn®/NovaTec® dealer/agent.

* For superior performance and results, NovaTec® should be used in place of Blaukorn® particularly under any of the following conditions.

- Free draining soil
- Close proximity to water courses or sensitive habitats.
- Sparse/shallow rooting system (e.g. potatoes, lettuce)
- High soil pH

H3PO4 = Dimethylpyrazolphosphate
DMPP = DMPP
What is NovaTec®

- NovaTec® is the COMPO EXPERT innovation in granular compound NPK-fertilizer stabilized with DMPP (3.4 Dimethylpyrazolphosphate).
- DMPP protects Ammonium-N from quick conversion into Nitrate-N.
- NovaTec® will ensure constant supply of both forms of Nitrogen (ammonium and nitrate).

Benefits

- Lower N losses from leaching and volatilisation.
- Reduced number of applications required.
- Improved yield and quality due to extended N supply and increased ammonium nutrition.
- Positive pH effect in the root zone (acidification of the rhizosphere gives superior P and micronutrient availability).
- Crops develop and ripen more evenly due to a stabilised N supply.
- Can help to reduce free nitrate levels in fresh mass.

Ammonium-based fertilization with nitrification inhibitor

- NovaTec® delays the 1st step of nitrification (Oxidation of ammonium (NH$_4^+$) to nitrate (NO$_3^-$)).
- NovaTec® leads to a more efficient NH$_4^+$-based N-nutrition.
- Environmental benefits: lower emission of greenhouse gases and reduction of nitrogen leaching.

NovaTec® – ammonium nutrition

- Energy savings by Ammonium-N-nutrition (no biological reduction of nitrate required).
- Enhanced flowering (ammonium promotes synthesis of phytohormones and polyamines).
- Ammonium nutrition favours root growth.
- Ammonium based nutrition can help to reduce nitrate levels in fresh produce.
- Use of NovaTec® results in deeper green colouring in leafy salads and vegetables.

ATP = Adenosine Triphosphate.
Is one of the most important energetic carriers in plants.
Trial results

Effect of NovaTec® on yield of fruits and vegetables
During the past twenty years many trials have been conducted on agricultural and horticultural crops to evaluate the benefit of NovaTec®. In fruits and vegetable trials with crops like salads, cauliflower, cabbage, onions, apple, peach, citrus, potatoes, grapes, etc., NovaTec® showed an increase of marketable yield, often combined with reduced nitrate level in the biomass.

NovaTec® improves the Nitrogen Use Efficiency (NUE): Use Less and achieve more!

Stabilized fertilizers in cauliflower

There is a positive effect of DMPP treatment on yield compared with standard NPK-application (2 applications). And even with only one application containing DMPP the yield is still higher than with standard NPK-application (2 applications). The nitrate concentration in the plants is significantly lower in the DMPP treatment compared to standard treatment.

1) 50% at planting + 50% at GS 17/19
2)100% at planting
NovaTec® ensures the N supply, even when applying in early growth stages.

- Compact growth.
- Better storability and shelf life.

Application in potatoes

NovaTec® controls the transformation of ammonium to nitrate. The stabilizing effect is diminished under hot weather conditions. Nitrate is supplied in accordance to plant demand.

Growth of lettuce when fertilized with NovaTec®

- Compact growth.
- Better storability and shelf life.

Stages of development after BBCH

NovaTec®: nitrate supply on demand

NovaTec® controls the transformation of ammonium to nitrate. The stabilizing effect is diminished under hot weather conditions. Nitrate is supplied in accordance to plant demand.
**Blaukorn®**: Complex NPK-fertilizer with potassium sulfate (SOP), magnesium and micronutrients. For basal and complementary dressing in chloride sensitive crops and on salt-affected soils; in horticulture and special crops outdoor and under glass.

**NovaTec®**: Complex NPK-fertilizer with nitrification inhibitor DMPP (3,4-dimethylpyrazolophosphate). Reduces N-leaching and increases N-efficiency. During the active phase of DMPP (4 to 10 weeks, depending on soil temperature and soil humidity) the transformation of ammonium to nitrate is delayed. As a result N-availability is further adapted to the plants requirements and N-efficiency is increased. Fertilizer based on SOP, for usage in chloride sensitive crops and on salt-affected soils.

<table>
<thead>
<tr>
<th>Product</th>
<th>Composition</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blaukorn®/NovaTec® classic</strong></td>
<td>12 % N  5% nitrate-nitrogen (NO₃-N) 7% ammonium-nitrogen (NH₄-N) 8% P₂O₅ 6.4% water soluble P₂O₅ 16 % K₂O 3% MgO 2.4% water soluble MgO 10 % S 0.02 % B 0.06 % Fe 0.01% Zn</td>
<td>Granule size: 2–4 mm</td>
</tr>
<tr>
<td><strong>Blaukorn®/NovaTec® 12-12-17 (+2+TE)</strong></td>
<td>12 % N  5% nitrate-nitrogen (NO₃-N) 7% ammonium-nitrogen (NH₄-N) 12 % P₂O₅ 9.6% water soluble P₂O₅ 17% K₂O 2% MgO 1.6% water soluble MgO 8 % S 0.02 % B 0.06 % Fe 0.02 % Zn</td>
<td>Granule size: 2–5 mm</td>
</tr>
<tr>
<td><strong>Blaukorn®/NovaTec® pro</strong></td>
<td>14 % N  6% nitrate-nitrogen (NO₃-N) 8% ammonium-nitrogen (NH₄-N) 7% P₂O₅ 5.6% water soluble P₂O₅ 17% K₂O 2% MgO 1.6% water soluble MgO 9% S 7.2% water soluble S 0.02% B 0.06% Fe 0.01% Zn</td>
<td>Granule size: 2–5 mm</td>
</tr>
<tr>
<td><strong>Blaukorn®/NovaTec® premium</strong></td>
<td>15 % N  7% nitrate-nitrogen (NO₃-N) 8% ammonium-nitrogen (NH₄-N) 3% P₂O₅ 2.4% water soluble P₂O₅ 20% K₂O 2% MgO 1.6% water soluble MgO 10 % S 0.02 % B 0.06 % Fe 0.01% Zn</td>
<td>Granule size: 2–4 mm</td>
</tr>
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<td>-----------------------------</td>
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<tr>
<td>Blaukorn®/NovaTec® suprem</td>
<td>21% N</td>
<td>For detailed recommendations please contact your local COMPO EXPERT dealer / agent.</td>
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<tr>
<td>21-5-10(+3+TE)</td>
<td>10% nitrate-nitrogen (NO₃-N)</td>
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<tr>
<td></td>
<td>11% ammonium-nitrogen (NH₄-N)</td>
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<tr>
<td></td>
<td>5% P₂O₅</td>
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<td></td>
<td>4% water soluble P₂O₅</td>
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<tr>
<td></td>
<td>10% K₂O</td>
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<tr>
<td></td>
<td>3% MgO</td>
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<tr>
<td></td>
<td>2.4% water soluble MgO</td>
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<tr>
<td></td>
<td>6% S</td>
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<tr>
<td></td>
<td>0.02% B</td>
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<tr>
<td></td>
<td>0.3% Fe</td>
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<tr>
<td></td>
<td>0.02% Zn</td>
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<tr>
<td>Granule size: 2 – 4 mm</td>
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</tbody>
</table>

| Blaukorn®/NovaTec® N-Max    | 24% N                           |                                                                      |
| 24-5-5(+2+TE)              | 11% nitrate-nitrogen (NO₃-N)    |                                                                      |
|                             | 13% ammonium-nitrogen (NH₄-N)   |                                                                      |
|                             | 5% P₂O₅                         |                                                                      |
|                             | 4% water soluble P₂O₅           |                                                                      |
|                             | 5% K₂O                          |                                                                      |
|                             | 2% MgO                          |                                                                      |
|                             | 1.6% water soluble MgO          |                                                                      |
|                             | 5% S                            |                                                                      |
|                             | 0.02% B                         |                                                                      |
|                             | 0.06% Fe                        |                                                                      |
|                             | 0.01% Zn                        |                                                                      |
| Granule size: 2 – 4 mm      |                                 |                                                                      |

Bag:  
- 25 kg  
- 50 kg  
- 600 kg big bag (for truck delivery)  
- 1,000 or 1,200 kg big bag (truck or container)

Pallet size:  
- 25 kg x 42 = 1,050 kg  
- 50 kg x 25 = 1,250 kg  
- 50 kg x 24 = 1,200 kg

Container:  
- 20 x 1,050 kg = 21 t/container  
- 16 x 1,250 kg = 20 t/container  
- 20 x 1,200 kg = 24 t/container

COMPO EXPERT GmbH  
Krögerweg 10  
48155 Münster  
Phone: +49 251 297981-000  
Fax: +49 251 297981-111  
E-mail: info@compo-expert.com  
www.compo-expert.com