Underdeveloped roots?
No problem, here is the solution!

AMESAL

PHOSPHORUS ENCOURAGES THE FORMATION OF THE RADICULAR SYSTEM AND OF ABSORBENT ROOT HAIRS.

CONVENTIONAL FERTILIZER

A BETTER RADICULAR DEVELOPMENT DUE TO FERTILIZERS TREATED WITH AMESAL

THE MOST EFFECTIVE PHOSPHORUS ENHANCER

NAVODARI CHEMICAL FERTILIZERS PLANT
Phosphorus is one of the macro-elements the plant is in big need, from the time of the root formation, favouring development, until the time of flowering and is involved in all fundamental metabolic processes.

**CICh România launches the inhibitor for phosphorus loss (dispersal)**

**AMESAL 200 N**

Presentation

**PHOSPHORUS FAVOURISES THE FORMATION OF THE RADICULAR SYSTEM AND OF ABSORBENT HAIR ROOTS**

It is focused on the young areas of the plant and it is important for the energetic metabolism, as well as in synthesis reactions. In addition to low mobility, phosphorus limitation is represented by the assimilative capacity once it reaches the soil, the possibility of being more or less absorbed by the plant, depending on the soil reaction and its compounds.

In acid soils, the phosphorus forms insoluble complexes with the iron hydroxide and aluminium (Iron phosphates and AL) and in basic soils, rich in calcareous, it reacts with Calcium turning into Dicalcium phosphate or Tricalcium phosphate (through retrogradation), and in both cases, the Phosphorus is no longer available for the culture.

Classic phosphorus based fertilizers, normally used for phosphorus deficiency, do not achieve their objective, up to 70% become insoluble at the high reaction of Phosphatic ions towards the many components from the soil, resulting in low available concentrations of phosphorus and inefficient compared to the optimal necessities of each culture.

**Thanks to the important collaboration at a global level between companies in this field, a solution to this problem has been found, the efficientization of the phosphorus absorption by the cultures. Thus, AMESAL was born, with its technology for the controlled emission of Phosphorus mass (with dispersion inhibitor).**

**AGRONOMICAL ADVANTAGE**

The **AMESAL 200 N** line is at present the most advanced complex fertilizers series, with a maximum phosphorus efficiency, capable of improving quality and productivity of cultures.

**AMESAL 200 N** fertilizers are economical, with an optimum balance between quality and price, suitable not only for application to the extensive cultures (grain cereals, rape, corn, sunflower, soja, peas, potato, sugar beat, etc.), but also in horticole cultures (vegetables, fruit trees, vineyard), thanks to a complete series of fertilizers high in SO3, MgO, CaO, microelements (B, Fe, Cu, Zn, Mn, Mo), but also K2O, in potassium chloride as well as in potassium sulphate.

**What is AMESAL?**

AMESAL 200 N is a synthesis polymer of the newest generation with a high capacity for change for cations, which are tied preferentially with metal cations (iron, aluminium) in acid soils and calcium in basic soils. This mechanism protects the Phosphorus released in the soil through known retrogradation phenomenons, in Dicalcium phosphorus and Tricalcium phosphous, which would block the Phosphorus. Therefore, the Phosphorus found in fertilizer grains treated with AMESAL is much more available for the culture, with a performance which tends to double the productivity of the unities present in the fertilizer.

- The involvement of Phosphorus in the plant’s metabolism is essential.
- Phosphorul acts as a fundamental support in all phenological stages of development of the culture, becomes essential in the forming of the radicular system which represents, especially in the early vegetative stages, the most important element for plant development and the accumulation of reserve substances.
- Phosphorus balances the growth alongside N and K, essential for the development of the radicular system and for the stability and quality of the yield.
- Also, it favourises plant development from the first stages of vegetation, and it can represent a vital element for surpassing of the most critical moments of the culture during winter or in vegetative growing stage.
- When working with normal Phosphorus /classic Phosphorus, we can have approximately 30% efficiency, but, when we have fertilizer grains treated with AMESAL, due to its phosphorus enhancement technology, the phosphorus no longer gets blocked in the soli, regardless of the soil’s reaction.
- The Phosphorus remains mobile, and following this Phosphate improvement, we have an efficiency which can reach approximately 90% mobile Phosphorus – P assimilable by the plants throughout all vegetation period.
RECOMMENDATIONS

The importance and influence of nutrition in plants

The soil is the main source of nutritious elements, by adding fertilizers. For an efficient growth, development and fructification, plants need all elements, in all vegetative periods, but in different quantities. Balanced fertilization does not mean a balanced fertilizer formula!!!

Balanced fertilization means applying complex fertilizers, with formulas as close to the demand of each culture specific consumption/ton product. For maximum efficiency we recommend agrochemical analysis of the soil.

The fertilization plan for a culture (establishing fertilizer quantities) must respect the following calculations:
- Specific consumption in kg active substance /nutritive element for each ton of product of each culture;
- The state of soil supplying /in the case of soil mapping = quantity existent in soil/mobile quantity – assimilable by plants;
- Assimilation capacity (%) of plants, depending on soil Ph;
- Type of fertilizer /application method /application moment;
- Expected yield.

### Specific consumption/ton

<table>
<thead>
<tr>
<th></th>
<th>Expected yield</th>
<th>N</th>
<th>P</th>
<th>K</th>
<th>S</th>
<th>MgO</th>
<th>CaO</th>
<th>Cu</th>
<th>Mn</th>
<th>Zn</th>
<th>B</th>
<th>Fe</th>
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<tbody>
<tr>
<td>Autumn Rape</td>
<td>1,00</td>
<td>50</td>
<td>60</td>
<td>30</td>
<td>50</td>
<td>40</td>
<td>50</td>
<td>15</td>
<td>25</td>
<td>50</td>
<td>60</td>
<td>0,20</td>
</tr>
<tr>
<td>Wheat</td>
<td>1,00</td>
<td>24</td>
<td>34</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>36</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>6</td>
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</table>

### The State of Soil Supplying

<table>
<thead>
<tr>
<th>N</th>
<th>Very weak</th>
<th>Medium</th>
<th>Good</th>
<th>Very Good</th>
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</thead>
<tbody>
<tr>
<td>1,2</td>
<td>2 – 4</td>
<td>0,8</td>
<td>0,5</td>
<td></td>
</tr>
<tr>
<td>1,5</td>
<td>18,1 – 36</td>
<td>0,8</td>
<td>0,5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</th>
<th>Very weak</th>
<th>Medium</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 kg 20.20.0 classic</td>
<td>200 kg Cerealfos 40 + AMESAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### K<sub>2</sub>O

<table>
<thead>
<tr>
<th>K&lt;sub&gt;2&lt;/sub&gt;O</th>
<th>Very weak</th>
<th>Medium</th>
<th>Good</th>
<th>Very Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>66,1 – 132</td>
<td>0,8</td>
<td>0,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,2</td>
<td>1</td>
<td></td>
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</table>

### Availability of Nutricional Elements

<table>
<thead>
<tr>
<th>Soil PH</th>
<th>N</th>
<th>P</th>
<th>K</th>
</tr>
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<tbody>
<tr>
<td>4,5</td>
<td>30%</td>
<td>23%</td>
<td>33%</td>
</tr>
<tr>
<td>5</td>
<td>43%</td>
<td>34%</td>
<td>52%</td>
</tr>
<tr>
<td>5,5</td>
<td>77%</td>
<td>48%</td>
<td>77%</td>
</tr>
<tr>
<td>6</td>
<td>89%</td>
<td>52%</td>
<td>93%</td>
</tr>
<tr>
<td>6,5</td>
<td>93%</td>
<td>93%</td>
<td>100%</td>
</tr>
<tr>
<td>7</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>7,5</td>
<td>98%</td>
<td>68%</td>
<td>74%</td>
</tr>
<tr>
<td>8</td>
<td>93%</td>
<td>30%</td>
<td>44%</td>
</tr>
<tr>
<td>8,5</td>
<td>77%</td>
<td>20%</td>
<td>28%</td>
</tr>
<tr>
<td>9</td>
<td>50%</td>
<td>5%</td>
<td>8%</td>
</tr>
</tbody>
</table>

CICH team offers you
- Consultancy
- Personalised fertilization plans
- Partnership

### Nutricional Element

- Depending on your culture
- Depending on your need
- Depending on your desire

VS 250 kg 20.20.0 classic
200 kg Cerealfos 40 + AMESAL

VS 150 kg 20.20.0 classic
150 kg Cerealfos 40 + AMESAL

VS 100 kg DAP 18.46 classic
200 kg NGOOO + AMESAL 8.22 + ME
CEREALFOS WITH AMESAL

Cerealfos is a solid granulated fertilizer based on phosphorus with AMESAL technology. High content of Phosphorus – Phosphorus assimilable by plants. It is applied at the beginning of the crops, with maximum efficiency regardless of the type of soil.

AMESAL 4.20.10 NGOOOO with ME

AMESAL NPK 4.20.10 NGOOO is a solid complex fertilizer grain:
- Contains main macro-elements N P K
- Contains secondary macro-elements : S Ca Mg
- Contains micro-elements N Zn Cu Fe
- Double technology NGOOO (DCD nitrification inhibitor) and AmeSal (Phosphorus enhancer-Phosphorus assimilable by plants)
It has maximum efficiency regardless of the type of soil.

AMESAL 4.12.24 NGOOOO with ME

AmeSal NPK 4:12:24 NGOOO is a complex grain fertilizer
- Contains main macro-elements N P K
- Contains secondary macro-elements S Ca
- Contains micro-elements B Zn Mn Cu Fe Mg
- Double technology DCD and AMESAL 200 N (DCD nitrification inhibitor) and AmeSal (Phosphorus enhancer-Phosphorus assimilable by plants). It has maximum efficiency regardless of the type of soil.

AMESAL 5.24.0 NGOOO cu ME

AmeSal NPK 5:24:0 NGOOO este un îngrășământ solid granulat complex :
- Contains main macro-elements N P
- Contains secondary macro-elements S Ca
- Contains microelements B Zn Mn
- Double technology DCD and AMESAL 200 N (DCD nitrification inhibitor) and AmeSal (Phosphorus enhancer-Phosphorus assimilable by plants)
Apply at the beginning of the crops. It has maximum efficiency regardless of the type of soil.

DOSES AND METHODS OF APPLICATION
- Doses are established according to type of soil, specific consumption per ton of product, culture and expected yield
- Can be applied through spreading with MA at preparation of germinative bed or localised/by row during seeding
- For personalization of the 2 above mentioned points, please consult CICH representative:
  Dorina ION, Sales Manager          Email: dorina.ion@cich.ro   Phone: +4 0730166333