Sulphate of Potash and Potatoes
Nutritional equilibrium

A good fertilization program for potatoes helps to guarantee that the nutritional needs of the crop are met throughout the season, including during periods of rapid growth.

Fertilizer recommendations based on production type
(requiring adjustment based on soil analysis)

<table>
<thead>
<tr>
<th>Production type</th>
<th>Yield (t/ha)</th>
<th>N (kg/ha)</th>
<th>P₂O₅ (kg/ha)</th>
<th>K₂O (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed potatoes</td>
<td>30</td>
<td>80-100</td>
<td>150-200</td>
<td>150-200</td>
</tr>
<tr>
<td>Early season</td>
<td>20-30</td>
<td>100-200</td>
<td>100-200</td>
<td>200-250</td>
</tr>
<tr>
<td>Main season</td>
<td>50</td>
<td>150-200</td>
<td>120-150</td>
<td>300-400</td>
</tr>
<tr>
<td>Chips/crisps</td>
<td>50</td>
<td>150-180</td>
<td>80-110</td>
<td>250-300</td>
</tr>
<tr>
<td>Potato flour</td>
<td>60</td>
<td>150-200</td>
<td>80-120</td>
<td>250-350</td>
</tr>
</tbody>
</table>

Balanced fertilization helps to ensure a higher quality production. An under-supply of nitrogen will reduce the weight of the tubers, whereas an excess will deform them. A lack of phosphorus limits tuber production and consequently reduces the number of tubers. Finally, potassium acts on the process of tuber development and is therefore critical to yield.

Mineral requirements

Potassium requirement

An adequate supply of potassium is important between 2 and 6 weeks after planting where the requirement can reach 10 kg/ha of K₂O a day.

The key role of potassium

The form of potassium fertilizer has a direct impact on the quality of the potatoes. Sulphate of potash (SOP) is the fertilizer of choice when it comes to guaranteeing both the yield and quality of production: the tubers are more regular with a higher average size compared to crops where other forms of potassium are used.

SOP increases the metabolism of nitrogen, consequently the tubers can be stored for longer periods of time and are less susceptible to disease. In particular, it reduces the internal darkening of the tubers.

Potassium sulphate contains virtually no chloride, which can perturb plant transpiration and affect growth. It also regulates the supply of water better and reduces the impact of dry periods.
Potassium sulphate, particularly the granular form, can be applied during the early growth stages without any risk to the developing plants. It improves the dry matter so the tubers are more resistant to shock during grading and transport. This is an important factor in potato processing.

In addition, potatoes cropped using potassium sulphate have improved cooking characteristics. In the case of chips, the colour is lighter and the oil retention reduced, providing a healthier product for the consumer.

Foliar application is another use of soluble SOP such as K-Leaf®, a new fast-dissolving grade from Tessenderlo Group.

In a recent experiment in Egypt, two foliar sprays of soluble SOP at a 2% concentration in 400l of water/ha show a real benefit to production.

SOP also delivers sulphur in a form that is readily available to the plant. This is significant as sulphur is the most important secondary nutrient required in cropping potatoes.
Different forms of sulphate of potash available from Tessenderlo Group

Standard SOP: for direct application or for use in the manufacture of compound fertilizers.

GranuPotasse®: a granular grade ideal for bulk blending or for direct application with an even distribution on the soil.

SoluPotasse®: a highly soluble grade for fertigation.

K-Leaf®: a new fast-dissolving grade specially developed for foliar application.

Imported and distributed by:

Tessenderlo Group SOP Plant Nutrition

giving nature a helping hand

Tessenderlo Group
Rue du Trône 130
1050 Brussels, Belgium
Tel: +32 2 639 1811 Fax: +32 2 639 1902
www.tessenderlo.com
sopplantnutrition@tessenderlo.com

While every care has been taken to ensure that the information in this publication is correct at the time of publication, Tessenderlo Group cannot give any guarantee as to its accuracy nor accept any liability resulting from its use. K-Leaf®, SoluPotasse® and GranuPotasse® are trademarks of Tessenderlo Chemie NV/SA. ©2014, Tessenderlo Chemie NV/SA. All rights reserved. This material is protected by copyright laws and international treaties. Any reproduction for distribution is strictly prohibited without the express written permission of Tessenderlo Chemie NV/SA.