

# The role of sulphur in improving potato skin finish



**S**kin finish is an important quality attribute during potato cultivation as consumers increasingly demand potatoes with a clean, attractive skin finish. For this reason, a lot of interest is afforded to understanding the connection between balanced crop nutrition, management practices, and potato skin perfection.

## Managing potato skin finish

Several management practices contribute to perceived potato skin perfection. These include:

- Selecting fields free from adverse factors such as disease, poor drainage/low water-holding capabilities.
- Using quality seeds with reduced risk of disease.
- Disinfecting seed storage areas to reduce disease carryover.
- Irrigating to prevent, or minimise diseases.
- Choosing ideal harvesting conditions to avoid physical damage and disease infestation.
- Avoid liming the soil immediately before planting.

In combination with the abovementioned best practices, balanced plant nutrition reduces the incidence of skin disorders and



improves the skin finish. Calcium strengthens tuber skins, providing better resistance to many diseases. Boron, magnesium, and manganese can reduce levels of common scab. Zinc can minimise powdery scab. Sulphur (S) plays an important nutritional role and may reduce both powdery and common scab infections.

## Why sulphur applications?

Often referred to as the fourth macronutrient, S helps support plant functions that can affect yield, quality, and marketability. Plant S requirements are similar to phosphorus requirements. It can contribute to an increase in crop yields and quality in three different ways:

- Providing a direct nutritive value.
- Delivering indirect nutritive value as soil amendments.
- Improving the efficiency of other essential plant nutrients.

Sulphur is easily leachable and is therefore often deficient in acidic, sandy soils experiencing heavy rain. Continuous cropping and low organic matter levels also contribute to low S in soils. Even soils high in organic matter may require S amendments if the mineralisation process limits the plant S requirement.

Plants deficient in S initially show pale-green colouring of the younger leaves, although the entire plant can be pale green and stunted in severe cases. Leaves tend to shrivel as the deficiency progresses. Deficient S levels can result in poor crop growth, delayed maturity, and spindly plants.

In potato plants, adequate S levels offer the following benefits:

- Increased nutrient uptake and chlorophyll production.
- Promotes seed development.
- Improved stress and pest resistance.
- Boosts carbohydrate formation and vitamin synthesis.

Furthermore, trial evidence suggests that S applied in-furrow can substantially decrease common scab and black scurf infection in the tubers. This effect may be due to a reduction in the soil pH where elemental S is used.

## Introducing TERRA-S

Terra-S is a new liquid suspension concentrate fertiliser for use as a soil treatment to correct or maintain S levels in plants and is suitable for application through irrigation systems or direct soil application. It can be applied as part of a long-term soil management plan to address S deficiency or used to lower soil pH in managing the production of quality potato skins.

Terra S contains 580 g/kg of liquid elemental S and is therefore resistant to soil leaching. The ultrafine/micronised particle size of the active ingredient boosts the product's efficacy. The dust-free, liquid format is suitable for application through irrigation systems or direct soil application at a recommended application rate of 60 to 120 l/ha.

Nutrico is the proud manufacturer of various specialised fertilisers and soil amendments including Terra-S. We have a team of technical experts available to help you find the best, science-backed solution for your application. For more information visit [www.nutrico.co.za](http://www.nutrico.co.za) or phone 011 392 4072 or 021 807 5922.