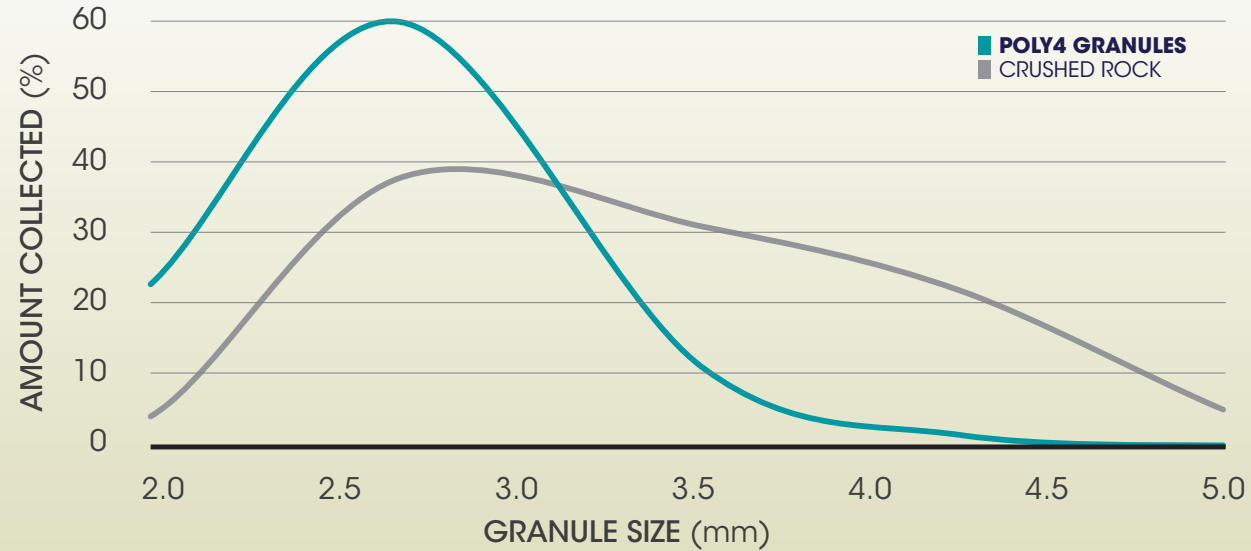


## PARTICLE SIZE

The chip size of crushed rock varies between 2mm to 5mm, which is a wider grade specification than POLY4 granules.

A tighter grade pattern production of POLY4 granules allows to manufacture them within 2mm to 4mm in diameter.

This consistency in particle size is vital for optimal spreading and preventing segregation in bags.



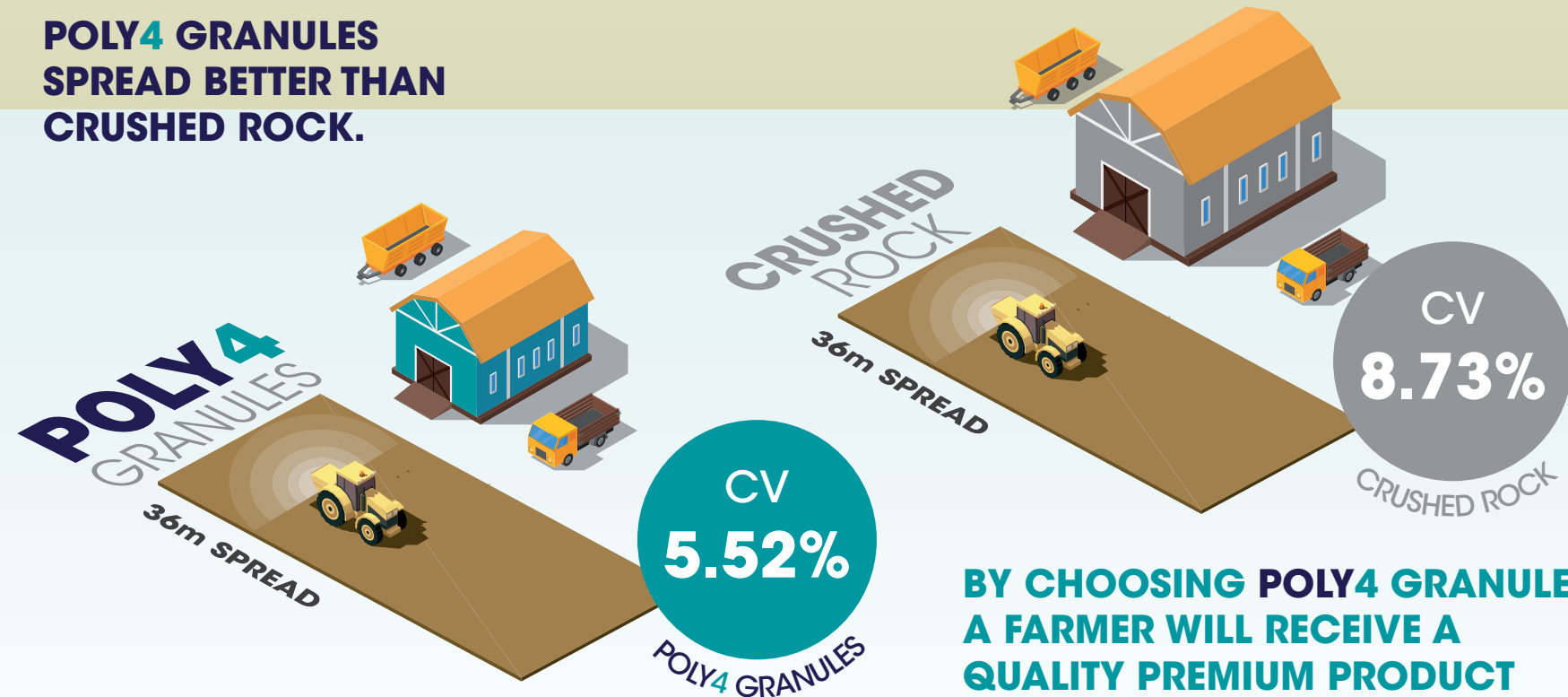
**POLY4 GRANULES WILL ALWAYS MEET CUSTOMER SPECIFICATIONS.**

**POLY4 GRANULES SPREAD BETTER THAN CRUSHED ROCK.**

## SPREADING

Uniformity of application is expressed as the coefficient of variation (CV). A CV of more than 20% generates stripes in the crop. Subsequently, uneven spreading increases the cost of crop production due to yield penalties and required corrective actions.

A lower CV means a more even distribution of fertilizer. Test results with 3mm POLY4 granules showed a CV of 5.52%. Similar testing of crushed rock chips measured a CV of 8.73%.



**BY CHOOSING POLY4 GRANULES, A FARMER WILL RECEIVE A QUALITY PREMIUM PRODUCT THAT HANDLES, BLENDS AND SPREADS EFFECTIVELY.**

- High-performing, premium product
- Effective nutrient release pattern that is focused on needs of the crop
- Superior blending, handling and storage characteristics
- Certified for organic farming systems

**POLY4 GRANULES V CRUSHED ROCK**

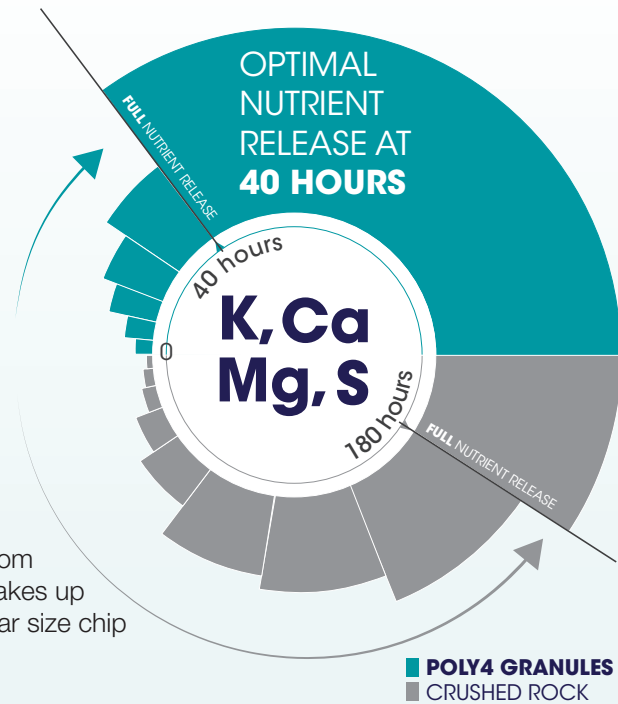
- Lower dissolution rate
- Uncontrolled nutrient release pattern
- Inferior blending and spreading characteristics
- Inorganic coating requirement for dust control



## NUTRIENT RELEASE

**COMPARED TO CRUSHED ROCK, POLY4 GRANULES MAKE NUTRIENTS AVAILABLE TO PLANTS QUICKER.**

The percentage of nutrient recovery is higher with the use of POLY4 granules. Laboratory testing indicates that nutrients are released from the POLY4 granules in 40 hours, whereas it takes up to 180 hours to recover nutrients from a similar size chip of crushed rock.

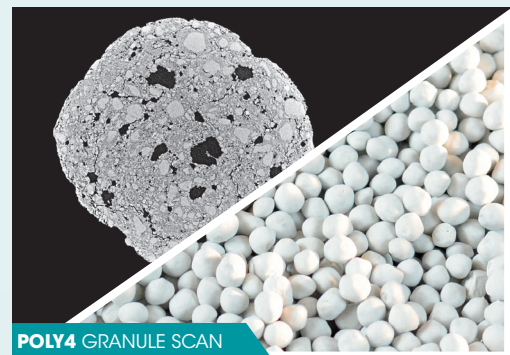


## DISPERSAL

CT scans of POLY4 granule show that it is porous. Water can interact with additional surface space and disperse quicker. The structure of POLY4 granules allows water to easily access nutrients and deliver them to plants more effectively.

A chip of crushed rock is a solid mass. This means that water cannot penetrate it, and so the nutrient release is reduced.

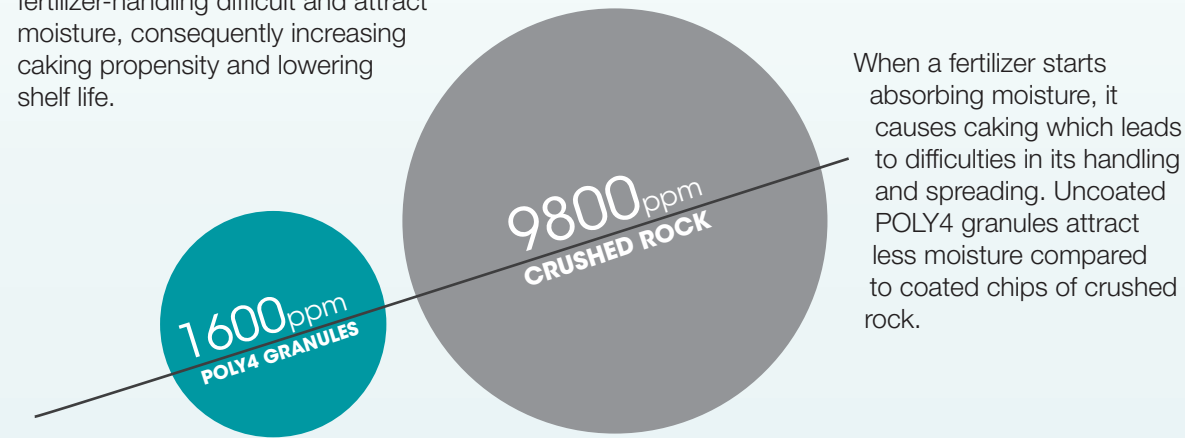
**THE NUTRIENT DISPERSAL CHARACTERISTICS OF POLY4 GRANULES ARE SUPERIOR TO GRADED CRUSHED ROCK.**



## HANDLING AND STORING

Coated chips of crushed rock generate dust, which can be a respiratory hazard and increases the product's waste.

Products that generate dust make fertilizer-handling difficult and attract moisture, consequently increasing caking propensity and lowering shelf life.



## PRODUCTION

Sirius Minerals granulate polyhalite using a patented process to produce POLY4. The binder eliminates the need for coating, as it holds the granule together lowering dust generation.

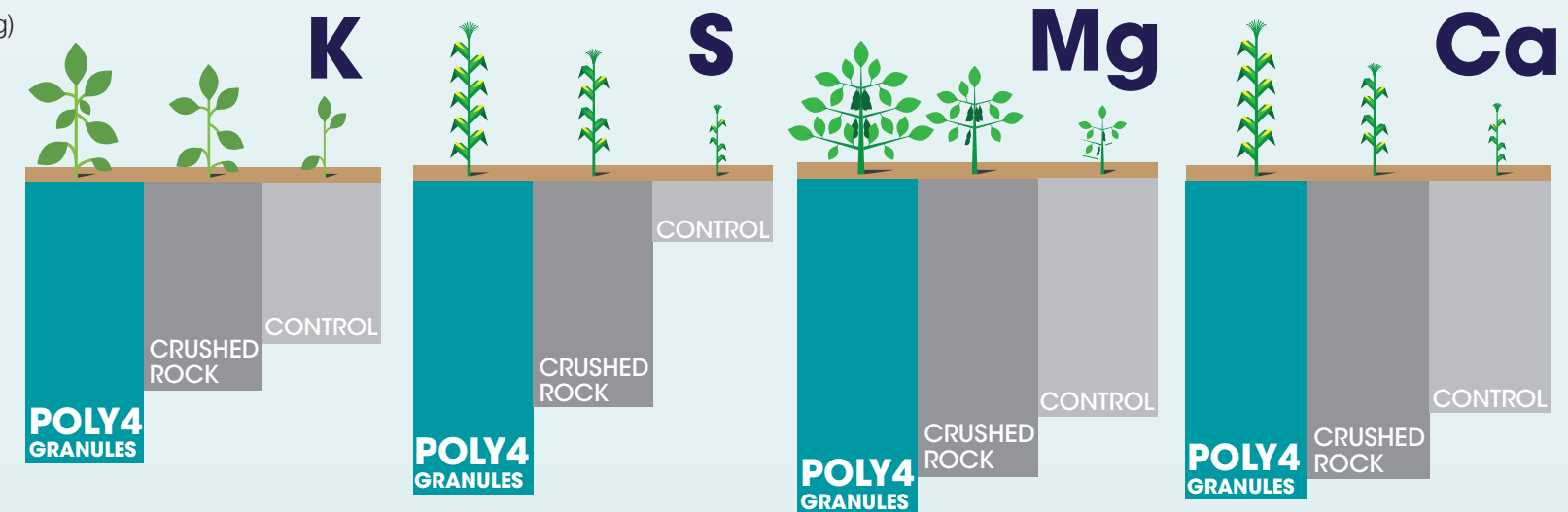
Chips of crushed rock are coated in oil. This affects its organic registration in some countries. The oil also adds technical challenges for blending or complex compound creation.

**POLY4 GRANULES HAVE A LOWER DUST TENDENCY BY 83% COMPARED TO CRUSHED ROCK.**

## MOVEMENT IN THE SOIL

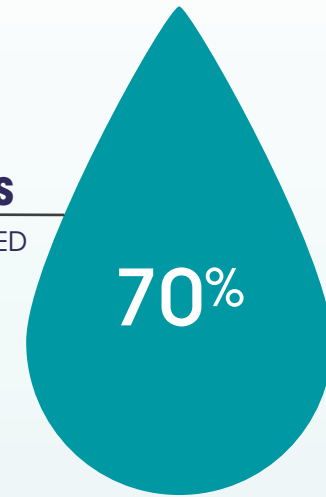
Growing healthy plants begins with nutrient-rich soil. With four of the six macro nutrients: potassium (K), sulphur (S), magnesium (Mg) and calcium (Ca), POLY4 granules deliver higher outcomes in soil compared to chips of crushed rock applied at the same rate.

**POLY4 GRANULES MAKE HIGHER AMOUNTS OF NUTRIENTS AVAILABLE IN THE SOIL.**



**POLY4 GRANULES**

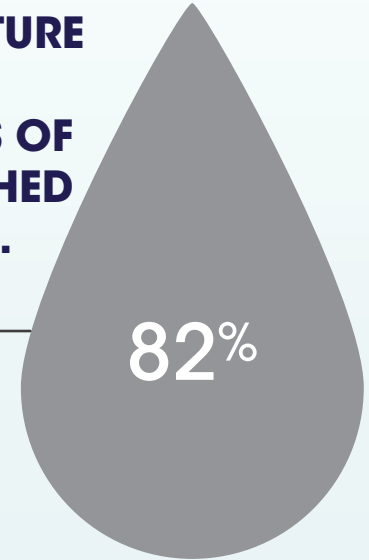
% OF MOISTURE ABSORBED



**POLY4 GRANULES ATTRACT LESS MOISTURE THAN CHIPS OF CRUSHED ROCK.**

**CRUSHED ROCK**

% OF MOISTURE ABSORBED



**POLY4 HAS A SUFFICIENT CRUSH STRENGTH OF 6.5 kgf THROUGHOUT THE MANUFACTURING, HANDLING AND LOADING PROCESS.**