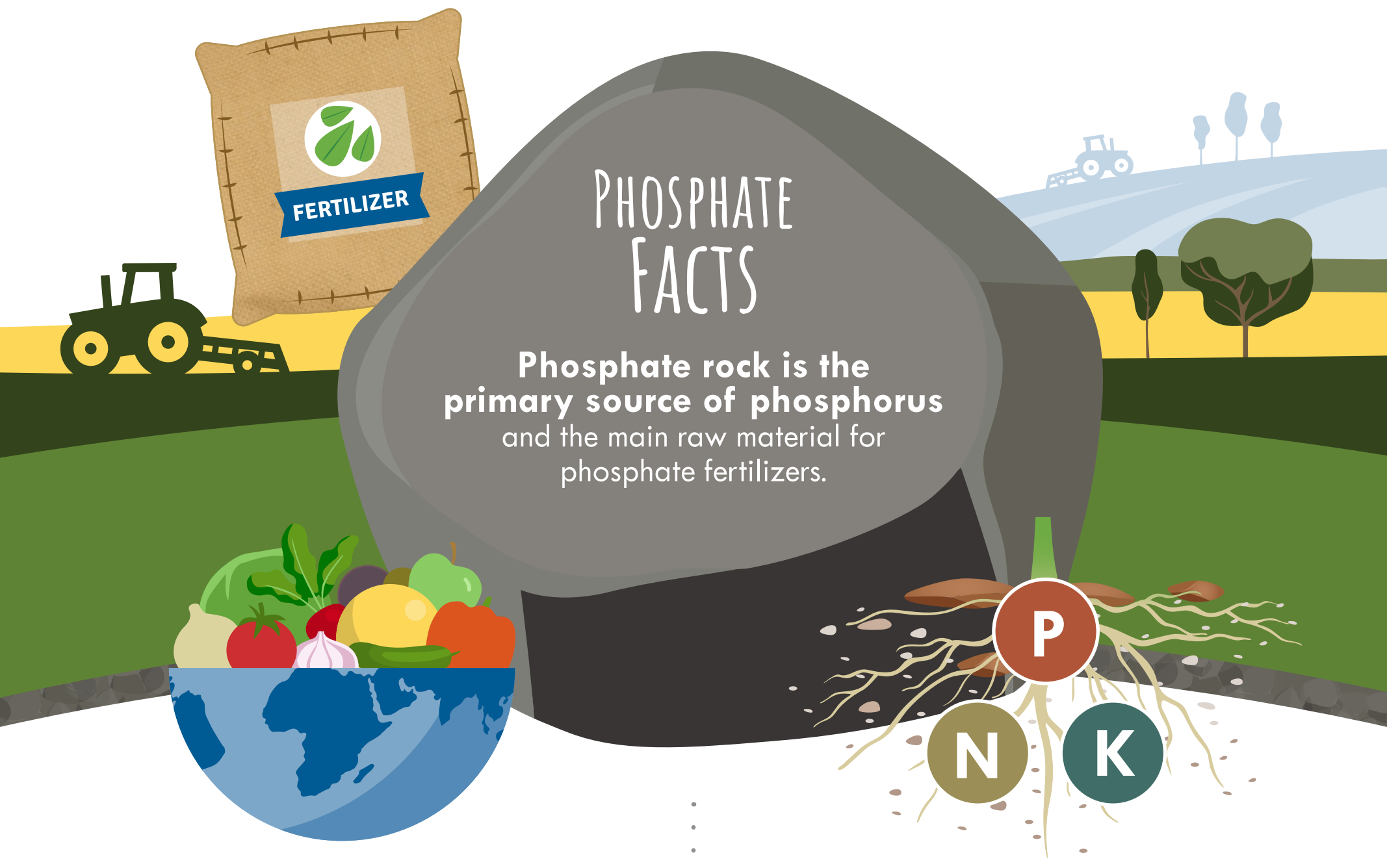
INTERNATIONAL FERTILIZER ASSOCIATION

Helping to feed the world sustainably

Phosphate & the Future of Food

Long-term food security depends on our management of phosphate rock reserves

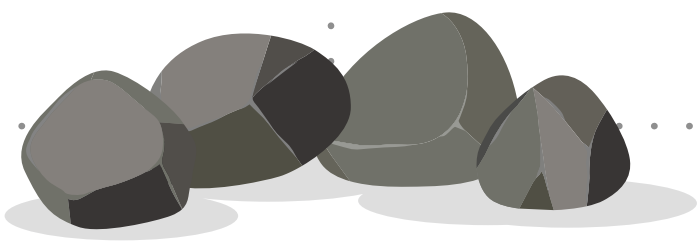


Phosphate Facts

Phosphate rock is the primary source of phosphorus and the main raw material for phosphate fertilizers.

Mineral fertilizers such as those derived from phosphate rock play a vital role in ensuring the food security and adequate nutrition of billions of people worldwide.

Along with nitrogen and potassium, **phosphorus is one of the three nutrients required in largest quantity** for soil health and plant nutrition.



Assessing Abundance

Because phosphate rock is a mined, finite resource, it is important to have a clear understanding of the amount of rock that exists in global geological deposits. Resources can be seen as a theoretical measure of whether enough potentially extractable phosphate exists on Earth. The reserve base is the technologically mineable part of a resource, and reserves are the economically mineable part of that reserve base.

Building this understanding of global phosphate rock resources and reserves is essential for the fertilizer industry – and increasingly, other sectors such as the battery production industry – to be able to plan and manage these deposits sustainably.

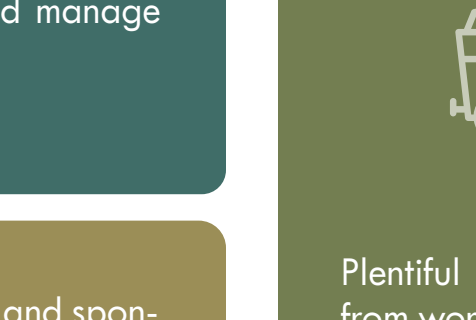
A 2023 study by Argus, commissioned by IFA and sponsored by a number of IFA member companies, has found that there are at least 300 billion tonnes of phosphate rock resources globally. Furthermore, technically recoverable phosphate (the reserve base) is projected to last more than three centuries. This figure does not attempt to factor in any future advances in mining and agricultural technology, and should therefore be seen as a conservative estimate.

Proceed With Care & Confidence

Even with the important reassurance that there is no risk of a phosphate rock shortage globally in the short or medium-term, it is vital that we use and manage this resource sustainably and that the industry continues to invest in innovation and new technologies – including customised fertilizer and precision plant nutrition – to further extend the lifetime of our finite phosphate rock deposits and ensure food security for future generations.

Plentiful phosphate supply should not deter companies from working towards sustainability objectives, including improving agricultural use efficiency, recycling nutrients from various waste streams, and increasing the efficiency of the mining and manufacturing processes. All these actions will maximize the longevity of phosphate rock deposits. To find out more about how IFA and its members help feed the world sustainably, visit fertilizer.org.

In theory, if total available global resources are considered, **more sustainable farming practices are widely adopted and fertilizers are used in increasingly efficient ways,** the study indicates that **the higher-end lifespan of known global resources could be more than 1,000 years.**



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