

# Sourcing phosphate from Western Sahara

## Questions and Answers

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There has been recent public discussion about phosphate rock from Western Sahara. Here is a briefing from the industry in three sections.

### About phosphate

#### What is phosphate?

Phosphate, like several other nutrients supplied by the fertiliser industry, is essential to create food. All plant and animal life needs phosphorus to live. Phosphorus rock is a finite source, which is either igneous or sedimentary which includes fossilised and mineralised fishbones and teeth. The rock often needs to be treated so the phosphate becomes available to the plant when needed.

Plants absorb phosphorus for their growth, root formation and other processes. There are no rock substitutes or phosphate replacement technologies that add to the total store of phosphate in the soils.

#### Why does New Zealand need phosphate?

The removal of produce from farms for sale extracts nutrients including phosphorus. Our soils are naturally low in phosphate, but most countries are also dependent on replacing losses. NZ is dependent on imported phosphate in order to feed its population and export valued food and fibre products. So, two co-operatives (Ballance Agri-Nutrients and Ravensdown) were set up by farmers to secure a reliable supply of nutrients like phosphate from around the world.

As well as needing to continually replace phosphate, New Zealand soils are also typically low in sulphur (another element essential for plant life). Sulphur is a key nutrient required for clover growth, which increases the natural ability of pasture to capture nitrogen from the atmosphere.

#### Why can't phosphate be sourced organically?

Recycling human and animal effluent is possible for improved phosphate-use efficiency. In practice, the handling, biosecurity, health, cultural and processing issues can be complex in addition to the amount of P required. To maintain phosphate levels in soils, additional sources of phosphate are needed.

#### Why do New Zealand soils need superphosphate?

Superphosphate is manufactured from a blend of phosphate rocks that results in a fertiliser containing phosphate, sulphur and calcium distilled into one granule. After more than 130 years of being made in New Zealand, superphosphate remains the country's most widely and effectively used fertiliser for pastoral, cropping and horticultural uses.

Its use on grazed pastures promotes organic matter which, returned to soils through excreta, uneaten herbage and root turnover, stimulates soil microbes and worms, improving soil health and fertility.

Without additional nutrients like phosphate, agricultural production would be estimated to be about half of what it is today. Over the decades, its use has benefitted the entire economy to the tune of billions of dollars.

### **How does superphosphate get made and used?**

To create superphosphate, the rock needs to be ground up and treated with acid. This requires a specialised, highly controlled process involving sophisticated technology.

In five sites across New Zealand, hundreds of people are involved in blending superphosphate to a certain 'recipe' so that each granule is the right size and strength to be precisely applied using a truck or aircraft. Thousands more employees are involved in the shipping, unloading, transporting, storing and spreading of this important product. And hundreds of thousands of livelihoods are dependent on growing, processing and transporting the food that is grown with the superphosphate.

### **How does superphosphate compare with fertilisers like RPR or DAP?**

Reactive phosphate rock (RPR) fertilisers from places like Algeria can take years to have an effect, because they are unprocessed. While there are many more countries supplying Diammonium Phosphate (DAP), this product contains nitrogen but virtually no sulphur. Having DAP as a sole source of phosphate would mean many drystock farms would begin using nitrogen, where previously they relied solely on clover fixation to supply nitrogen for pasture. DAP is also more expensive. Manufacture of DAP creates large amounts of gypsum as a waste product—often stockpiled or disposed of at sea. Manufacture of DAP also results in a higher greenhouse gas footprint than other fertiliser.

### **What needs to be checked when buying phosphate rock?**

For superphosphate, the total P in the fertiliser needs to be at least 9% as the cost effectiveness of spreading per kg of P will affect farmers' bottom lines. Grinding ability and its reaction to sulphuric acid are factors for manufacture. Certain rocks can emit odour and fluoride that can affect staff and manufacturing site neighbours. Oxides in some rocks determine the granule strength. The industry also has a strict policy to ensure that rock sources have low levels of contaminants, particularly cadmium.

Sourcing rock is all about striking the right balance—whether it's the potential dust or cadmium in Peruvian rock or the lack of solubility of South African rock—the reality is that there are no 'perfect' choices available. With some countries, the issue is less about the rock, but the infrastructure or political environment that can potentially disrupt the flow of imports.

### **Where can you get phosphate rock?**

The countries with the largest reserves of rock phosphate are Morocco, China, Algeria and Syria with Morocco owning 70% of known reserves. There are only about a dozen countries that export phosphate rock, because the rock is often produced and kept by countries like China and the USA to produce food to feed their own people.

Both co-operatives assess all suppliers on things like employees' safety, environmental protection and human rights. Supply risks like tariffs or quotas that can affect countries like Vietnam or weather events that can affect Nauru, also play a part in deciding supply partners. Recently, Togo is a source that is being evaluated. Pricing, shipping costs and the increasing risk of piracy also have the potential to disrupt the flow of this strategically essential nutrient.

## **Why is the phosphate rock from Western Sahara so important?**

The rock from Western Sahara is an important part of the blend in superphosphate, because of its physical and chemical properties. There are no other alternatives that offer the same performance. About half a million tonnes of phosphate rock is imported to New Zealand each year and about 70% of that is from Western Sahara.

## **About Western Sahara**

### **Where is Western Sahara?**

Western Sahara is a non-self-governing territory adjacent to Morocco. The UN lists Western Sahara as a non-self-governing territory, because its final political status has not yet been decided. There are several interested parties involved including Morocco, Mauritania, Algeria and an independence group called the Frente Polisario.

Claims of sovereignty have been disputed for over 40 years. Since 1991, the UN has had a mission in Western Sahara charged with preparation of a referendum in which the people of Western Sahara would choose between independence and integration with Morocco. While the organisation of the referendum has not been possible to date, the UN continues to monitor the situation.

We are aware of the current tensions in this region and monitoring the situation closely.

### **Who else does business with Western Sahara?**

New Zealand is not alone in doing business with Western Sahara.

In January 2019, the European Union approved the revision of two EU-Morocco trade agreements related to agricultural and fisheries products to explicitly extend trade preferences to goods coming from Western Sahara. A key consideration in extending this trade agreement was consideration of the beneficial impact of the trade on Western Sahara. It is a contributor to social and economic development through support for creation of infrastructure, employment, extension of health and education services.

Morocco is one of the more stable countries in an otherwise volatile region. It is promoted by NZTE as the easiest country to do business with in North Africa. NZ exports to Morocco were worth over \$300m across five years.

### **Who else imports rock from Western Sahara?**

New Zealand imports less than a quarter of the phosphate rock produced from the mine at Boucraa—the other countries importing from Western Sahara are Japan, India, Brazil and China.

### **How much phosphate is in the Western Sahara?**

Morocco holds approximately 70% of the economically available phosphate reserves in the world with about 50 billion tonnes. Western Sahara holds about 1 billion tonnes of rock reserve, which is similar in size to the reserves in the US.

## **Why is phosphate rock from Western Sahara seen as controversial?**

As the Frente Polisario claim the territory, they believe the import of rock from Western Sahara should stop until the question of sovereignty is resolved.

There are 17 non-self-governing territories worldwide, including Tokelau, which is administered by New Zealand and Gibraltar, which is administered by the UK. The UN has rules around doing business with these territories so that local people receive the benefits of economic development.

The difficulty is that there are thousands of Sahawari who live and work in Moroccan-administered Western Sahara. There are also thousands of Sahawari who exist in extremely poor conditions over the border in Algerian-supported camps.

## **What does the industry do about it?**

Members of the industry visit Western Sahara on a regular basis to evaluate the local supplier's compliance with the UN framework shown below.

- The operations should promote economic advancement and provide direct and indirect benefits to the inhabitants of the territory and to the territory itself.
- Working conditions should be non-discriminatory.
- The operations should be conducted rationally and sustainably to ensure long-term access to resources.

The supplier (Phosboucraa, a subsidiary of OCP) also provide regular updates about employment practices, health and safety, benefits to local people and investment in health, education and social programmes.

Ultimately, it is the UN that needs to facilitate the political solution of the dispute. The industry in New Zealand continues to pursue its due diligence, undertaking regular site visits and inspecting facilities and working conditions on the ground and regularly obtaining information from the supplier on employment and local investment.

## **About the supplier (OCP/Phosboucraa)**

### **Who works at the phosphate rock mine in WS?**

OCP/Phosboucraa is the largest employer of local people in the area. 2,200 people are employed and many of them are Saharawi, including the Chairman of Phosboucra. OCP financial data confirms that it has taken no dividends from the operation of Phosboucraa, with all profits reinvested in the region to maintain and expand operations and to support the local community.

Regularly audited by KPMG, all OCP's operations and activities, including Phosboucraa, meet and go beyond national and international standards for health and safety, environmental quality and sustainability. OCP has recently been awarded the International Fertilizer Association Industry Stewardship Gold Medal for the second year in a row.

### **What kind of social development does Phosboucraa invest in?**

The [Phosboucraa Foundation](#) was established in 2014 to administer Phosboucraa's corporate sustainability programmes in the region, supporting its employees and the broader local community through education, training and access to healthcare.

These include the construction and support of pre and primary schools for local children, housing for Phosboucraa's workers and retirees, and the provision of services, medical clinics, recreational centres and learning centres serving the local community, which are particularly focused on opportunities for youth and women.

### **How do you know the mining company OCP is looking after the local people?**

OCP provides evidence that all funds from the phosphate mine are invested in local programmes that benefit the Saharawi people. New Zealand fertiliser companies do their due diligence of all suppliers on dozens of attributes – from health and safety, to corruption, to employee rights, to renewable power and monitor their performance closely. OCP score highly on a large range of these measures and have been a reliable partner for decades.

### **Is New Zealand's importing of Western Sahara rock necessary, legal or ethical?**

There are no alternatives that match the agronomic, environmental and economic performance of phosphate rock from the Western Sahara. This is a strategically crucial input for New Zealand's food creation.

Given that the territory's final political status has not yet been decided, the industry has closely followed UN guidance on the issue.

The UN has a clear position about the use of resources in non-self-governing territories. The UN's view is that there should be a clear benefit to the local population from any use of natural resources and OCP continues to demonstrate this is the case.

What the protesters are proposing puts at risk the livelihoods of the Saharawi who are employed by OCP. It is not clear how the loss of jobs in a volatile part of the world would progress the issue of Western Sahara's political status.

The right place to reach any kind of solution for such a complex geopolitical issue is through the UN.

The industry joins others in encouraging all governments, including our own, to push the UN for progress on this stalemate.