Introduction: Why do we need alternative potash?

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Abstract

Potash, conventionally sourced from evaporite deposits, is the product of a well-established industry that has matured since the Second World War. Global production is about 39 million tonnes annually, 99.9% of this from 12 countries and 75% from Canada, Russia, Belarus and China (Jasinski 2016). Potash use varies greatly, with consumption focused on the developed world. Nutrient audits suggest that K is removed from soil with every crop to such an extent that world potash production would have to double to maintain soil K contents (Sheldrick et al., 2002). Africa, with 16% of the world's population, consumes just 1.6% of world potash production (FAO; 2016), indicating failure to access the global potash market.

Given the global need for more K fertilizer, and the difficulties faced by poor farmers in accessing conventional potash, it is necessary to consider alternatives that supplement existing sources. These include polyhalite, a K-Mg-Ca sulfate, and K-bearing silicate minerals and rocks. Polyhalite has potential for global trade and if derived from deep mines its production requires high capital investment; it provides a range of crop nutrients in addition to K. Silicate minerals and rocks can be produced from surface mines, at lower cost than deep mining, but in temperate soils generally are very slow to release their low K contents. However, in tropical soils such materials are more rapidly weathered, enabling them to act as effective sources of K.

This meeting brings together speakers with experience in the development and agronomic testing of polyhalite and silicate rocks. It focuses on the needs of Africa and Brazil, and demonstrates the value of using silicate rocks in Europe to meet specific goals.

References

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