The Observer's Guide to Potash!

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Global food production needs to more than double by 2050 in order to feed our growing world population. Yet, right now, farm productivity in the least developed countries is only 10 percent of what it is in the developed world, while development support for farmers has plummeted relative to total global spending.

Fertilisers, such as potash, will be the major component to increase farm productivity in the future to feed a rapidly growing world.

The fertiliser “K” is often referred to as "potash". Early American settlers produced potassium carbonate needed for making soap by evaporating water filtered through wood ashes. The ash-like residue remaining in the large iron pots was called "pot ash". This process is registered as the first US patent.

Commercial production of potash in the US began when supplies from Germany were stopped due to military conflicts. Carlsbad, New Mexico, became the hub of US production. Other production from brines was developed in Utah and California. Then, in the early 1960s potash from vast, high quality Canadian reserves became available. As a result, Canada now supplies about three-quarters of the potash used in US crop production and ~40% of world consumption.

Most of the known world reserves of potash were developed as sea water evaporated and potassium salts crystallized to become the beds of potash ore being mined today. The deposits are a mixture of crystals of potassium chloride (KCl, sylvite) and sodium chloride (NaCl), better known as common table salt. Separation of the KCl from the mixture produces a high analysis natural potassium fertiliser. Other production methods result in the crystallization of potassium sulfate or potassium chloride from brines, such as those in the Great Salt Lake of Utah.

Nearly 95 percent of the commercially produced potassium is used in agriculture. The remaining 5 percent is used for industrial purposes and for products common in the home.

Potash prices are currently trading at ~US$400 / tonne which is significantly below the 2008 peak of US$1,000 / tonne. However, the current price is still markedly higher than the long term average of US$150-200 / tonne.

Mark has been working on potash for ~13 years. After university in Melbourne, he spent ten years with RGC working as an exploration and mine geologist in various roles in Australia. He completed a Masters Degree at CODES whilst with North in NSW. Since 2000 he has worked as a consultant geologist / geochemist and spent three years with Rio Tinto working on Industrial Minerals - primarily potash. During the last five years Mark has worked on potash projects in North America, Europe, Asia, Africa, South America and Australia.