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# Potash is fuel for food: Rick Mills

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By **Richard (Rick) Mills**

**P**otash and agriculture will be one of the top investment themes over the next 20-30 years, given the “dust bowl” droughts now gripping countries that make up almost two thirds of the world's breadbasket. The price of food staples - wheat, rice, corn, soybeans etc, - is rising as more fertilizer and more water is needed in the US, Australia, China and parts of Canada.

The U.N. calls the global food crisis a “silent tsunami” and faith in the ability of local and global commodity markets to fill 6.6 billion bellies, never mind the projected 2.7 billion more by 2050 (U.N. projections say the world's population will peak at 9.3 billion in 2050) has been shaken.

***“There are only a couple junior assets left – Encanto Potash (EPO-TSXv market cap \$30 million)”***

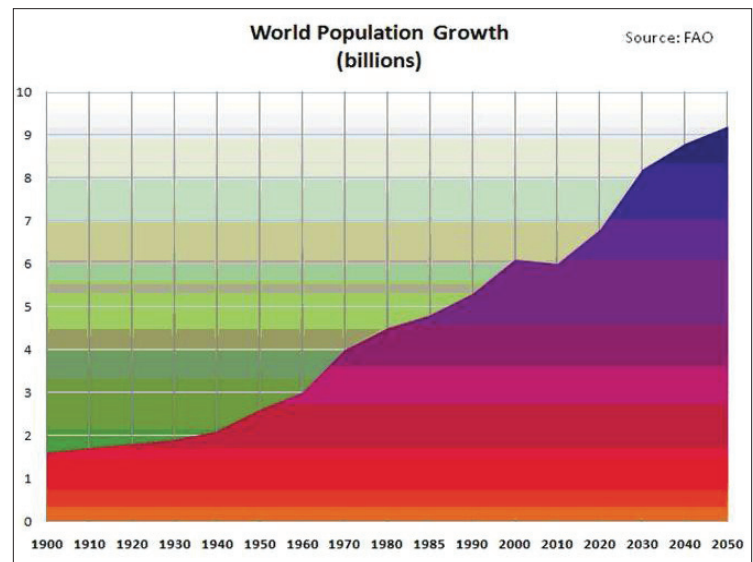
That's why BHP Billiton, one of the world's largest mining companies, paid \$340 million in March 2010 for Athabasca Potash, a grassroots junior company with a deposit in Saskatchewan – without even a feasibility study. BHP has no potash production but has made two junior potash acquisitions recently. Their entry into this highly profitable mining space is both good news for potash users and potash investors.

There are only a couple junior assets left – Encanto Potash (EPO-TSXv market cap \$30 million), Western Potash (WPX-TSXv market cap \$65 million) and Potash One (KCL-TSX market cap \$300 million).

The world population is currently increasing at the rate of about 75 million people per year. Population experts predict that by the year 2050 the earth will be inhabited by 9 billion people - an increase from 6.8 billion people in 2009. The majority of this growth is occurring in the developing nations. China and India both have a soaring middle class.

As income in these developing nations grow people will demand a more protein rich diet - which means more people eating more meat. This has an amplifying effect on the demand for fertilizer - it takes about 10 kilograms of grain to produce one pound of meat. As meat consumption soars, more grain is needed to feed more livestock. 75 million more people per year are going to have to be fed and all this while our arable land base is shrinking and fresh water supplies in many areas of the world are under tremendous strain.

The United Nations Food and Agriculture Organization (FAO) report they think that the total world demand for agricultural products will be 60 percent higher in 2030 than it is today.





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## Potash is Fuel for Food

In order for a plant to grow and thrive, it needs a number of different chemical elements. Three of these are the macronutrients nitrogen, phosphorus and potassium (a.k.a. potash, the scarcest of the three). Potassium makes up 1 percent to 2 percent of any plant by weight and is essential to metabolism. The availability of nitrogen, phosphorus and potassium in the soil, in a readily available form, is the biggest limiter to plant growth.

Potash is a potassium-rich organic product mined from deposits left behind when ancient sea beds evaporated. Potassium (K) is the seventh most abundant element in the earth's crust. 95% of global potash production is used for fertilizer in the agriculture industry.

### Potash Fertilizers:

- Help plants fight stress, disease and injury
- Enhance water retention
- Strengthen disease resistance
- Improve crop yields
- Increase animal growth and improves milk production when used in feed supplements

The current potash market is around 50 million tons annually and is projected to increase steadily over the next decade. At forecasted industry growth rates new mines will be required to meet future potash demand.

### The basic fundamentals of the global potash market are hard to ignore:

- An increasing global population - the world's population is steadily increasing and is expected to reach +9 billion people by 2050. The United Nations Food and Agriculture Organization (FAO) reported they think that the total world demand for agricultural products will be 60 percent higher in 2030 than it is today.

- Increasing incomes in developing countries will lead to more people being able to afford protein rich diets – a western style diet heavy in meat - which means more grain consumption.

- Decreasing arable land - arable land is being lost at the rate of about 40,000 square miles per year. Land is being used for production of bio-fuels, topsoil is eroded away by wind and water and the agriculture land base is being paved over as we become more and more urbanized. Farmers need to produce more food on less land. There is only one way this can be done and that's with an increase in the use of fertilizer.

- The potash story isn't just about increased demand for food. Bio-fuels are also an important driver of potash demand. Recently crops such as sugar cane, corn, oil palm and soybeans have been used in the production of bio-fuels.

High oil prices and the high economic and environmental cost of carbon emissions have driven the use of ethanol and biodiesel as alternative energy sources. The increase in the usage of bio-fuel puts more pressure on existing crop land and requires more use of fertilizers which directly increases the demand for potash.

In 2000, 15% of the corn grown in the US was used in ethanol production. Currently, 29% of US grown corn is used in ethanol production and by 2020 that number is projected to be 33%. Bio-fuels are creating additional yield demands on existing farm land which is further fueling demand for potash.

- Fresh water shortage - water-short countries are increasing their food imports. While the world's population tripled in the 20th century, the use of renewable water resources has grown six-fold. The World Bank reports that 80 countries now have water shortages and world-wide demand for water is doubling every 21 years, more in some regions.

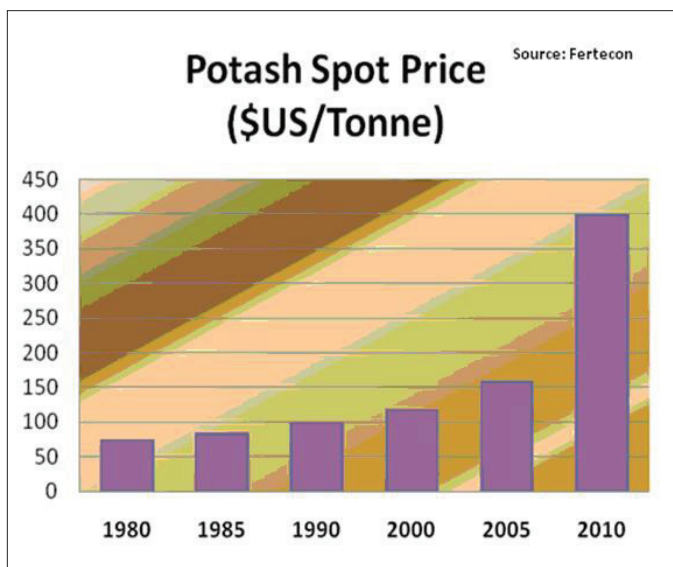


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“Water, like energy in the late 1970s, will probably become the most critical natural resource issue facing most parts of the world.” - The Financial Times of London

- Lack of commercial substitutes
- Supply/demand imbalances



## Potash in Saskatchewan

The Canadian province of Saskatchewan is the center of global potash production:

- Infrastructure, government policies and a skilled labor force compliment the geological riches
- Saskatchewan's potash is plentiful and easy to extract
- Saskatchewan's potash is extremely high quality
- Three of the world's leading producers - Mosaic Co., Potash Corp., and Agrium have operating mines in this region

85% of current global potash capacity is at least 25 years old. The last conventional mine to open in Saskatchewan was in 1970.

Because the financial markets crashed and the economy contracted in 2008 farmers put off buying potash - potash use fell 20%, phosphate fertilizer use declined 10% and the price per tonne of potash dropped by two thirds. This lack of fertilization drastically depleted the soil nutrient base and global soil nutrient levels need to come back to the trend line.

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***“Failure to feed the fields is a trend that can't last for long. While the global recession severely impacted fertilizer demand, the science of food production has not changed. The significant volumes of potash and phosphate that have been mined for crop production must be replaced to sustain the productivity of the soil.”***  
***- Potash Corp.***

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Commodities analysts are predicting the price of potash may be as high as \$600 per tonne by 2015. The supply-demand imbalance is amplified by the fact that the existing potash mines have only limited ability to execute capacity additions.

“Strong farmer returns, a depleted distributor pipeline, and the agronomic need to replace soil nutrients have kick-started a potash rebound from 2009 lows.” Bill Doyle, CEO of Potash Corp.



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## **P**otash is unlike other resources in two very important ways:

- Potash markets are never disrupted by political interference – all government's fear a hungry populace
- There is no cycle - the farming industry has to feed an extra 75 million mouths this year, more next year and even more the year after. Demand for food is always going to be there and it's rising year over year

There are 150 countries world-wide that use potash as a major agricultural component. China and India and Brazil are the largest importers of potash. Asian nations produce only 13% of their potash demand. The United States is one the largest net consumers of potash, it produces only 23% of the potash it consumes.

### **Conclusion**

When mixed with phosphate and nitrogen potash makes it possible for fertilizers to boost crop yields by as much as 60% (USGS). Potash Corp (TSX: POT) claims that each dollar spent on fertilizer returns \$3 worth of improved crop yields, POT also says that for every \$100 added to the price of a tonne of potash only three cents is added to the price of a bushel of corn - potash is a high margin product and there is no commercial substitute.

For the foreseeable future food, water and agriculture will be one of the world's biggest investment themes.

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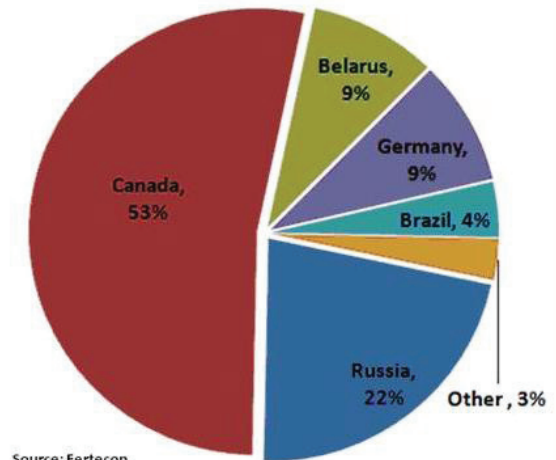
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### **POTASH RESERVES**



**R**ichard is host of aheadoftheherd.com and invests in the junior resource sector. His articles have been published on over 200 websites, including: Wall Street Journal, SafeHaven, Market Oracle, USAToday, National Post, Stockhouse, Casey Research, 24hgold, Vancouver Sun, Infomine, SilverBearCafe, 321Gold, Kitco, Gold-Eagle, The Gold/Energy Reports, Calgary Herald and Financial Sense.

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