



Soil Fertility Dilemma

With fertilizer prices remaining high, farmers around the world are dramatically cutting back on fertilizer use and are looking more seriously at other alternatives to maintain yields.

Alternative to High Fertilizer Prices

As reported in a lead story in the Globe & Mail's Report on Business (April 24, 2009), farmers across Canada, the United States and around the world have independently, yet collectively, decided to cut back on fertilizer purchases in the hope that prices for these inputs will fall in the future. In an interview on Canada's Business News Network (BNN), Potash Corp. CEO Bill Doyle expressed concern that "A dangerous game is now unfolding in the world". The potential danger Mr. Doyle is referring to is that a reduction in fertilizer use will cause crop yields to fall, which could lead to world food shortages and higher commodity prices.

Saskatoon-based Potash Corp. of Saskatchewan Inc., like other major fertilizer suppliers, has experienced a sharp decline in sales, as farmers faced with still (by historic standards) high input costs are simply cutting back or looking to alternatives. Fertilizer sales to North American farmers have fallen this year by as much as 86 per cent, yet farmers still plan to plant the same acreage of the major cash crops as last year. Conventional logic would suggest that something has got to give.

Potash's Doyle went on to indicate that "No one can state precisely what the impact will be on the world's food supply, immediately or over the longer term. But, we know with certainty that nutrient under application damages both crop yields and quality." Citing the experience of farmers in Argentina and Brazil, he went on to state: "[Farmers in these countries] are already witnessing the fallout. They used far less fertilizer on their crops and are now seeing production yields fall by as much as 20 per cent". To view a full copy of the Globe & Mail article titled: [As farmers cut back on fertilizer use, the impact could reverberate far beyond Potash Corp's bottom line. Will the recession spark a global food crisis?](http://www.theglobeandmail.com/servlet/story/LAC.20090424.RPOTASH24ART1940/TPStory/), go to:

<http://www.theglobeandmail.com/servlet/story/LAC.20090424.RPOTASH24ART1940/TPStory/>

Unquestionably, plants need nutrients to support growth, yield and crop quality. Yet an increasingly significant group of farmers in Brazil, Argentina and Uruguay are discovering that there are alternative means of accessing plant available nutrients and achieve the same or increased yield while reducing the use of fertilizer inputs. Penegetic p and k have been used in Brazil for over a decade, now, and every year more farmland and additional agricultural regions are being introduced to this alternative agronomic approach.

In Brazil, based on analyzing a soil test, fertilizer use can be reduced by 20 – 30% when penegetic k and/or penegetic p is used. Besides the savings on input costs, field results on hundreds of farms have indicated that yields are maintained or increased (and it is the same with plant/seed quality). At the same time, while there may be concern that the land is simply being "mined of its nutrients" that has not proven to be the case. For instance, on the home farm of the Ma Shou Tao Group (the Penegetic distributor in Brazil), penegetic products have been used for the past ten years. Despite annual reductions in fertilizer inputs, each year they have witnessed improvements in soil texture and soil fertility.

Although, not intended to suggest this is indicative of results that would be achieved on all farms, or in North America, the following are some recent results farmers experienced this past crop year with growing soybeans in Brazil, using penergetic with varying quantities of fertilizer inputs.

RESULTS WITH GROWING SOYBEANS IN BRAZIL (USING PENERGETIC P AND K) (2008-9 Crop Year)

A - Producer Zeferino Bilibio

without fertilizer with penergetic	140 sc/alq
with 300kg/alq. of fertilizer + penergetic	130 sc/alq
with 700kg/alq of fertilizer without penergetic	110 sc/alq

B - Marcos Noro

without fertilizer with penergetic	160 sc/alq
without fertilizer without penergetic	145 sc/alq
with 800kg/alq fertilizer without penergetic	158 sc/alq

C - Vitor Hugo Sonda

without fertilizer with penergetic	160 sc/alq
with 800kg/alq of fertilizer without penergetic	147 sc/alq

Notes:

- 1 alq is equivalent to 2.42 ha (the alq is an old, non-metric measure pattern, which varies from state to state)
- 1.0 sacs = 60 kg
- Penergetic use refers to using both penergetic p and penergetic k at a rate of 250 grams/ha (100 grams/acre) each, spray applied. Penergetic p was applied as two applications of 125 g each, between growth stages V4 and R1, with a minimum of 15 days between applications.

Penergetic products are now used in Brazil on a wide variety of crops – including soybeans, corn, potatoes, rice, sugar cane, cotton, coffee, etc. Yet, as Jonadan Ma, CEO of the Ma Shou Tao Group, says “Penergetic products are from Switzerland and when we first introduced the concept of using them to farmers in Brazil they would say ‘just because it works in Europe does not mean it will work here’. Yet, over the past ten years we have witnessed that penergetic p and k work well with any plant type and under any growing conditions and Brazilian farmers have now embraced the penergetic concept.”

As Romeu Borgus, a farmer with Agropecuaria Takaoka-laras SP of Brazil, states: “The application of penergetic k and penergetic p provides us with greater stability of production, especially in years when we experience moisture deficiency. The corn and soybeans appear to become more resistant resulting in increased productivity.”

Penergetic products are now used around the world and are part of the solution for farmers seeking to maintain crop yield, while reducing fertilizer inputs without mining the soil of its nutrients.