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### POTASH PRICE BOOSTS SOIL TEST VALUE

**Potash prices have risen significantly.** Crop prices haven't. What management response is agronomically and economically sound? The answer is not simple. Cutting back on potash (also known as potassium) has long-term consequences.

**The economics of fertilizer use are driven by its price ratio with crops.** Price ratios of potash with the major crops have varied considerably in the past. This year a steep increase has taken them to unprecedented levels.

**But price does not change what the crop removes from the soil.** The soil does not generate potash, and plants do not take it from the air. Inevitably, what is taken out must someday be replaced.

**Potassium stays in the soil a long time, and has residual value.** When price fluctuations are temporary, it's quite possible to cut back one year, provided the soil reserve is restored again within the next few years.

**However, the world situation for energy has changed.** It appears that its prices may remain fundamentally higher than in the past. The cost of restoring lost soil fertility in the future has become an important factor to consider.

**Crop response to potassium depends a lot on the soil reserve**—the amount available, or exchangeable—which shows up in your soil test. But responses vary considerably at any given soil test level, because weather and many other uncontrollable factors wield enormous sway. Data from Ontario, for example, show that corn responds more than 80% of the time when soils test low, but still about 35% of the time when they test high or very high.

**In an ideal world,** where you knew exactly what the crop response would be, you could calculate an exact reduction in optimum rate for the new higher price ratio. But even so, if that rate is less than what the crop removes, the long-term consequence is lower soil tests and higher optimum rates in the future.

**In the real world,** the soil test tells you the frequency, or odds, of profitable crop response. The odds diminish at higher soil test levels and price ratios. But the reduction caused by the new price ratios—so far—has been small.

**Higher price ratios increase the profitability of sound soil testing.** Such testing can identify fields and areas within fields where rates below removal may be justified for one or several years. But in the long term, nutrients removed by crops will need to be replaced.

**You can manage for profit in the face of high-priced potash.** You need to thoroughly account for the potassium in three main sources:

- **In the soil reserve**
- **Applied as manures and composts**
- **Removed by harvested crops.**

Certified crop advisers and local professionals provide recommendations specific to the needs of your crops and soils. **Testing soils for potassium is an essential step to sustainable profitability.**

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