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205. © Recovering phosphorous from waste water. Zablocki, J. International Plant Propagators' Society, combined proceedings, 2009, 59:405-407. 2010.

Recovering Phosphorous From Waste Water©

Jim Zablocki
VP Nutrient Operations, 430 Pumpkin Hill Rd., Warner, New Hampshire 03278 U.S.A.
Email: jzablocki@ostara.com

The concern of phosphorous entering our waterways and ground water is well recognized at this time. Attempts have been made to reduce the amount of phosphorous in fertilizers to help reduce pollution. Lower levels of P to zero P have been introduced to help mitigate this problem. The challenge we face is phosphorous is an essential element in all living organisms. Modern agriculture cannot continue without this essential element. To put things into prospective 135 million tons of phosphorous is mined annually with over 90% used in the formation of fertilizers. What we may not know is that phosphate rock from which all commercial fertilizers are made is a finite source. The estimates vary, but International Fertility Development Center (IFDC) calculates that there are 50–100 years of reserves remaining. Once this is gone we have no replacement for mined phosphorous. Based on worldwide demand and supply from the IFDC in 7 years with 1.5% annual consumption rate demand will exceed supply (Fig. 1). With this scenario we can anticipate pricing to rise significantly over the long term. Source point pollution occurs from two areas one is from the continued use of phosphorous fertilizers the other is from municipal and industrial waste. The following paper will discuss the method of removing phosphorous from waste water and producing a renewable high-quality, slow-release fertilizer.

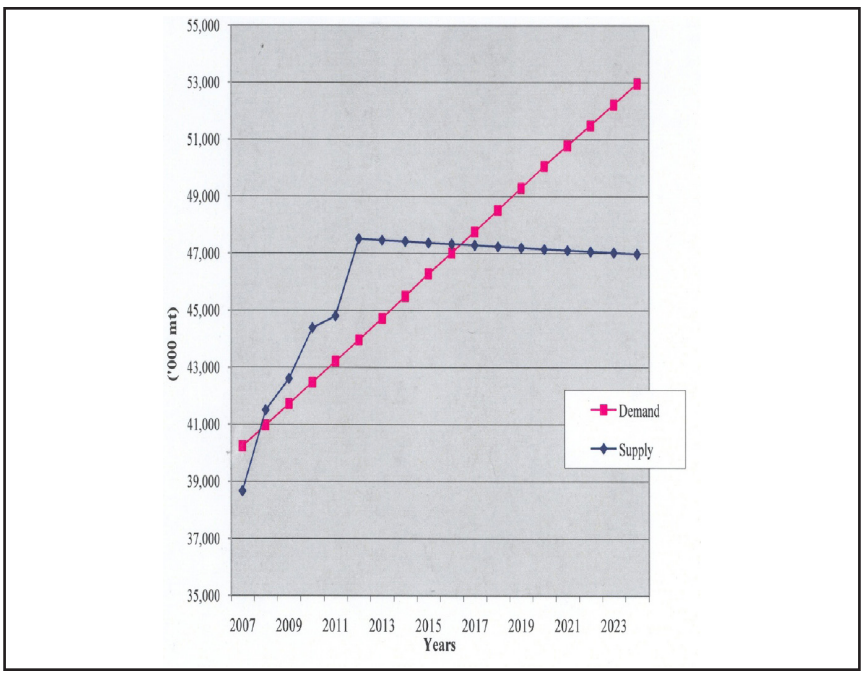

Figure 1. World demand and supply projections of phosphorus fertilizers. Note: demand growth rate is about 1.5% per year; source: International Fertility Development Center, 2008.