Review

Microbial Phytase: Impact of advances in genetic engineering in revolutionizing its properties and applications

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ABSTRACT

Phytases are enzymes that increase the availability of phosphorous in monogastric diet and reduces the anti-nutrition effect of phytate. This review highlights contributions of recombinant technology to phytase research during the last decade with specific emphasis on new generation phytases. Application of modern molecular tools and genetic engineering have aided the discovery of novel phytase genes, facilitated its commercial production and expanded its applications. In future, by adopting most recent gene improvement techniques, more efficient next generation phytases can be developed for specific applications.

1. Introduction

Invention of phytase in 1907 is considered as one of the most important landmark discoveries in the feed industry during the past century (Cromwell, 2009). Since then, science and technology advances led this versatile enzyme to establish as a predominant