In Organic Performance and National Quality of Low Phytic Acid Crops

Presented by Dr. Victor Raboy; Date 2012/11/13

Phytic acid (myo-inositol-1,2,3,4,5,6-hexakisphosphate, or Ins P₆) is the most abundant storage form of P in seeds, yet indigestible by humans and nonruminant livestock. PA is considered as an anti-nutrient in food, agriculture, and nutritional sciences. The role of PA as a food anti-nutrient motivated research aimed at reducing the PA content of commonly eaten foods through food processing, genetic engineering, and plant breeding.

A number of issues concerning the nutritional quality of grains and legumes revolve around the seed phosphorus storage compound called phytic acid. This phenomenon can contribute to human mineral deficiency, particularly with respect to iron and zinc. Dietary phytic acid may also have beneficial health roles, for example as an antioxidant or anticancer agent.

This research focus on amount and composition of biochemistry in agricultural proponent. Main problem in agricultural product for human are: (1) don't be effectively digest PA, (2) It buried tightly no mineral caution, and (3) these phytate salt are excrete malate by major grain and legume crops, and other agricultural product have been produced by fertilizer factory.

In fact, by using phosphate fertilizer can cause water pollution, which is called eutrophication. Finally, most important issues in the world is supplies of phosphate for fertilizing of feeding may occur on 50-150 years later. Now, many studies have conducted for animal and human phosphate acid. As a result, the low phytic acid seed plant type and nutrionally in ruminant of animal. The effect of barley grain pyrite level and supplemental zone on chick phobia zone in 21 days of age.

As a summary, numerous animal studies evaluate low phytic acid have shown that reduced phytic acid translated into available phosphate and declined phosphate waste.