phytate level has been successfully genetically engineered. Such genetically modified rice varieties are very much needed because the excretion of P is greatly increased when poultry diets contain rice bran. The dietary P levels commonly used in industry exceed the most recent NRC recommendations by about 15%. Many recent researches have shown that the dietary P levels could further be reduced without the performance being affected. The poultry feed industry should respond to these new findings rapidly and reduce the P levels in poultry diets. The dietary P requirement gradually declines as birds grown and mature. Theoretically, it is possible to prepare a series of diets containing decreasing P levels, and the feeding of such a series of diets as birds grow can reduce the P excretion. This paper concludes that the excretion of P from poultry industry could substantially be reduced through dietary manipulations and, timely intervention of policy makers, farmers and researchers is of paramount importance for the sustainability of inland water bodies.

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## Evaluation of pesticide impact rating index (PIRI) model as a pesticide risk indicator

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Systematic methods for assessment of potential risk of pesticides to the environment can be considered as valuable tools in decision-making and policy formulation. Pesticide Impact Rating Index (PIRI) is a user-friendly simple risk indicator and it can be used to rank pesticides in terms of their mobility. The predictions given by using PIRI for the pollution potential of pesticides on shallow ground water bodies of Kalpitiya area in Sri Lanka was compared with the field experiments. Cultivated areas of Kalpitiya peninsula were selected for field trials.

Oxyfluorfen for onions, Chlorpyrifos, Diazinon, Dimethoate, Carbofuran, Carbaryl, Methomyl, Imidacloprid, Fenthion and Captan for chili were applied in replicates at recommended application rates for particular crops. Each area was irrigated at the rate of 20 mm/day. The soil considered was the sandy soil with the organic matter of 1.6±0.2%. Residue levels of applied pesticides were measured using Gas Chromatographic and High Performance Liquid Chromatographi methods in irrigation wells in 100 m diameter area at 3 m depth for 3 months in one week intervals from the time of pesticide application. The detected pesticides were confirmed using Gas Chromatographic Mass Spectrophotometric method.

Out of applied pesticides, Dimethoate, Carbofuran, and Chlorpyrifos leached 3 m water table in 24±4 days, 25±3 days and 35±6 days respectively after application of each pesticide. The field monitoring results were 74% compatible with the predictions from PIRI. This indicates that PIRI can be used as a simple risk indicator model for the prediction of pesticide risk to water bodies.