Thesis Title	Behaviors of N-Fertilizers Usage and Reducing Nitrate Contamination Soil and Water of Golf Course with Nitrification Inhibitors
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Year	1999
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Abstract

The objective of this study was to evaluate the behavior and effects of N-fertilizer which had changed the chemical properties of soil and water in golf course. The efficiency of nitrification inhibitors that inhibited the contamination of NO^{3-}-N was also be determined in the imitated conditions of golf course. Soil sampling had done on 3 levels (Green, Fairway and Catchbasin) in golf course areas. The result showed that pH is acidity, especially in the catchbasin area was more acidic (pH 3.72) than the green area (pH 6.09). The nitrate level in soil and water were 16.02 ppm and 17.60 ppm, respectively. In addition , the accumulation of toxic substances (Al^{3+}) in catchbasin was the high level (147 ppm). From the study found that used of N-fertilizer and leaching process affected to the accumulation of NO^{3-}-N in soil and water in golf course.

In the case of imitated conditions of golf course want to test the efficiency of nitrfication inhibitors (Nitrapyrin and Dicyanodiamide) used with N-fertilizer (urea), and also to study the changeable of parameter in soil and water were sampling on 0-42 days. The results showed that, in the last sampling date (42 days), urea treatment found the high level of NO^{3-}-N is (39.23 ppm in soil, and 36.72 ppm in water). While in urea plus nitrification inhiitors treatment found that the NO^{3-}-N in soil and water was 8.02 ppm and 3.49 ppm ,respectively. And also, the relationship of NO^{3-}-N (y) changed with time (x)

could indicate the efficiency of these nitrification inhibitors in terms of mathmetic equation model (Simple Linear Regression) or $y = a + bx$ and R^2 in significant range of 0.62-0.92. Therefore, the application of nitrification inhibitors with N-fertilizer could be decreased the contamination of NO^{3-}-N in soil and water of golf course also in beside land.