The purpose of this thesis is to study the characteristics of the use of farm machinery, fertilizer and pesticide by Thai farmers as well as factors influencing them.

The study divides farmland into four regions; the Northeast, the North, the Central and the South. The study is divided into two parts: first, the characteristics of the use of farm machinery, fertilizer and pesticide in each region are presented. In the second part, factors affecting the use of farm machinery, fertilizer and pesticide in each region are analyzed by multiple regression method. It is hypothesized that farmsize, number of household labor, age, education, land ownership, irrigation, income and credit are major involving factors. Then there are comparisons of the importance of each factor by standardized coefficient and deletion of variables method.

The finding indicates that Thai farmers prefer fertilizer, over farm machinery and pesticide, respectively. Northeastern farmers are top users of fertilizer among all regions while central farmers are top users of machinery and pesticide comparing to all other regions.

The factors involving the use of farm machinery, fertilizer and pesticide are different among regions. Only credit, income and irrigation are very important in every region.