

ABSTRACT

Title : Farmers' Opinions on the Results of the Use
of Bio-fertilizer (Blue-Green Algae) and
Chemical Fertilizer in Paddy Fields under
the Accelerated Soil Improvement Project,
Phayao Province, Thailand

By : Mr. Tanom Suriyha

Degree : Master of Science (Agricultural Extension)

Major Field : Agricultural Extension

Chairman, Special Problem Advisory Board :
(Associate Professor Dr. Thep Phongparnich)

.../...Nov.../1997

The objectives of this study were to investigate : 1) personal and socio-economic characteristics of farmers using bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields under the Accelerated Soil Improvement Project; 2) their opinions on the use of bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields; and 3) their problems and constraints. The data used in this study were collected by means of interview schedule during June and July 1997 from 112 target farmers participating in the project on the use of bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields under the Accelerated Soil Improvement Project in Phayao Province, and analyzed by using the Statistical Package for the Social Sciences.

The results of the study showed that the majority of the respondents were male, 48 years old on average and had attained the fourth grade of primary education. They had an average of 5 family members and an average of 3 members usually working on the farm. The respondents owned an average farming area of 6 rai per family, of which 5 rai was used in the project of using bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields. The rice variety mostly planted was Ko-Kor 6. All respondents were found to be members of an agricultural group or association and obtained information from agricultural extension officers. They mostly depended on rainfall and irrigation for water supply.

The study showed that the respondents agreed that the use bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields provided 4 advantages : 1) the knowledge and technology of using bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields transferred to them by agricultural extension officers; 2) the respondents' use and practice of bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields showing good growth of algae as indicated by the changes during different growth stages after 2-4 weeks sown in the paddy fields; 3) response of rice plants after application of bio-fertilizer (blue-green algae) and chemical fertilizer such as good stem growth, improved rice yield, and high quality of yield; and 4) properties of improved soil as shown by better soil

structure such as increased availability of plant nutrients and better water-holding capacity. Also, the soil became easy to plow, thereby allowing increased efficiency of chemical fertilizer that helped maintain soil pH.

However, some respondents indicated that the project of using bio-fertilizer (blue-green algae) and chemical fertilizer in paddy fields had given negative results : 1) the transfer of knowledge or technology by agricultural extension officers; 2) the growth of blue-green algae in the paddy fields as observed during various stages of growth at 2-4 weeks after paddy sowing; 3) the response of rice plants related to stem growth and yield; and 4) soil improvement or soil structure due to, after sowing the rice in paddy fields, exposure to natural environmental conditions such as heavy rain, flooding, water overflow, destruction of paddy wall that could wash away the blue-green algae, and in some areas, incidence of drought or lack of water that caused the slow growth of algae.

The respondents' problems and constraints included high cost of fertilizer and natural disasters, especially after paddy sowing, e.g. heavy rain and flooding. Also, bio-fertilizer was likely to become soggy, causing broadcasting inconvenience.