Effect of Intercultivation on Nitrogen Dynamics in Paddy Field under Submerged Condition

INTRODUCTION

Weed Management is an important component of crop production. Though popular in developed countries, many farmers in developing countries lack due to economic reasons.

OBJECTIVES

To study effect of intercultivation on N dynamics in paddy field

MATERIALS AND METHODS

Experiment ①
- A preliminary experiment
- Rice (cv. Sasanishiki) with (30 cm × 15 cm) in 2009.
- Four treatments without replication
  A = 0 times under herbicide,
  B = 0 times without herbicide,
  C = 4 times without herbicide, and
  D = 8 times without herbicide.

Experiment ②
- rice (cv. Sasanishiki) with (30 cm × 15 cm) in 2010
- Randomized complete block (RCB) design with 4 replications
- The four treatments:
  T1 = Control,
  T2 = P application,
  T3 = Intercultivation, and
  T4 = Intercultivation + P application

RESULTS AND DISCUSSION

- Did intercultivation inhibit degradation of N fertility into the surface soil of paddy field?
- Control was significantly low at 31st August in SPAD value but not in accumulated plant N.
- Yield was not significant different.

CONCLUSION

The upper thin surface soil layer of paddy field may be important for maintenance of soil fertility.

Intercultivation and P fertilizer application would have positive effects on soil nitrogen dynamics, and growth and yield of rice.