

The system of rice intensification (SRI) practices and mechanization needs

ABSTRACT

This study discusses the unique and labour intensive practice of the System of Rice Intensification (SRI) and suggests specific mechanization option/approaches for its mechanization. Despite the continuous growth in global human population, there still exist substantial labour shortages in the agricultural sector, because of outmigration of the work force. Much of the focus on agricultural research improvement efforts in recent decades has been on modifying crops' genetic potential more than on improving cropping practices, mechanization, automation and production systems. The demand for rice being a staple food for more than half of the world population will continue to increase, hence the need for increased yield. The System of Rice Intensification (SRI) has shown that by modifying crop, soil, water, intensive weeding and nutrient management, can under most of the circumstances evaluated to rise of the productivity of land, water, seeds, capital and labour used for irrigated rice production. However, SRI practices such as Paddy nursery, single seedling transplanting, single direct seeding, water management and intensive mechanical weeding requires specific mechanization approaches. This study summarizes and reflects on the cultivation practices and possible specific mechanization and automation through mechatronics and Information Technology application for the system of rice intensification (SRI).

Keyword: Cultivation practices; Mechanization; System of rice intensification; Transplanting; Weeding