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It is obvious that environmental conservation is also essential for agriculture because degradation of global environment and ecology is in progress. Reduction of agrochemicals is essential for environment-friendly agriculture which emphasizes the conservation of biodiversity. Nowadays, it is a general method to add insecticides to a nursery box soil in order to control harmful insects occurring in the early growth stage of rice in Japan. However, the effects of insecticides applied in spring on harmful insect and the other insects or arthropods are not fully clarified in paddy fields through rice growing period. The objective of this study is to investigate the influence of major insecticides added to nursery boxes on the densities of arthropods including herbivore insects in paddy fields through rice growing season.

Research was conducted in the paddy fields of Field Science Center, Tohoku University (Osaki city, Miyagi Prefecture, Japan) from June to August in 2017. We arranged two sets of paddy fields (about 3000 m^2 per each) with different insecticide treatments with two replications. One set had three treatments including application of insecticides (chlorantraniliprole or thiamethoxam) and no insecticide (control), another set included the fields with and without cyantraniliprole. We researched the ratio of leaves injured by the rice water weevil (*Lissorhoptrus oryzophilus*), which is one of the representative pests in the rice fields, and the abundance of organisms were investigated by the methods of sweeping using a sweep net and visual observation.

The percentage of leaves injured by rice water weevils in June was 0.22 % and 0.04 % in the fields treated with chlorantraniliprole and thiamethoxam, respectively, in contrast to 4.3 % in the control, and 0.07 % in the field treated with cyantraniliprole (0.74 % in the control). Furthermore, according to the survey conducted at August 1st and 28th no rice weevils were found in the fields applied with every insecticide. On the contrary, we found many rice water weevils in the control field. The result indicates the effectiveness of the insecticides applied in nursery boxes in controlling the pest. There were the tendencies for greater abundance of Araneae, Chironomidae, and Hymenoptera at August 1st and 28th and Zygoptera at July 21st in the control field than in the field treated with cyantraniliprole.