

Weed increase by soil-disturbing in soybean planting system with cover crop and conservation tillage

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Environment-friendly soybean planting system has been being required in the upland field with high slope and heavy rain in summer season. Changes of weed amount and soybean yield by rye cover crop and conservation tillage were investigated. Soil-disturbing at conservation tillage before soybean planting increased numbers and dry weights of weeds germinated in late spring such as *Echinochloa crusgalli* P. Beauv (barnyardgrass) and *Portulaca oleracea* L. (common purslane) regardless of herbicide spray even though the weed, *Chenopodium ficifolium* Smith germinated before soil-disturbing were higher at non-disturbing soil. Higher weed amounts at plots of strip-tillage (30cm rototilling) compared to minimum tillage (10cm rototilling) was mainly due to the weed increase by soil-disturbing. Soybean yields at plots with rye cover crop, particularly early maturity rye cover crop, were lower than those at plots without rye cover crop, which was due to lower soybean seedling stand by heavy rye residue. More researches are required for the higher soybean yield at the minimum tillage with rye cover crop in which weed amounts were low.

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PCR Primer for Agp-L Gene in Hexaploid Wheat

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The object of this study was to use genomic information obtained from wheat-rice sequence to develop genome-specific PCR primer for Agp-L gene involved in starch biosynthesis. Intron locations in wheat were inferred through alignment of wheat cDNA sequence of Agp-L with rice genomic sequence. Exon-anchored primer which amplify across introns allowed sequencing of introns from the three genomes provided the basis for genome-specific primer design. The single nucleotide polymorphism (SNP) was identified and this SNP could be converted into cleaved amplified polymorphism sequence (CAPS).

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