

## [P2] Farming System

Thu. Sep 9, 2021 12:15 PM - 2:00 PM Room 2 (Poster) (Farming System)

12:15 PM - 1:00 PM

### [P2-09]Effect of Shoot Cutting and Mulching of Hairy Vetch during Flowering Stage on the Yield and N Content of Wheat in the Mixed Cropping System

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Mixed cropping with leguminous crop is effective approach to reduce N input for gramineous crop production. In the growth of bread wheat, which significantly requires N fertilizer input in top dressing, the N transferred from winter legumes to wheat in mixed cropping should be evaluated to reduce the N fertilizer rate. In this study, we estimated the amounts of N uptake of wheat grown with hairy vetch, that might release N from the root nodules collapsed by cutting the aboveground parts during flowering stage. A field experiment was conducted in 2019 - 2020 at the Experimental Farm of Ryukoku University in Ohtsu, Shiga, Japan, with two treatments; 1) single cropping of wheat cv. "Minaminokaori", consisted of five rows, 2) mixed cropping of wheat and hairy vetch "Kantaro", in which four rows of wheat and three rows of hairy vetch were made. Effect of cutting shoots of hairy vetch on flowering stage on N uptake of wheat was evaluated from the following points; 1) removing the shoots from the plot, 2) mulching them on the bottom of wheat stands. No fertilizer N was applied, and P and K fertilizers were applied at 10 kg/10 a, respectively. In early spring, the SPAD value of the upper leaves and N content of wheat in mixed cropping were higher than those in single cropping, indicating that the mixed cropping with hairy vetch enhanced the N uptake of the associated wheat. A quantitative evaluation of N transference from hairy vetch to wheat is now in progress.