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Soybean (*Glycine max* (L.) Merr.) is generally divided into two types by stem growth habit: determinate type (DET) and indeterminate type (IND). IND has longer stem growth period, which ordinary produce more nodes and foliage, and increase yield potential. IND cultivars are recognized as one of the reasons to attain higher yield in the Midwest in USA. However, the higher yield by IND is rarely achieved in Japan because of excess foliage and lodging. The authors have tested mix cropping of IND with DET to incorporate higher yield potential of IND into soybean production in Japan where DET cultivars are commonly used.

Sadaike et al. (2017) reported that mix cropping of IND and DET from recombinant hetero lines, Kariko1222, had a slightly positive effect on land equivalent ratio, but its effect on yield was negligible. Ogawa et al. (2017) showed that IND had larger leaf area index (LAI) in mix cropping, suppressing LAI of DET. The change in LAI might imply that IND has better environment in terms of solar radiation interception, but the productivity per LAI in IND was not improved by mix cropping. The fact suggest that evaluation of solar radiation interception and its use efficiency is the key to incorporate higher yield potential of IND to DET canopy.

The authors continued the experimental trial of mix cropping of DET and IND in 2017 and measured vertical distribution of LAI. The measurement was conducted in 10 cm-vertical interval by plant canopy analyzer (LI2200C, Li-Cor) together with 1 m-long sensor of solar radiation at three times (August 3, 14 and 30, 2017).

The measurement showed that difference between mix cropping and solo cropping of IND was obvious at 60-100 cm-height from soil surface: LAI in solo cropping of IND was higher than that in mix cropping. The effect of difference on canopy structure, solar radiation interception and productivity will be analyzed further.