

## [P1] Field Crop Production

Thu. Sep 9, 2021 12:15 PM - 2:00 PM Room 1 (Poster) (Field Crop Production)

12:15 PM - 1:00 PM

### [P1-21]Effect of Narrow-Row Planting with Inter-Row Strip Tillage by Chisel Plough on Yield and Labor Saving to Soybean Cultivation at Field Converted from Paddy in Shonai-Plane of Japan

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It has become difficult to manage soybean cultivation because of insufficient labor against to increasing cropping area although soybean cultivation converted from paddy has been increased in Shonai-plain at the side of Japan Sea of Tohoku region in Japan. To reduce labor on conventional cultivation (CC) and to increase yield we introduced a sowing machine developed in NARO which could not only be planted in narrow row without preliminary tillage and ridge making but also be kept soil moisture suitable by the inter-row strip tillage with chisel plough. For the experiment, soybean cv. Satonohohoemi was cultivated on farm-owned field located at Shonai-plane in 2016 - 2018. There was no significant difference in average soybean yield among three years between narrow-row cultivation (NRC) and CC. The maximum yield was got at the case of cultivation including at field just converted after paddy, which in NRC were 273 g/m<sup>2</sup> by hand harvesting or 227 kg/10 a by combine harvester. Total working time in NRC was 7.4 hours per 10 a which was equivalent to about 20 percent decrease against CC. Total cost per 10 a on NRC was 64.3 thousand-yen which equivalent to 4 percent decrease to CC in spite of the induction of new sowing machine. Among 3-year experimentation, NRC with inter-row strip tillage by chisel plough of soybean has no superiority on the yield than in CC, however it was contributed to the reduction of total working time in CC.