

---

Oral sessions | Field Crop Production | O14: Legume Production in Asia

## [O14] Legume Production in Asia

Chair: Kuniyuki Saito (Okayama University, Japan)

Chair: Tianfu Han (Chinese Academy of Agricultural Sciences, China)

2021年9月10日(金) 09:45 ~ 11:45 Room 1 (Oral) (Field Crop Production)

---

10:25 ~ 10:40

### [O14-03] Study on High Yielding Canadian Soybean Cultivars in Central Hokkaido and Its High Yielding Factors — Comparison with Hokkaido Cultivars in Yield Components, Growth Analysis and Branching Plasticity —

○Taiki Yoshihira<sup>1</sup>, Ayano Furuse<sup>2</sup>, Yuho Tsuji<sup>3</sup> (1.Department of Sustainable Agriculture, College of Agriculture, Food and Environment Sciences, Rakuno Gakuen University, Japan, 2.Department of Sustainable Agriculture, College of Agriculture, Food and Environment Sciences, Rakuno Gakuen University, Japan, 3.Department of Sustainable Agriculture, College of Agriculture, Food and Environment Sciences, Rakuno Gakuen University, Japan)

A comparison of 17 Canadian cultivars bred before 1997 in the two years of 2016 and 2017 with Toyomusume (TM) showed that OAC Dorado, Alliance and Brock were higher yields than TM in the same maturing period. The high-yielding factors of these high-yielding cultivars were examined from the yield component and growth analysis in 2018 and 2019.

The high yield of Canadian high-yielding cultivars did not come from the harvest index, but from the height of total dry matter yield.

Crop growth rate was higher in OAC Dorado and Brock than in TM throughout the ripening period due to the high net assimilation rate.

The slope of the regression line of dry matter production with respect to the integrated received light amount was lower in all cultivars in 2018, which is the low-yield year, than in 2019, but the Canadian high-yield cultivars were higher than the Hokkaido cultivars in both years.

There was a significant positive correlation between total branch length in the pinching treatment and seed yield, and high yield cultivars had higher branching plasticity.

The high yield of the Canadian cultivars was derived from the total dry yield, which was caused by the difference in pod weight increase rate during the ripening period. This increase in pod weight was due to the high net assimilation rate. It was confirmed from the difference in solar radiation use efficiency (RUE). It was presumed that these cultivars had high branching plasticity and high stability against changes in planting density.