

PB-43

Characterization of Yield and Processing Quality of ‘Eunsun’ variety to Autumn Cultivation from 2019 to 2021

Jang-Gyu Choi^{1*}, Jae-Youn Yi¹, Yong Ik Jin¹, Gun Ho Jung¹, Gyu Bin Lee¹, Do Hee Kwon¹, Chung Ki Cheon¹, Kwang Ryong Jo¹, Yeong Eun Park¹

¹Highland Agriculture Research Institute, NICS, RDA, Pyeongchang, 25342, Republic of Korea

[Introduction]

The consumption of potato processing food, such as potato chips, is on the rise because of changes in food consumption trends. So, the import amount of chilled fresh and frozen potatoes were up 117% from 10 years ago. Because the chip quality of potatoes cultivated in Autumn was bad, it was necessary to expand the supply of potato varieties with excellent production and processing characterization in Autumn to stable supply of processing materials. In this study, it was evaluated to autumn cultivation that yield and processing characterization of ‘Eunsun’ was a new double-cropping variety for processing.

[Materials and Methods]

‘Eunsun’ was cultivated in the field of HARI(Gangneung-si Ganwon-do) in Autumn and evaluated yield and processing quality from 2019 to 2021. The seed potato was planted mid in August and harvested earlier in November according to standard cultivation methods of RDA. It was investigated that yield(Total yield(TY, kg/10a), Marketable tuber rate(MTR, %) etc), physiological disorders(Growth cracking etc), quality(Specific gravity(SG), Chip color and Starch content etc). Starch content was calculated using a specific gravity value and chip color was measured Hunter’s values(L, a, b) using a colorimeter(CR400/410, Konica Minolta, Japan).

[Results and Discussion]

The average TY and MTR in ‘Eunsun’ were 3,019kg/10a, and 85.6%, similar to Deji. But the rate of physiological disorder in ‘Eunsun’ was 9.4%(deformation), and 7.4%(Growth cracking), which was lower than ‘Deji’. ‘Eunsun’ was a more produced marketable tuber than ‘Deji’. In the case of quality, starch content in ‘Eunsun’ was 12.5%, which is higher than ‘Deji’. Hunter’s L value of potato chip in ‘Eunsun’ was higher than ‘Deji’. It was considered that ‘Eunsun’ was a possible variety suitable for processing during autumn cultivation

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*Corresponding author: E-mail, dndn012@korea.kr Tel. 033-330-1610