

## Comparison of agronomic characteristics of colored soybean landraces and selection of useful genetic resources

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### ABSTRACT

This study was conducted to compare the agronomic traits of well-known colored native soybean germplasms. Recently, we are increasingly interested in colored as various functional ingredient of soybeans have revealed. We used a total of 396 soybean genetic resources, consisting of ten “Seonbijabikong”, 110 “Jyinunikong”, 276 “Seoritaekong”. We sowed on 10th June 2018 at the field of Nongsaensmyeongro in Jeonju city. The average number of days to flowering, days to maturing and days to growth of colored soybean were 53, 84 and 136 days, respectively. Days to flowering of “Seonbijabikong” were ranged from 41 to 50 days with an average 48 days, those of “Jyinunikong” were ranged from 39 to 72 days with an average 52 days. Days to flowering of “Seoritaekong” were ranged from 35 to 63 days with an average 54 days, which were earlier in “Seonbijabikong”, and similar with “Seoritaekong” and “Jyinunikong”. Days to growth of “Seonbijabikong” were ranged from 125 to 137 days with an average 132 days, those of “Jyinunikong” were ranged from 91 to 144 days with an average 130 days and those of “Seoritaekong” were ranged from 99 to 150 days with an average 139 days, they were shortest in “Jyinunikong” and longest in “Seoritaekong”. The distribution of maturity period was from 6th September to 5th November. The maturity period was as early as September and yields were more than 100g per plant, which were all three accessions(IT161905, IT162602, IT269617), “Seoritaekong”. They would be useful as breeding materials of colored soybean with early maturity. The 100-seed weight is important characteristics that distinguish the usage of soybeans. “Seoritaekong” and “Seonbijabikong” have large seed characteristics for cooking with rice, “Jyinunikong” has small seed it for medicine. The average 100 seed weight was 35.0g of “Seonbijabikong”, 30.8g of “Seoritaekong” and 13.4g of “Jyinunikong”, respectively. As for seed coat lust, the ratio of dull was as high as 100% of “Seonbijabikong” and 91% of “Seoritaekong”, that of shiny was as high as 77% of “Jyinunikong”. Cotyledon color of “Seonbijabikong” were all yellow, that of “Seoritaekong” were 94% of green. The other name of “Seoritaekong” is “Sokcheong”, which means that cotyledon color is green. Therefore if cotyledon color of Seoritaekong is not green, it might be misidentified. In the future, we will increase the utilization through evaluation of functional component such as isoflavones and anthocyanins of colored soybean landraces.

**Key words :** Soybean, landraces, days to growth, coytledon color, 100 seed weight