

PC-8

**Effects of Storage Period on the Biochemical Compositions in Seeds of Triticale
(X *Triticosecale* Wittmack)**

Jisuk Kim^{1*}, Kyungyoon Rha¹, Myoung Ryoul Park¹, Yul-Ho Kim¹

¹National Institute of Crop Science, Suwon, Kyonggi-do, 16429, Republic of Korea

[Introduction]

Triticale (*X Triticosecale* Wittmack), a winter crop, is used mostly for forage or fodder in the Republic of Korea. Storage period is one of the most important physicochemicals affecting on the biochemical compositions in crop seed. Therefore, this research was conducted to investigate the effects of storage period on the biochemical composition in seed of triticale.

[Materials and Methods]

Seeds of the triticales, ‘Shinyeong’ and ‘Joseong’, were harvested in 2017 and 2021, and then the 2017-harvested seeds of the triticales were stored during 5 years under 10°C. Each seed of the harvested triticales, ‘Shinyeong’ and ‘Joseong’, in 2017 and 2021 were named as SY17 and SY21 (Shinyoung), and JS17 and JS21 (Joseong), respectively. We tested germination ratio, scavenging activity, DPPH (2,2-diphenyl-1 picrylhydrazyl) and ABTS (2,2'-azinobis-3-ethyl benzothiazoline-6-sulphonic acid), and contents of the total phenolic compounds (TPC) for folin ciocalteu assay.

[Results and Discussion]

Each final germination ratio of JS17, JS21, SY17, and SY21 was 95, 96, 95, and 98%, relatively. The DPPH and ABTS scavenging activity, and content of TPC in the SY17 was the highest (30.6%, 63.1%, 26.6 mg GAE/g, respectively) among the seeds. Although the seeds were harvested in the same year, the radical scavenging capacity and contents of TPC in seeds of ‘Shinyeong’ were higher than those of ‘Joseong’. Taken together, the results showed that storage periods should not be debased in the DPPH and ABTS scavenging activity, and TPC contents of two triticales but further study is necessary to define more precisely the results.

[Key word]

Triticale, storage, germination, antioxidant capacity

[Acknowledgement]

This work was supported by the National Institute of Crop Science Research Program (Project No. PJ016017022022), Rural Development Administration, Republic of Korea.

*Corresponding author: E-mail, jisuk105@korea.kr Tel. +82-31-695-4054