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**Effects of Sowing and Harvesting Time on Feed Value and Quality of Triticale (X *Triticosecale* Wittmack)**

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**[Abstract]**

The amount of required forage is increasing by 20% every year in South Korea, but the cultivation area for forage production is limited. The yield ability of triticale forage is the highest among the winter forage crops including rye and the crop has cold tolerance within the average low temperature of  $-10^{\circ}\text{C}$  in January. Therefore, this study analyzed effects of sowing and harvesting times on feed value and quality for efficiently using and supplying triticale as livestock feed. Seed of the triticales, 'Joseong' was sown in 2021 fall (October) and 2022 spring (March). The triticales were harvested according to growth stages: seedling stage, booting stage, heading stage, 10 days after heading, and 20 days after heading. Moisture contents of each harvested triticales were adjusted to about 60%, and then the triticales were fermented for 40 days at room temperature under anaerobic conditions as silage. We have analyzed pH and organic acid to determine the feed value and quality of each silage. The contents of lactic acid in silage of the triticale harvested at the seedling stage of both fall and spring-sown (1.61%, 1.63%) were the highest among all of the silages; the booting stage (0.75%, 1.33%), the heading stage (0.50%, 0.69%), 10 days after the heading stage (0.31%, 0.42%), and 20 days after heading stage (0.22%, 0.40%). Such as the contents of lactic acid in the silages, and the pH value of the silages The pH value in both the fall- and spring-sown became lower as the triticale was grown up: seedling stage (7.05, 6.85), booting stage (6.21, 6.75), heading stage (6.18, 6.28), 10 days after heading stage (6.22, 6.17), and 20 days after heading stage (6.15, 5.81). Taken together, the results showed that the feed value and quality of triticale silage were more affected by harvesting time than sowing time.

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