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Optimal Nitrogen Fertilizer Application Method for High Quality Bread Wheat Production

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[Abstract]
For high quality bread wheat production in Korea, it is necessary to develop optimal nitrogen (N) fertilizer methods. For optimal N fertilizer, we evaluated the alteration of growth, yield, yield components and end-use qualities according to the treatment of N fertilizer amounts and timings at heading stages. Growth, yield, yield components, and end-use quality weren't altered by various timings of N fertilizer treatment conditions whereas, 1,000 grain weight and lodging degree was increased by increasing amounts of N fertilizer treatment conditions at 7 days after heading (7 DAH). Especially, lodging degree was significantly increased by 6kg/10a of N fertilizer treatment conditions at 7 DAH. The flour protein contents increased by various amounts of N fertilizer treatment conditions. However, SDS-sedimentation and bread loaf volumes were decreased by exceeding 6kg/10a of N fertilizer treatment conditions at 7 DAH. When considering the quality of bread, 6kg/10a N fertilizer treatment is best, but 3kg/10a N fertilizer treatment is more suitable for both quality and lodging at 7 DAH. Therefore, it is preferable to fertilize 3kg/10a of nitrogen at 7 DAH in addition to standard fertilizer when cultivate bread wheat.

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