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Effect of Nitrogen Fertilizer Application on Yield and Quality of Korean Soft Wheat Cultivar 'Goso'

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[Abstract]

Wheat flour can be categorized into bread, all-purpose, cake flour according to its protein content. Since optimal wheat flour protein content is different for each end use, it is necessary to diversify the nitrogen fertilizer methods depending on the end use and cultivar. Optimal wheat flour protein content of soft wheat (for cake flour) is lowest (<=10%) among all end use, it is necessary to develop nitrogen fertilizer methods for high yield and low protein content. In order to analyze the yield and quality changes of soft wheat as nitrogen fertilizer amount and splitting timing, soft wheat cultivar 'goso' was sown on paddy soil in jeunju, Republic of Korea ('21.10). the amount of nitrogen fertilizer was divided into 4 levels by adjusting 2kg/10a increments from 5.1 to 11.1kg/10a, and in the N 7.1 and 9.1kg/10a(standard) treatment, N amount divided into sowing date:regrowing stage=3:7, 4:6(standard), 5:5. In regrowing stage, Tiller number and N fertilizer amount at sowing date showed a correlation; $y=-121.14x^2+792.66x-525.41$ ($R^2=0.77^*$, y: Tiller number/㎡, x: N amount at sowing date(kg/10a)). Tiller number in regrowing stage was the highest when the nitrogen fertilizer amount at sowing date was 3.23kg/10a. spike number per ㎡ was the highest when N fertilizer was divided into sowing date:regrowing stage=3:7(N amount: 9.1kg/10a). If N fertilizer amount was fixed, grain yield was also the highest when N fertilizer was divided into sowing date:regrowing stage=3:7. Also, N amount at sowing date and grain yield showed no correlation, but N amount at regrowing stage and grain yield showed significant correlation. As N amount increased, protein content also showed a tendency to increase.

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