

論文審査の要旨
Summary of Dissertation Review

博士の専攻分野の名称 Degree	博 士 (農学)	氏名 Author	KIFAYATULLAH KAKAR
学位授与の要件	学位規則第4条第①・2項該当		
論 文 題 目 Title of Dissertation	Effects of MNU Mutation on Productivity, Grain Quality and Allelopathic Potential of Rice		
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〔論文審査の要旨〕 Summary of Dissertation Review			
<p>This research was conducted to examine effects from the application of MNU (N-methyl-N-nitrosourea) on productivity, grain quality, and allelopathic potential of rice including six rice cultivars and their mutants.</p> <p>The thesis includes 5 Chapters. Chapter 1: General Introduction. Chapter 2: Efficacy of N-methyl-N-nitrosourea (MNU) mutation on enhancing the yield and grain quality of rice. Chapter 3: Efficacy of N-methyl-N-nitrosourea mutation on physiochemical properties, phytochemicals, and momilatonones A and B in rice. Chapter 4: Evaluation of MNU mutation on the relation between allelopathic potential and grain quality of rice plant. Chapter 5: General discussion and Conclusion.</p> <p>Findings of this research reveal that the application of MNU mutation was effective to increase rice yield significantly compared with non-treated cultivars. Regarding to rice quality, contents of amylose, protein and lipid was decreased, which may be attributed to the taste score was increased from 67.7 to 82.3%. The allelopathic potential of rice was also promoted and showed strong correlation with the increase of 10 phenolic acids. The study highlights the importance of MNU mutation to enhance rice yield and grain quality through by increasing values of bioactive compounds in straw, husk, and grain.</p> <p>From the achievements noted above, the applicant Kifayatullah Kakar has published 3 papers in international journals indexed in Web of Science with impact factors (>2.0). After carefully examined the results from presentation, graduate thesis, achievements, and the responses on the questions raise from the examiners, the judged committee agree that the applicant passes the exam.</p>			