APPLYING BIOCHAR AND DIFFERENT FORM OF NITROGEN: BE A GOOD AGRICULTURAL PRACTICE FOR BETTER YIELD AND PROCESSING QUALITY OF POTATO

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Abstract

Purpose: Produced tubers with inferior quality are the main bottleneck for exporting surplus amount of potato to the importing countries. Applying nitrogen as prilled and super granule urea along with biochar may improve the yield and processing quality of potato. To generalize a partial solution, the study was conducted to find out the efficiencies of N forms and biochar towards the improvement of the processing quality of potato for export.

Research Method: The experiment comprised two factors. Factor A: Nitrogen form (2): Prilled Urea (Up) and Urea Super Granule (US), and Factor B: Biochar level (6): B0-Control, B1- 2 t/ha, B2- 4 t/ha, B3- 6 t/ha, B4-8 t/ha, and B5- 10 t/ha. The experiment was laid out in a split-plot design with three replications.

Results: Nitrogen form and/or biochar levels had shown significant influence on most of then parameters. The maximum tuber yield of potato (37.9 t ha-1) was observed from UsB5 which was statistically similar to UsB4. The maximum dry matter content of tuber (21.8 %) and specific gravity of potato (1.098 g/cc) were observed from UsB4. So, it may be concluded that the application of urea super granule (US) plus biochar B4 (8 t/ha) was found best combination for maintaining optimum yield and better processing quality of potato.

Findings: Application of biochar improved the soil organic carbon status (data not shown) and exhibited better potato yield and qualities. Urea super granules (USG) are much economic and environmental friendly

Keywords: biochar, urea form, dry matter, specific gravity, yield