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Effect of Nitrogen and Potassium on the yield of Black Pepper (*Piper nigrum* L.) in the wet zone mid country 3b (WM-3b), Sri Lanka

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Black pepper (*Piper nigrum* L.) is the second important spice crop handled by Dept. of Export Agriculture which utilizes a considerable amount of inorganic fertilizer. A lot of foreign exchange is spent on these fertilizers but the national average yield (300 kg/ha/yr) is still far below the potential yield (1000-1500 kg/ha/yr). Nitrogen (N) and potassium (K) are the main elements in inorganic fertilizer combinations and therefore the determination of best combination of inorganic nitrogen and potassium is important for pepper production. The main objective of this research is to find out the best Nitrogen and Potassium combination that gives the highest yield of pepper. The experiment was conducted in the Central Research Station, Department of Export Agriculture, Matale. Main fertilizer treatments consisted of four levels of Nitrogen (as urea) at 0, 100, 150 and 200 g/plant/yr and four levels of K₂O (as Muriate of potash) at 0, 100, 150, and 200g/plant/year and a control without fertilizer. Dry pepper yield was analyzed using SAS package. The highest yield was obtained from the treatment of nitrogen 150g/plant/yr with K₂O 150g/plant/yr. The second and the third highest yields were reported from treatments of nitrogen 100g/plant/yr with K₂O 100g/plant/yr and nitrogen 200g/plant/yr with K₂O 150g/plant/yr respectively. The lowest yields were recorded from the combination that has either zero levels of Nitrogen or Potassium. Result shows that the application of balanced fertilizer can enhance the yield of black pepper. According to the results the best combination of N and K for obtaining highest mean dry pepper yield of 4622.5Kg/ha/yr in the mid country wet zone was nitrogen 150g/plant/yr with potassium 150g/plant/yr.

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