

Kenya Eastern Lower Fertilizer Use Optimizer: paper version (Urea) Nov. 2016

The below assumes:

- Calibration measurement is with: i) a 3.14 ml of soda bottle with lining that holds about 3.5 g DAP, 2.2 g Urea and 3.5 g MOP ii) a 100 g blue band tin (BB) has approx. 124 ml to hold 136 g DAP; 86.8 g Urea and 136.4 g MOP. It is assumed maize (30 cm within row) is planted at 90 cm row spacing, Irish potatoes and sorghum are planted with 75 cm row spacing, and beans with 50cm row spacing.
- It is assumed grain prices per kg (Ksh): 25 maize; 60 beans, 25 sorghum and 30 Irish potato.
- It is assumed 50 kg of fertilizer costs (Ksh): 2850 urea and 3600 DAP.
- Application rates are in kg/ac.
- If any fertilizer rate application is less than 10 kg/acre it is not economical and should be converted to another fertilizer. WAP –weeks after planting; WAE- weeks after emergence

Level 1 financial ability

- Irish potato: At planting, apply 51 kg Urea (1 top for 0.2 m) by banding.

Level 2 financial ability

- For maize, side dress with 34 kg urea (1 top for 0.4 m) by banding at 6 WAP.
- For beans, at planting band 19 kg DAP (1 top for 1.5 m) and 11 kg urea (1 top for 1.6 m).
- For Irish potato, at planting band 30 kg Urea (1 top for 0.4 m). Side dress by banding 31 kg Urea (1 top for 0.4 m) 4 WAE.

Level 3 financial ability (maximize profit per acre).

- For maize, side dress with 40 kg urea (1 top for 0.2 m) by banding at 6 WAP.
- For beans, at planting band 30 kg DAP (1 top for 1 m) and 15 kg urea (1 top for 1.2 m).
- For sorghum, at planting band 11 kg DAP (1 top for 1.7 m).
- For Irish potato, at planting band 40 kg Urea (1 top for 0.3 m). Side dress by banding 39 kg Urea (1 top for 0.3 m) 4 WAE.