



UGANDA FERTILIZER USE OPTIMIZER: Eastern 1400-1800 m Uganda



The below assumes:

Cost of fertilizer use for 50 kg bag (UgSh): urea, TSP and KCl is 120,000/-; DAP is 140,000/-.

Grain values (UgSh/kg): maize 600/-; banana 800; Irish potato 800; finger millet 1200/-; sorghum, 500/-; upland rice 1500/-; bean 1200/-; and soybean 1000 and groundnut are 2500/-.

Calibration measurement units: a Highland water bottle cap (CAP) that holds 7.5 ml, about 5.25 g urea, 8.25 g DAP, TSP, or KCl; and Highland water bottle cut at 2 cm (2-cm bottle) holds 59.3 ml, 41.5 g urea, and 65.2 g of DAP, TSP or KCl.

Row spacing: maize 75 x 30 cm; sorghum, 60 cm; finger millet and upland rice, 20 cm; banana 3 x 3 m; bean 60 cm; soybean and groundnut 45 cm.

Rates are at least 10 kg/ac. **Broadcast width** is 1m.

Level 1 financial ability.

Maize: point apply 12 kg/Ac urea at planting (CAP for 4 plants)

Banana: band apply in circle around plant 26 kg/Ac urea (2-cm bottle for 0.7 plants)

Bean: band apply 12 kg/Ac urea at planting time (CAP for 3.0 m band)

Irish potato: apply 36 kg/acre DAP at planting (broadcast 2-cm bottle 7.3 m)

Soybean: band apply 11 kg/Ac TSP at planting (CAP for 6.7 m)

Groundnut: band apply 14 kg/acre DAP and 12 kg TSP at planting time (2-cm bottle to cover 4.2 m band for DAP and 6.7 m band for TSP).

Level 2 financial ability.

Maize: point apply 30 kg/Ac urea at second weeding (CAP for 3.1 plants)

Banana: band apply in circle around plant 34 kg/Ac urea (2-cm bottle for 1.3 plant)

Bean: band apply 18 kg/Ac urea at planting (CAP for 2 m band)

Irish potato: apply 72 kg/acre DAP at planting (broadcast 2-cm bottle 3.7 m); and 26 kg/acre urea after second weeding (broadcast 2-cm bottle cover 6.5 m)

Soybean: apply 25 kg/Ac TSP in a band at planting (CAP for 3.0 m band)

Groundnut: apply 40 kg/Ac DAP at planting (CAP for 2.9 m band)

Level 3 financial ability (maximizes profit per Ac).

Maize: point apply 10 kg/Ac DAP at planting (CAP for 16 plants); band 43 kg/Ac urea at second weeding (CAP for 2.2 plants)

Banana: band apply in circle around plant 41 kg/Ac DAP (2-cm bottle for 0.9 plant); apply 21 kg/Ac urea (2-cm bottle for 0.9 plant) and 19 kg/Ac KCl (2-cm bottle for 1.5 plants)

Bean: apply 14 kg/Ac urea (CAP for 2.5m band) and 27 kg/Ac DAP at planting time (CAP for 2.1 m band)

Irish potato: apply 72 kg/acre DAP at planting (broadcast 2-cm bottle for 3.7 m); and 26 kg/acre urea after second weeding (broadcast 2-cm bottle cover 6.5 m).

Soybean: apply 37 kg/Ac TSP at planting time (apply in a band CAP for 2 m band)

Groundnut: apply 40 kg/Ac DAP time (apply in band CAP for 1.9 m); 14 kg/Ac TSP and 13 kg/Ac KCl at planting time (CAP for 5.3 m band for each)