



UGANDA FERTILIZER USE OPTIMIZER: Eastern, Lake Kyoga Basin



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; Sorghum 500; finger millet 1200; upland rice paddy 1500; bean 1200; soybean 1000; and groundnut unshelled 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.

Finger millet: broadcast 14 kg/Ac DAP at planting (CAP for 2.4 m); 17 kg/Ac urea after 2nd weeding (CAP for 1.2 m)

Sorghum: band 11 kg/Ac urea after 2nd weeding (CAP for 3.2 m)

Upland rice: broadcast 13 kg/Ac DAP at planting (CAP for 2.6 m); 17 kg/Ac urea at panicle initiation (CAP for 1.2 m)

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

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 17 kg/Ac urea at planting (CAP for 3.1 plants); apply 17 kg/Ac urea at second weeding (CAP for 3.1 plants);

Finger millet: broadcast 22 kg/AC DAP at planting (CAP for 1.5 m); apply 17 kg/AC urea after 2nd weeding (CAP for 1.2m)

Upland rice: broadcast 23 kg/Ac DAP at planting (CAP for 1.5 m); 38 kg/Ac urea at panicle initiation (CAP for 0.6 m)

Sorghum: band 19 kg/Ac urea at 2nd weeding (CAP for 1.9 m).

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

Soybean: band 25 kg/Ac TSP 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)

Finger millet: apply 28 kg/AC DAP at planting (CAP for 1.2 m); apply 41 kg/AC urea after 2nd weeding (broadcast 2-cm bottle for 0.5m)

Sorghum: band 14 kg/Ac DAP at planting (CAP for 4 m); 24 kg urea at 2nd weeding in a band (CAP for 2.5 m)

Upland rice: broadcast 31 kg/Ac DAP at planting (CAP for 1.1 m); 54 kg/Ac urea at panicle initiation (CAP for 0.4 m)

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

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

Groundnut: band 40 kg/Ac DAP time (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)