



**MALI-South Sudan-AEZ**

**Fertilizer Use Optimizer**

**The below assumes:**

**Calibration measurement** is with: Diago water bottle lid that holds about 8 ml, 5.6 g urea, 8.8 g DAP, 8.8 g of

TSP, 8.0 g NPK and 8.8 g KCl; Gino tomato can of 70 ml to hold 49 g urea, 77 g DAP, 77 g TSP, and 77 g KCl

**Planting:** It is assumed maize and cowpea: 0.8 x 0.4 m; sorghum 0.8 x 0.8 m; pearl millet 1 x 0.8 m; groundnut 0.4 x 0.4 m; rice 20 cm.

**Crop values:** It is assumed grain prices per kg (CFA): 80 maize; 130 sorghum; 300 rice; 135 pearl millet; 600 Ground nut; 600 cowpea.

**Fertilizer use costs for 50 kg:** It is assumed 50 kg of fertilizer use costs (CFA): 13,500 urea; 20,000 DAP; 13500 NPK, 16000 TSP, 16000 KCL.

**Broadcast width: 3 m; WAP=weeks after planting, WAT=weeks after transplanting. Application rate is kg/ha.**

### **Level 1 financial ability.**

**Cowpea:** Point apply 35 kg NPK (1 Diago lid for 7 plants) at emergence

**Maize:** Point apply 11 kg urea (1 Diago lid for 20 plants) at 6 WAP.

**Rice lowland:** Broadcast 78 kg urea in 2 applications : 28 kg urea (1 Gino can for 7.5 m) at transplanting and 50 kg urea (1 Gino can for 4.1 m) at panicle initiation and 106 kg NPK (1 Gino can for 2 m) at transplanting., and 106 kg NPK at transplanting (1 Gino can of 70 ml for 2m).

**Sorghum:** Point apply 66 kg NPK (1 Diago lid for 2 plants) at emergence

### **Level 2 financial ability.**

**Maize:** P Point apply 32 kg urea (1 Diago lid for 6.8 plants) at emergence and 50 kg urea (1 Diago lid for 4.8 plants) 6 WAP.

**Cowpea:** Point apply 50 kg NPK at emergence (1 Diago lid for 5 plants).

**Rice upland:** Broadcast 49 kg urea (1 Gino can for 3.3 m) at transplanting and 50 kg urea (1 Gino can lid for 7 plants) at panicle initiation and broadcast 162 kg NPK at emerging or transplanting (1 Gino can for 1 m).

**Sorghum:** Point apply 135 kg of NPK (1 Diago lid for 1 plant) at emergence.

**Rice lowland:** Broadcast 26 kg urea (1 Gino can for 6.3 m) at transplanting and 50 kg urea (1 Gino can for 3.3 m) at panicle initiation.

### **Level 3 financial ability (maximizes profit per hectare).**

**Millet:** Point apply 10 kg Urea at emergence (1 Diago lid for 14 plants) and 26 kg NPK at emergence (1 Diago lid for 4 plants).

**Maize:** Point apply 31 kg urea (1 Diago lid for 7.5 plants) at emergence and 100 kg urea (1 Diago lid for 2 plants) 6 WAP and 33 kg NPK (1 Diago lid for 8 plants) at emergence and point apply 33 kg NPK at emerging (1 Diago lid for 8 plants).

**Cowpea:** Point apply 66 kg NPK at emergence (1 Diago lid for 9 plants) and 12 kg KCl at emergence (1 Diago lid for 23 plants).

**Rice upland:** Broadcast (32 kg) and at panicle initiation (1 Gino can for 5 m) and (50 kg respectively (1 Gino can for 3.3 m), and broadcast 200 kg NPK at transplanting (1 Gino can for 1 m).

**Sorghum:** Point apply 187 kg of NPK (1 Diago lid for 1 plant) at emergence.

**Rice lowland:** Broadcast 35 kg Urea at transplanting (1 Gino can for 4.7 m and 100 kg urea at panicle initiation (1 Gino can for 1.6 m), and broadcast 26 kg KCl at land preparation (1 Gino can for 9.9 m).