



## COOL TO TEPID SUB MOIST MID HIGHLANDS 1700-2200 M

### FERTILIZER USE OPTIMIZER: PAPER VERSION



#### Assumptions:

**Measurement** is with a: 500ml Highland water bottle CAP that holds 6.7 ml, 4.7 g urea, and 7.4 g DAP, TSP, and KCl; 500ml Highland water (2-cm bottle) to hold 47 ml, 33 g urea and 52 g DAP, TSP, or KCl.

**Planting** is with row spacing of: 75 cm for maize, sorghum, Irish potato; 20 cm for rice, wheat, barley, finger millet; 50 cm for bean, faba bean, soybean; and teff is broadcast.

**Grain prices** per kg (in Birr): maize 5.5; sorghum 6; rice 12; tef 18; faba bean 12; barley 8; wheat 9; irish potato 6; finger millet 9; soybean 11; haricot bean 12; soybean 12.

**Cost** of using 50 kg of fertilizer (Birr): 750 urea; 900 TSP; 850 DAP; 750 KCl.

**Fertilizer rates**>20 kg/ha. **Broadcast width** is 2 m. **WAP** = weeks after planting.

#### Level 1 financial ability.

**Rice, lowland:** broadcast 30 kg/ha urea at tillering and again at panicle initiation (2-cm bottle for 5 m)

**Teff:** broadcast apply 30 kg/ha DAP at planting (2-cm bottle for 8.1 m); 47 kg/ha urea at second weeding (2-cm bottle for 3.3 m).

**Faba bean:** band apply 25 kg/ha DAP at planting (CAP for 5.8 m).

**Maize HP>4t:** apply 23 kg/ha DAP at planting (CAP for 16 plants); topdress 29 kg/ha urea (CAP for 8 plants);

**Maize LP<4t:** apply 23 kg/ha DAP at planting (CAP for 12 plants).

#### Level 2 financial ability.

**Rice, lowland:** broadcast 30 kg/ha urea at tillering and at panicle initiation (2-cm bottle for 6.5 m)

**Teff:** broadcast apply 34 kg/ha DAP at planting (2-cm bottle for 7.8 m) and 56 kg/ha urea at second weeding (2-cm bottle for 2.7 m).

**Faba bean:** band apply 32 kg/ha DAP at planting (CAP for 4.6 m).

**Maize HP>4t:** apply 29 kg/ha DAP (CAP for 14 plants) and 30 kg/ha urea at planting (CAP for 7.5 plants); topdress urea 90 kg/ha (CAP for 2.7 plants).

**Maize LP<4t:** apply 29 kg/ha DAP at planting (CAP for 14 plants) and 30 kg/ha urea at planting (CAP for 8 plants); topdress 30 kg/ha (CAP for 8 plants).

**Bean:** band apply 22 kg/ha DAP at planting (CAP for 6.6 m).

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

**Rice, lowland:** broadcast apply 22 kg/ha DAP at planting (2-cm bottle for 12 m); broadcast 58 kg/ha urea at tillering and at panicle initiation (2-cm bottle for 2.7 m)

**Teff:** broadcast apply 44 kg/ha DAP at planting (2-cm bottle for 5.8 m); 25 kg/ha urea at planting (2-cm bottle for 4 m); and 47 kg/ha urea at second weeding (2-cm bottle for 3.3 m).

**Faba bean:** band apply 44 kg/ha DAP at planting (CAP for 3.3 m).

**Maize HP>4t:** apply 42 kg/ha DAP at planting (CAP for 10 plants); apply 30 kg/ha urea at planting (CAP for 8 plants); topdress 90 kg/ha (CAP for 2.6 plants).

**Maize LP<4t:** apply 42 kg/ha DAP (CAP for 10 plants) and 30 kg/ha urea at planting (CAP for 8 plants); topdress 62 kg/ha (CAP for 3.8 plants).

**Bean:** band apply 30 kg/ha DAP at planting (CAP for 4.8 m).