



**ETHIOPIA TEPID COLD SUB MOIST MID HIGHLANDS  
2000-2700 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.**

**Wheat:** broadcast 26 kg/ha DAP at planting (2-cm bottle for 10 m); and broadcast 49 kg/ha urea topdress (2-cm bottle for 3.2 m).

**Irish potato:** band apply 50 kg/ha urea at planting (CAP for 1.2 m); and band topdress 100 kg/ha urea (CAP for 0.6 m).

**Level 2 financial ability.**

**Barley:** broadcast 24 kg/ha DAP at planting (2-cm bottle for 10.6 m). Broadcast topdress 32 kg/ha urea (2-cm bottle for 9.7 m).

**Wheat:** broadcast 34 kg/ha DAP at planting (2-cm bottle for 7.8 m); broadcast 71 kg/ha urea topdress (2-cm bottle for 2.2 m).

**Faba bean:** band apply 23 kg/ha DAP (CAP for 6.2 m) and 50 kg/ha urea at planting (CAP for 1.8 m).

**Irish potato:** band apply 23 kg/ha DAP (CAP for 4.1 m) and 50 kg/ha urea at planting (CAP for 1.2 m); and band topdress 124 kg/ha urea (CAP for 0.5 m).

**Level 3 financial ability (maximizes profit per acre).**

**Barley:** broadcast 32 kg/ha DAP at planting (2-cm bottle for 8 m). Broadcast topdress 70 kg/ha urea (2-cm bottle for 2.2 m).

**Wheat:** broadcast 51 kg/ha DAP at planting (2-cm bottle for 5 m); and broadcast 71 kg/ha urea topdress (2-cm bottle for 2.2 m).

**Faba bean:** band apply 28 kg/ha DAP (CAP for 5.2 m) and 50 kg/ha urea at planting (CAP for 1.6 m).

**Irish potato:** band apply 23 kg/ha DAP (CAP for 4.2 m) and 50 kg/ha urea at planting (CAP for 1.2 m); and band topdress 124 kg/ha urea (CAP for 0.5 m).