

AEZ Tepid to cold humid mid high lands Elevation 1700-2200m

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, 70cm for sorghum, 20 cm for barley; 40 cm for faba bean; and teff is broadcast.
- **Grain prices** per kg (Et Birr): 4 maize; 5.5 sorghum,6 Barley; 12 Faba bean; and 12 teff.
- **Cost** 50 kg of fertilizer costs (Et Birr): 700 urea; 750 TSP; 850 DAP and 1500 KCl.
- Fertilizer rate \geq 25 kg/ha. Broadcast width 2m

Level 1 financial ability.

- Maize HP: point apply 48.6 kg/ha DAP (2 plants per CAP) at planting
- Maize LP: point apply 34 kg/ha urea (1.6 plants per CAP) after 3 weeks of planting
- Tef: broadcast 30 kg DAP, (5.6 m per 2-cm bottle) at planting and topdress 42.4 kg/ha urea (1.3 m per 2-cm bottle).
- Sorghum: point apply 36.5 kg/ha DAP (3.8 plants per CAP) at planting
- Barley: no input
- Faba Bean: band apply 53.6 kg/ha DAP (16 m per 2-cm bottle at planting.

Level 2 financial ability.

- Maize HP: point apply 69.4 kg/ha DAP (1.4 plants per CAP) at planting .and topdress 51 kg/ha urea (.09 plants per CAP) after 4 weeks of planting.
- Maize LP: point apply 67.5kg/ha DAP (2.2 plants per CAP) at planting and topdress 51.7 kg/ha urea (1.2 plants per CAP) after 3 weeks of planting.
- Tef: broadcast 65.2 kg/ha DAP (2.6 m per 2-cm bottle) at planting and top-dress 64.7 kg/ha urea (1.2 m 2-cm per bottle).
- Sorghum: point apply 65.7 kg/ha DAP (2 plants per CAP) at planting.
- Barley: broadcast 25kg/ha DAP (5.7 m per 2-cm bottle0 at planting.
- Faba bean: band apply 73.4 kg/ha DAP at planting (12 m per 2-cm bottle).

Level 3 financial ability (maximize profit per acre).

- Maize HP: point apply 84 kg/ha DAP, (1.2 plants per CAP) at planting and topdress 74.4 kg/ha urea (0.6 plants per CAP) after 3 weeks of planting.
- Maize LP: point apply 110 kg/ha DAP (1.0 plants per CAP) at planting and topdress 64 kg/ha urea (0.75 plants per CAP) after 3 weeks of planting.
- Tef, broadcast 90 kg/ha DAP (1.9 m per 2-cm bottle) at planting and top-dress 80 kg/ha urea (1 m per 2-cm bottle).
- Sorghum, point apply 82 kg/ha DAP (1.6 plants per CAP) at planting and topdress 42kg/ha urea, after 4 weeks (1.5 plants per CAP).
- Barley: broadcast 50 kg/ha DAP (3.4 m per 2-cm bottle) at planting and topdress 46 kg/ha urea (1.6 m per 2-cm bottle) after four weeks.
- Faba Bean: apply in band 95 kg/ha DAP (10 m per 2-cm bottle) at planting.