

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, 70 cm for sorghum, 20 cm rice; and teff is broadcast at 2m.
- **Grain prices** per kg (Et Birr): 4 maize; 5.5 sorghum; 13 rice; and 12 teff.
- **Cost** 50 kg of fertilizer costs (Et Birr): 700 urea and 850 DAP.
- Fertilizer rate \geq 25 kg/ha. Broadcast width 2m. WAP = weeks after planting.

Level 1 financial ability.

- Maize: no input.
- Tef: broadcast 79 kg Urea (2 m per 2-cm bottle) at planting.
- Rice: broadcast 50 kg Urea (3.1 m per 2-cm bottle) and 26 kg/ha DAP (9.9 m per 2-cm bottle) at planting and topdress 91 urea (1.7 m per 2-cm bottle) at panicle initiation.
- Sorghum: point apply 26 kg/ha urea (12 plants per CAP) at 4 WAP.

Level 2 financial ability.

- Maize: Point apply 31 DAP (12 plants per CAP) at planting; topdress 64 kg/ha urea (5 plants per CAP) at 4 WAP.
- Tef: broadcast 50 kg/ha Urea (3.1 m per 2-cm bottle) at planting and topdress 66 kg/ha urea (2.3 m per 2-cm bottle) at 3 WAP.
- Rice: broadcast 35.1kg/ha DAP (7.2 m per 2-cm bottle) and 100 kg/ha urea (1.5 m per 2-cm bottle) at planting and topdress 105 kg/ha urea, 1.5 m per 2-cm bottle) at panicle initiation.
- Sorghum: point apply 50 kg/ha DAP (10 plants per CAP) at planting and 39 urea (8 plants per CAP) at 3 WAP.

Level 3 financial ability (maximize profit per acre).

- Maize: point apply 50 kg/ha urea (6.5 plants per CAP) and 40 DAP (10 plants per CAP) at planting and topdress 107 kg/ha urea (3 plants per CAP) at 4 WAP.
- Tef: broadcast 50 kg/ha urea (3.1 m per 2 cm bottle) at planting and topdress 97 kg Urea (1.6 m per 2 cm bottle)
- Rice: broadcast 44.5 kg/ha DAP (5.4 m per 2-cm bottle) and 70 kg/ha urea (2.2 m per 2-cm bottle) at planting and topdress 200 kg/ha urea (0.8 m per 2-cm bottle) at panicle initiation.
- Sorghum: point apply 68 kg/ha DAP (3.9 plants per CAP) at planting and 65 kg/ha urea (4.9 plants per CAP) at 3 WAP.