



TAAT Technology: Organic & mineral fertilizer micro-dose

Link: <https://www.icrisat.org/impacts/impact-stories/icrisat-is-fertilizer-microdosing.pdf>

Technology

- Application of “three-finger pinch” or “full bottle cap” (6 g per hill for a total of 60 kg/ha for compound fertilizer NPK (15-15-15); 2 g per hill for a total of 20 kg/ha for DAP (18-46-0)) in the seed planting hole at sowing or at the base of the plants two weeks after planting
- Increase fertilizer use efficiency, reduce investment costs to resource-poor small-scale farmers, thereby increasing crop growth and productivity
- Application of two handful (equivalent to 200g dry matter) of compost in the planting hole before planting

Geographical Coverage

- The Micro-dose Fertilizer Application technology is appropriate for the Sahel poor soils and equivalent sub-Saharan African agro-ecological regions

Commodity

- Cereal, leguminous crop and vegetables

Problems Solved and Benefits

- Soil fertility
- Low crop production
- Fertilizer affordability for farmers
- Fertilizer use efficiency

Value Chain Position

- Production



Potential profitability

- Profitable as food grain and cash
- Provide better grain yield than the local landrace
- Offer significantly better food quality and quantity
- Have higher iron and zinc content, which is good against the malnutrition of children women
- Recent studies show that Millets can combat anemia, and reduced the risk of developing type 2 diabetes and were useful for managing type 2 diabetes

Licensing

- A timely applied pinch can result in crop yield increases ranging from 43% to 120%.
- Significantly increases the agronomic and the economic efficiency of nutrient and water use for smallholder farmers
- Increased fertilizer use from 13% to 27% in the pilot sites

Commercialization

- The seeds are commercially available in many countries, particularly from the private seed companies and farmers' cooperatives

Production cost (Certified seed production)

- Cost to train trainers and train farmers on the technology (Local context dependent).
- 60 kg/ha of NPK compared to 120 kg/ha for the recommended rate
- 20 kg/ha of Urea compared to 100 kg/ha recommended

Associated Technologies

- Organic and mineral fertilizer microdosing application is considered as an option of Integrated Soil Fertility management
 - This technology is also used to contribute to striga management
- It is an option used for rehabilitation of degraded land when organic fertilizer is combined with zai pits