

PRACTICE ABSTRACT n° 2

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Selection of common bean varieties and sources of bean seeds

Selection of high yielding, tolerant and early maturing varieties increases productivity of beans. In contrast, using low potential varieties in production leads to low yields and food shortage. It is vital for farmers to use quality seeds from trusted sources for ensuring good crop germination and growth and eventually good yield. Using quality seeds of improved varieties increases productivity (by 10-50%) and food and nutritional security. In the FoodLAND project, selection was made to test bean lines with high yields combined with high Fe and Zn and other preferred traits like short cooking time.

Source of seeds

- Certified seed from the agricultural inputs shops
- Quality Declared Seed (QDS) - Seed produced by farmers in communities. Certification process involves inspection by seed inspectors during seed production in seed farms
- Own saved seed that has been well preserved (recommended for use where farmers cannot access improved and certified seeds)

Desirable traits for selecting bean varieties

- High yielding
- Tolerance to diseases and insect pests
- Tolerances to abiotic factors (drought, flooding, salinity, heat)
- Having qualities attracting good consumer preference: Seed colour, seed size, Short, cooking time, and Marketability
- Improved nutritional quality (Increased Iron and Zinc)
- FoodLAND project in Tanzania have selected high yielding bean lines with increased levels of Fe (20 %) and Zn (28%) compared to local variety. The lines will be promoted for adoption as varieties by the farmers.



Healthy growing plants from good quality seeds and a good variety

Characteristics of the selected bean lines

- Fe levels: 102.5 – 150.3 mg/kg
- Zn levels: 26 – 36.7 mg/kg
- Yield: 458 - 1218 Kg/ha
- Flowering: 32.4 - 44.0days
- Maturity: 69.2 – 89.1days
- Cooking time (Unsoaked): 72 - 121min
- Cooking time (Soaked): 24 – 65min
- Relatives disease resistant (Low disease levels: Score 1 – 3)

Advantages of using good quality seeds of improved varieties

- Higher yields that increase households' food security
- Increased incomes from selling beans which are preferred by customers in the market
- Contribution to nutrition of household members and other consumers
- Improving soil fertility status through beans varieties that fix nitrogen in their root nodules.



Bean varieties with increased levels of Iron and Zinc

