

# In search of crop diversity and meaningful crop rotations

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## Technology/tool description

When farms are too small, the need to grow enough maize for food security squeezes out other crops. Farmers will say 'we practice crop rotations' yet 90% of land each year is cropped with maize. When good agronomy is used on grain legumes, the enhanced N cycling and productivity stimulates increased productivity of maize grown in sequence- becoming an incentive and attractive pathway for farmers to gradually establish parity in land allocation between legumes and cereals.



## SIAF-Based benefits

1. **Environmental:** Increased whole farm N cycling 2. **Productivity:** Increased FUE for maize grown in rotations; 3. **Human condition/nutrition:** overall farm crude protein increases >100% 4. **Economics:** increased land and labor productivity; diversified income sources. 5. **Social:** women empowerment enhanced

## Extent of gendered capacity building and scaling

Farmers were trained to plant grain legumes (groundnut and soyabean) timely and in double rows on each ridge. This alone increased yields to at least 1 Mg/ha. Women were trained to value add grain legumes through nutrition training, producing nutritious products, especially for the under 5 children

## Lessons learned

- Maize monoculture is pervasive, and contributes to continued degradation on farms
- There is need for policies that promote increased integration of legumes on farms to facilitate systematic rotations or intercropping
- Improved legume seed availability enables implementation of systematic rotations

## Challenges and gaps

- Soils are poor, NP fertilizers are also needed to complement the ecological benefits of rotations
- Farmers need to be trained more on proper weed management – to realize optimum benefits from crop rotations

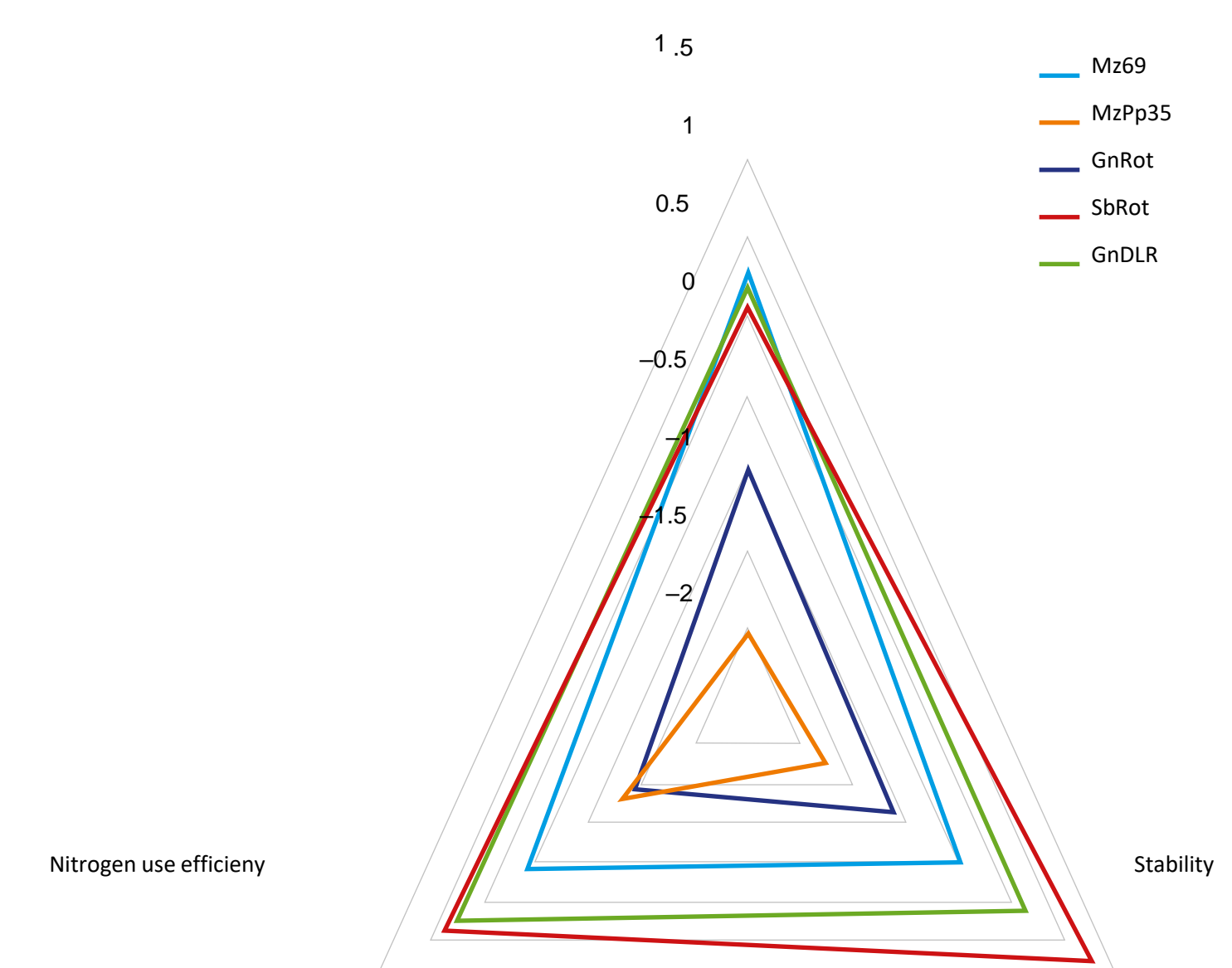
## Deliverables

Chikowo, R. and S. Snapp, Irmgard Hoeschle-Zeledon, 2016. Groundnut Production in Malawi: The cash 'cow' and butter that nourishes families. Brief No. 9. Africa RISING and Michigan State University. [Africa-rising.net](http://Africa-rising.net)

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Productivity, yield stability and NUE for different systems