



A photo showing an optimum intercropping pattern of maize (zea mays) and groundnuts (arachis hypogaea) (Jalia Namakula)

# Intercropping Maize and Ground Nuts for Optimum Land Utilisation, Increased Food Production, Household Income and Food Security ( )

Rub Kodi

**Improved maize (zea mays)-groundnuts (arachis hypogaea) optimum intercropping pattern is a technology promoted by IITA (International Institute for Tropical Agriculture) among small scale farmers through demonstrations /trials. It is promoted for improving food and income security and optimum land utilisation.**

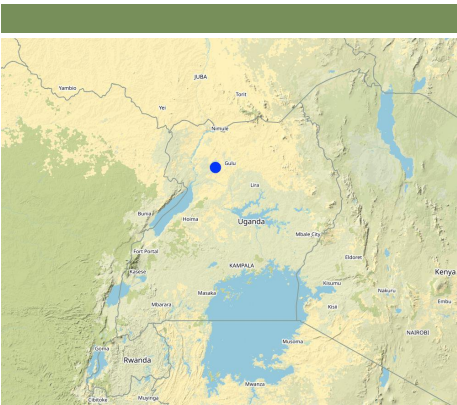
The International Institute of Tropical Agriculture (IITA) has been promoting smart intercropping patterns in Nwoya District, Northern Uganda. The inter crops promoted are based on maize-legume sustainable intensification farming systems with focus on conservation farming as a technology. This technology is promoted because it reduces management inputs costs such as labour for weeding and application of fertilizers which results into sustainable systems and if efficiently used to potentially replenish natural resources. The demonstration/ trial is located in Alero Sub County, Nwoya District, which on average receives 1200 mm of rainfall annually established on a reddish soil with relatively low soil organic matter on a plot size of 180 m<sup>2</sup> planted with groundnuts as the major crop spaced at 30cm×10cm and maize intercrop at a spacing of 225 cm×60cm, such that within every 5 lines of groundnuts one line of maize is planted.

The groundnuts (local red variety called red beauty) are locally obtained from the nearby local market, while the maize is an open pollinated variety (Longe 5) bought from the local agro input dealer. The inter crop was planted to increase productivity and reduce the risk of total crop failure.

Prior to establishment, Riber farmers group selected a site close to the road to act as there demo/plot. The plot was slashed, sprayed with glyphosate and then marked using 60-cm pegs to get the correct spacing and proper plant population. Ground nuts were planted first then the maize planted a fortnight later using the following inputs 3 kg of maize bought at UGX 1500, 15 kg of groundnuts bought at UGX 5000 and 1 litre of liquid fertiliser at UGX 15000 and 1 litre of glyphosate bought at UGX 20,000.

Intercropping is majorly preferred by farmers because it enhances maximum utilization of land, reduces risk of total crop failure, and increases income and food security. It also acts as a means of weed management. In some inter cropping systems, the legumes act as soil cover and fix atmospheric nitrogen in the soil, and promote product diversity for food security and income generation.

However weeding an inter crops is challenging compared to weeding a pure stand and encourages competition for resources such as soil nutrients, moisture and light, which may affect crop productivity. Its therefore recommend that the farmer keep in touch with the extension worker for advisory services ( proper management, pests and diseases management)



: Bwobo nam, Alero Sub-county, Nwoya District, Northern Uganda,

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● 31.95018, 2.6663		
2 (10 )	)	: (approx. < 0.1
		?:
10 ( )		: 2016;
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A photo showing a maize-groundnut intercrop in Nwoya District. (Jalia Namakula)



A photo showing the maize and groundnuts intercropping pattern with groundnut planted as the major crop (Jalia Namakula)



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
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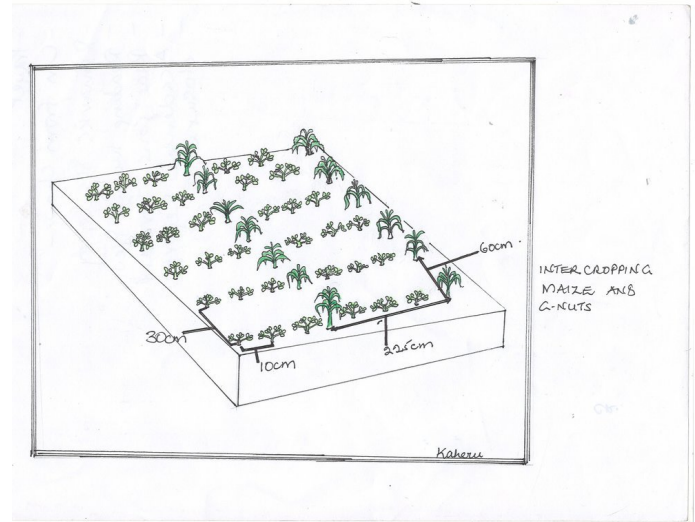


SLM

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, A5: / , A2:





Author: Prossy Kaheru

- ( Labour is the most important factor affecting costs.
- **180m<sup>2</sup>**
- = 0.018 ha)
- **UGX**
- ( ) 1 USD = 3680.0
- UGX
- 3000/=

1. Bush clearing ( / : January)
2. Slashing and spraying ( / : January)
3. Field marking ( / : January)
4. Planting both maize and beans ( / : March)

			(UGX)	(UGX)	%
Slashing	People	15,0	3000,0	45000,0	100,0
Ploughing	People	15,0	3000,0	45000,0	100,0
Field Marking	People	15,0	3000,0	45000,0	100,0
Planting	People	15,0	3000,0	45000,0	100,0
Strings	Piece	1,0	8000,0	8000,0	100,0
Planting Pegs	bundle	2,0	5000,0	10000,0	100,0
Tape Measure	Piece	1,0	25000,0	25000,0	100,0
Groundnuts	kg	15,0	2500,0	37500,0	100,0
Longe5 (maize)	kg	3,0	1500,0	4500,0	100,0
Liquid fertiliser (DI grow)	Ltr	1,0	15000,0	15000,0	100,0
				<b>280'000.0</b>	

1. Weeding ( / : April)
2. Spraying ( / : fort night)

			(UGX)	(UGX)	%
Weeding	people	15,0	3000,0	45000,0	100,0
spraying	people	1,0	3000,0	3000,0	100,0

knapsacks sprayer	Piece	1,0	55000,0	55000,0	100,0
				<b>103'000.0</b>	



1100.0

The first season starts in March-June , season 2016A and B the rains have not been sufficient, the second season starts in September - November and the dry spell begins in December - March

- < 250
- 251-500
- 501-750
- 751-1,000
- 1,001-1,500
- 1,501-2,000
- 2,001-3,000
- 3,001-4,000
- > 4,000

- (0-2%)
- (3-5%)
- (6-10%)
- 15%
- (16-30%)
- (31-60%)
- (>60%)

- 0-100
- 101-500
- 501-1,000
- 1,001-1,500
- 1,501-2,000
- 2,001-2,500
- 2,501-3,000
- 3,001-4,000
- > 4,000

- (0-20 )
- (21-50 )
- (51-80 )
- (81-120 )
- (> 120 )

- (> 20 )
- (>3%)
- (1-3%)
- (<1%)

- < 5
- 5-50
- > 50

- ( )
- ( )
- ( )
- ( )

- ( )
- ( )

**SLM**

- ( )
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- 10%
- 10-50%
- 50%

- ( )
- ( )
- ( )

- ( )
- ( )
- ( )

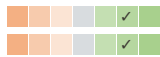
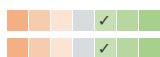
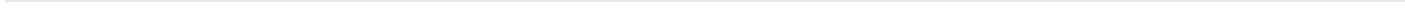
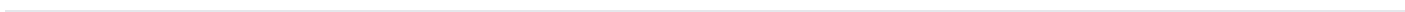
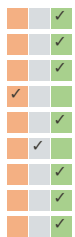
- < 0.5
- 0.5-1
- 1-2
- 2-5
- 5-15
- 15-50

- Customary
- Customary

- 50-100
- 100-500
- 500-1,000
- 1,000-10,000
- > 10,000

- ) ( )
- ( )
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The intercrops are an annual enterprise therefore benefits are realised in the short term. the group indicated that they planted one(1) kg of maize seed the previous season and got 200kgs after harvesting. however in this particular season the harvests were not yet made



- /
- 11-50%
- > 50%

- ?
- 0-10%
- 11-50%
- 51-90%
- 91-100%

The group has a membership of 35 people all the group members have transferred the technology into their own farms.



- The technology is good at Improving crop yield due to the crop, nutrients, fertility
- Inter cropping leads to weed suppression
- The technology controls pest and disease incidence.

- Weeding in intercrops is cumbersome weed when crops are still young
- It is not easy to use chemical weed control in intercrops This is overcome by spraying weeds before planting hence reducing on

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- Legumes act as soil cover hence reduction in soil moisture
- Reduces risk of total crop failure. In case the drought starts early the farmer would have already harvested the legumes.
- Improve soil fertility resulting from the legumes fixing nitrogen in the soils

their vigour and also weeding early

- sometimes the right plant population is not got reducing on the crop yields of intercrops This is overcome by marking the correct spacing of the major crop to atleast get optimum plant population for the major crop

/ / :

- some times there is competition for nutrients and water between the crops Applying of basal nitrogenous fertilisers
- Sometimes inter cropping may lead to entiolation and poor growth of crops This can be overcome by planting the legume before planting the cereal. This is done to allow the legumes grow fast so as they dont get affected by too mush shade
- Late maturing crops are usually damaged during harvesting of the early maturing crops This is overcome by planting in rows and being careful while harvesting the early maturity crops.



Jalia Namakula

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: 11

2017

: 18

2022

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[https://qcat.wocat.net/km/wocat/technologies/view/technologies\\_2929/](https://qcat.wocat.net/km/wocat/technologies/view/technologies_2929/)

**SLM**

- CDE Centre for Development and Environment (CDE Centre for Development and Environment) -
- Scaling-up SLM practices by smallholder farmers (IFAD)

- Effect of Summer Maize-Legume Intercropping System on Growth, Productivity, Pilli Manassa , 2018: Open access

- Maize/peanut intercropping increases land productivity: A meta-analysis: <https://www.sciencedirect.com/science/article/pii/S0378429021001544>

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