



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

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## Brochure

AGRO-INPUT PACKAGES FOR NIGERIA

**PAIRED EnGRAIS**  
led by CORAF



**USAID**  
FROM THE AMERICAN PEOPLE




## Introduction

Poor agricultural productivity in West African countries and Chad is partly related to the insufficient use of suitable agricultural inputs, including improved seed varieties and appropriate fertilizers. Indeed, it is generally said that in this region the rate of coverage of quality certified seed requirements is still around 25% and that the average amount of nutrients used in ECOWAS region is about 17 kg/ha of nutrients less than half of the 50 kg/ha set to be achieved by 2015 as advocated by the Abuja Summit of June 2006, below the 24 kg/ha of nutrients on average for Africa and far below the world average of 123 kg per hectare of nutrients. Among the many reasons that have caused this situation is the poor availability and accessibility of quality inputs and poor access to agricultural extensions services, to knowledge and in short to accurate information about agricultural inputs.

The Feed the Future Partnership for Agricultural Research, Education and Development (PAIRED) and Enhancing Growth through Regional Agricultural Inputs Systems (EnGRAIS) are two, five-year (2017-2022 and 2018-2023, respectively) projects funded by the United States Agency for International Development West Africa Regional Mission (USAID/WA) and implemented by the West and Central African Council for Agricultural Research and Development (CORAF) and the International Fertilizer Development Center (IFDC), respectively. PAIRED and EnGRAIS, within the framework of their close cooperation and backed by their implementers, have a common objective to develop and make available to West African producers and other agricultural sector actors both agricultural input packages (AIPs) and an online platform as decision making tools. The AIPs contain information on locally adapted improved seeds, appropriate fertilizers, and information on good agricultural practices (GAPs) specific to each crop variety and agro-ecological zone (AEZ) across West Africa and Chad designed to boost agricultural yields and productivity.

EnGRAIS and PAIRED projects, have a common objective that aims to develop and make available to producers in West Africa AIPs and an online platform that will enable the actors of the agricultural sector to have information on improved seeds, appropriate fertilizer recommendations and GAPs for the main crops of the region according to the different AEZs to boost agricultural yields and productivity. To this end, they have developed AIPs and the Fertilizer and Seed Recommendations for West Africa Map, (FeSeRWAM) platform ([www.feserwam.org](http://www.feserwam.org)). The FeSeRWAM platform is the successor of the Fertilizer recommendations for West Africa Map, (FeRWAM), and will be deployed online as well as the associated AIPs, to be available to all stakeholders. The AIPs are embedded in the FeSeRWAM platform, accessible online via internet, cell phones, computers and several other means of dissemination are planned.

EnGRAIS and PAIRED to ensure that access to online documents is not a hindrance for the main targets which are private and public extension agents, fertilizer, and seed dealers have decided to produce these catalogs that can be used in the field to sensitize, advise and train the end users which are farmers. Therefore, country catalogs have been developed and a regional catalog which partly covers the region for this first version but whose goal is to cover all the countries of

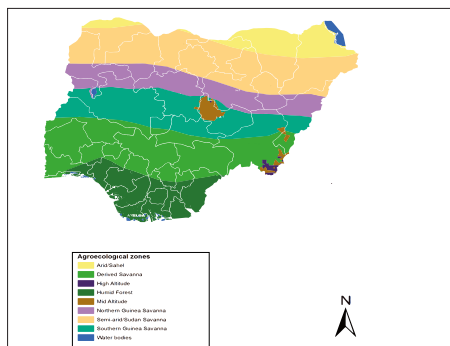


the ECOWAS area, Chad, and Mauritania. These country catalogs and the regional one is of course likely to be revised periodically to consider new technologies but also the demand of the beneficiaries.

In the country as well as regional booklet, the AIPs are organized by crop. The booklet is a synthesis of the most relevant technical information with some illustrations to guide the technicians in their dialogue with the producers so that, depending on his specific locality, the producer can produce efficiently through judicious choices of crops seed/ varieties, appropriate fertilizers, GAP's and have a good technical instruction that will guide them to obtain optimal production. For this reason, the AIP booklet provides information on the Crop (varieties, varietal characteristics, local names, performance, and resistance to various constraints), Fertilizer (nutrient recommendations, type of fertilizer, rates, periods, mode of application and appropriate organic fertilizer) , Crop Management ( tillage, water management, weed management, crop residue management, management of organic manure and organo-mineral amendments), and the Locality( regional AEZ, country AEZ, specific locations and many other relevant information).



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO, EKITI, ILE-IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION**



Crop name	Cassava
Variety name	NICASS 20
Local name	TME419
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/ hectare)	60
Seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	White
Planting / Sowing Time	"Forest Zone: 1st April - 30th June: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th July: first season 1st August - 30th October: second season"
Production system	Rainfall
Number of days from sowing / planting to maturity	300
Potential Yield	>25 tonnes/ha
country average	>25 tonnes/ha
Pest resistance	
Disease resistance	Cassava Mosaic Disease
Other stresses	
Nutritional quality	
Other qualities	High yielding, High Dry matter, High Starch, Early bulking, Poundable

**NUTRIENT RECOMMENDATION**



90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION**



**Application rate:** When possible  
**Time of Application:** If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



**Application rate:** 750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade")

**Time of Application:** 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



**Application rate:** 600kg of NPK 15-15-15 ("16 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade")

**Time of Application:** 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



**Application rate:** 450kg of NPK 20-10-10 ("17 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade")

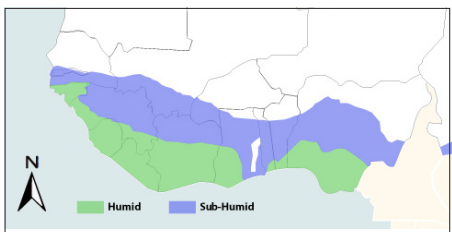
**Time of Application:** 8 Weeks After Sowing (only one application found to make more economic sense for farmers)



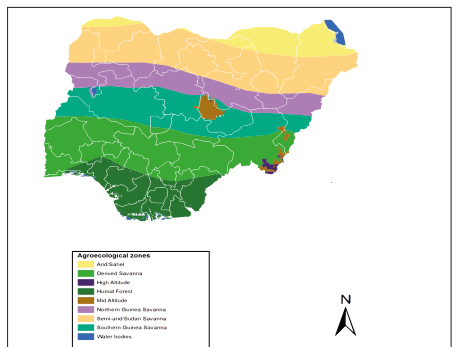
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM). Fungicides, insecticides, Seed treatment
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant: Glyphosate and Paraquat Selective:"
Cropping System	Rotation. Shallow rooted crops, Like Maize sorghum, and legumes



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION**



Crop name	Cassava
Variety name	NICASSI
Local name	TMS 3572
Synonym	Idi-oshe
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/hectare)	60
seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	White
Planting / Sowing Time	"Forest Zone: 1st April - 30th June: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th July: first season 1st August - 30th October: second season"
Production system	Rained
Number of days from sowing / planting to maturity	300
Potential Yield	>35
country average	>35
Pest resistance	
Disease resistance	Moderate resistance to Cassava Mosaic Disease
Other stresses	
Nutritional quality	
Other qualities	"High yielding High Dry matter, Early bulking, High starch"

**NUTRIENT RECOMMENDATION**



90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate: 750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade")

Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



Application rate: 600kg of NPK 15-15-15 ("16 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade")

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Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds, Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM), Fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant: Glyphosate and Paraquat Selective: "
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



**DESCRIPTION** 

Crop name	Cassava
Variety name	NICAS2
Local name	TMS-4(2)-1425
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/ hectare)	60
seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	White
Planting / Sowing Time	"Forest Zone: 1st April - 30th June: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th July: first season 1st August - 30th October: second season"
Production system	Rainfall
Number of days from sowing / planting to maturity	300
Potential Yield	>35 tonnes/ha
country average	>35 tonnes/ha
Pest resistance	
Disease resistance	Moderate resistance to Cassava Mosaic Disease
Other stresses	
Nutritional quality	Low Cyanide content
Other qualities	"High yielding High Dry matter, Early bulking, High starch"

**NUTRIENT RECOMMENDATION** 

90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION** 

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** 1

Application rate:	750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"
Time of Application:	8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION** 2

Application rate:	600kg of NPK 15-15-15 ("16 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"
Time of Application:	8 Weeks After Sowing (only one application found to make more economic sense for farmers)

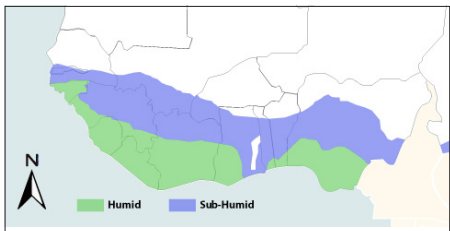
**FERTILIZER SPECIFICATION** 2

Application rate:	450kg of NPK 20-10-10 ("17 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"
Time of Application:	8 Weeks After Sowing (only one application found to make more economic sense for farmers)

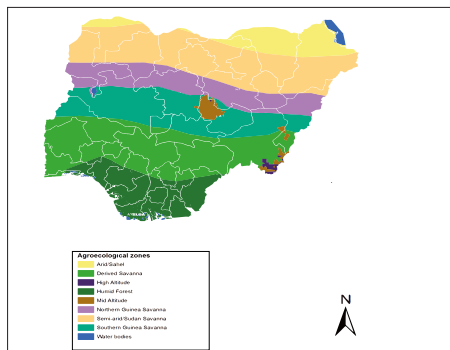


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds, Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM), Fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide, Pre plant: Glyphosate and Paraquat Selective: ?? "
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)

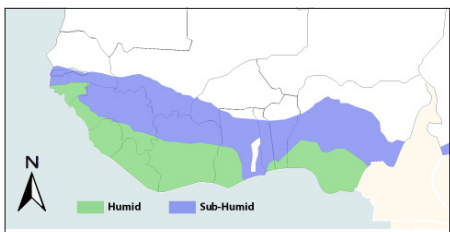


WEST AFRICA AGRO-ECOLOGICAL ZONE  
HUMID, SUB-HUMID

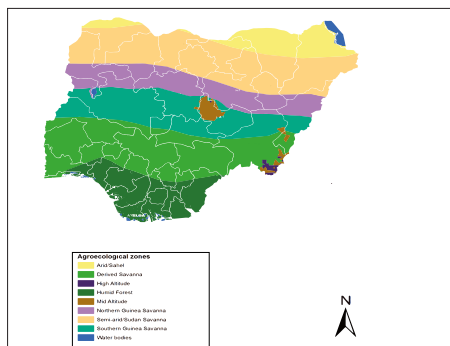


COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI  
Isohyet range (mm/year) > 1000 - 3000



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION**



Crop name	Cassava
Variety name	UMUCASS 36
Local name	IITA TMS 1011368
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/ hectare)	60
Seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	Yellow
Planting / Sowing Time	"Forest Zone: 1st April - 30th june: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th july: first season 1st August - 30th October: second season"
Production system	Rainfall
Number of days from sowing / planting to maturity	330
Potential Yield	46.5
country average	46.5
Pest resistance	
Disease resistance	Moderate resistance to Cassava Mosaic Disease
Other stresses	
Nutritional quality	High beta Carotene (vitamine A)
Other qualities	"High yielding Suitable for Gari and Fufu High quality cassava flour "

**NUTRIENT RECOMMENDATION**



90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate: 750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



Application rate: 600kg of NPK 15-15-15 ("16 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

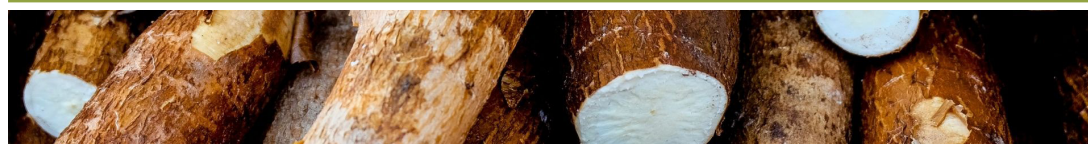
Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



Application rate: 450kg of NPK 20-10-10 ("17 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

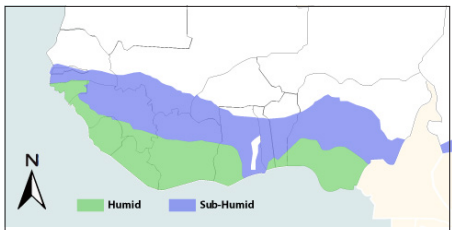
Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)



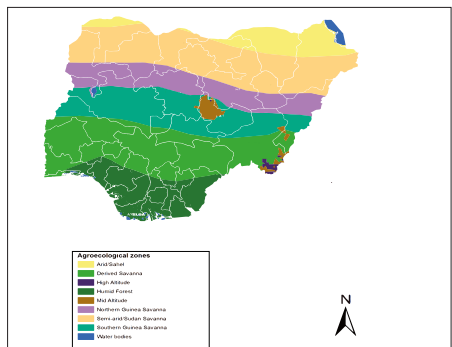
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM). Fungicides, insecticides, Seed treatment
Weed Control	Good agricultural practices (mechanical weeding) and herbicide. Pre plant: Glyphosate and Paraquat
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION**



Crop name	Cassava
Variety name	UMUCASS 42
Local name	IITA TMS 1 982132
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/ hectare)	60
seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	Light Yellow. Fresh Root Color
Planting / Sowing Time	"Forest Zone: 1st April - 30th june: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th july: first season 1st August - 30th October: second season"
Production system	Rainfall
Number of days from sowing / planting to maturity	300
Potential Yield	49.5 tonnes/ha
country average	49.5 tonnes/ha
Pest resistance	
Disease resistance	Moderate resistance to Cassava Mosaic Disease
Other stresses	Drought Tolerant. Retention of leaves during dry Season
Nutritional quality	Moderate beta Carotene (vitamine A)
Other qualities	"High yielding High Dry matter, Early bulking"

**NUTRIENT RECOMMENDATION**



90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



Application rate: 750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



Application rate: 600kg of NPK 15-15-15 ("16 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

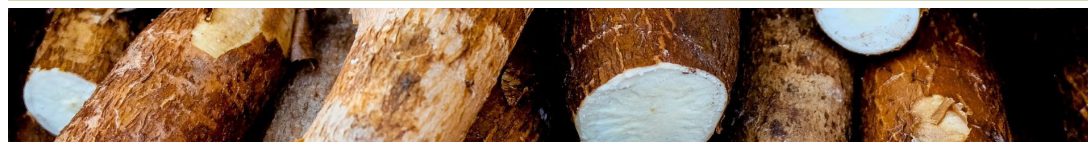
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**FERTILIZER SPECIFICATION**



Application rate: 450kg of NPK 20-10-10 ("17 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

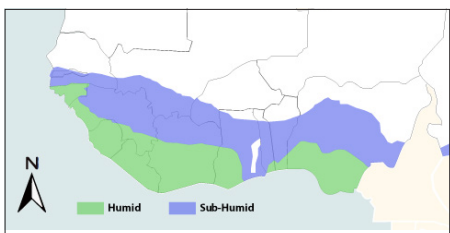
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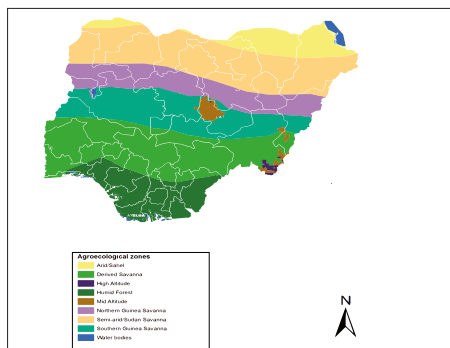
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM). Fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide Pre plant: Glyphosate and Paraquat Selective "
Cropping System	Rotation. Shallow rooted crops, Like Maize sorghum, and legumes



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION** ✓

Crop name	Cassava
Variety name	UMUCASS 43
Local name	IITATMS 1011206
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/hectare)	60
seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	Light Yellow
Planting / Sowing Time	"Forest Zone: 1st April - 30th june: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th july: first season 1st August - 30th October: second season"
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	300
Potential Yield	53 tonnes/ha
country average	53 tonnes/ha
Pest resistance	
Disease resistance	Moderate resistance to Cassava Mosaic Disease
Other stresses	Drought Tolerant. Retention of leaves during dry Season
Nutritional quality	"Moderate beta Carotene (vitamine A) Low fiber content"

**NUTRIENT RECOMMENDATION** 🔄

90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION** ①

Application rate: 750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION** ②

Application rate: 600kg of NPK 15-15-15 ("16 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION** ②

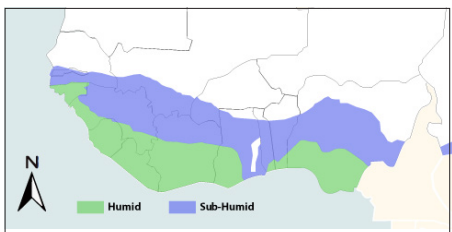
Application rate: 450kg of NPK 20-10-10 ("17 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended or 12 x 50 kg bags of NPK 15-15-15 per ha or 9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade"

Time of Application: 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

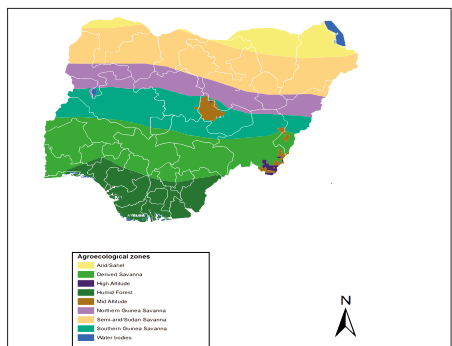


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds, Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM), Fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide, Pre plant: Glyphosate and Paraquat Selective: ?? "
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION**



Crop name	Cassava
Variety name	UMUCASS 44
Local name	NR07/0220
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/ hectare)	60
seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	Deep Yellow
Planting / Sowing Time	"Forest Zone: 1st April - 30th june: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th july: first season 1st August - 30th October: second season"
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	300
Potential Yield	36 tonnes/ha
country average	36 tonnes/ha
Pest resistance	
Disease resistance	Moderate resistance to Cassava Mosaic Disease
Other stresses	Drought Tolerant. Retention of leaves during dry Season
Nutritional quality	"High beta Carotene (vitamine A) Low fiber content"
Other qualities	High yielding, Early bulking

**NUTRIENT RECOMMENDATION**



90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION**



**Application rate:** When possible  
**Time of Application:** If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



**Application rate:** 750kg of NPK 12-12-17+2MgO ("15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended)  
**Time of Application:** 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**

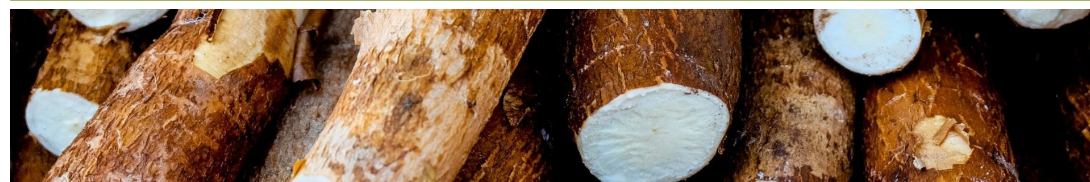


**Application rate:** 600kg of NPK 15-15-15 (12 x 50 kg bags of NPK 15-15-15 per ha)  
**Time of Application:** 8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



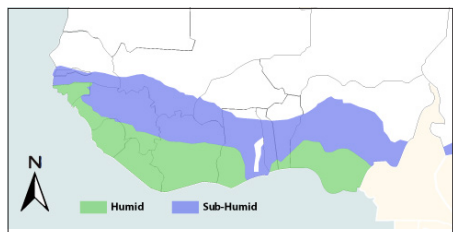
**Application rate:** 450kg of NPK 20-10-10 (9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade)  
**Time of Application:** 8 Weeks After Sowing (only one application found to make more economic sense for farmers)



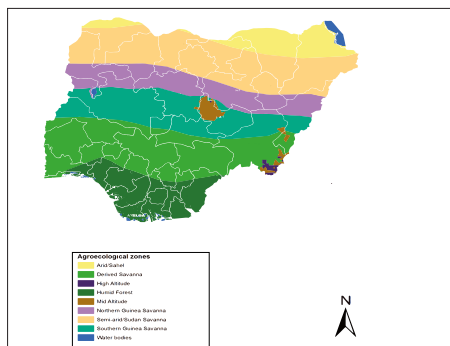
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM) Fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide Pre plant: Glyphosate and Paraquat Selective "
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ADO EKITI, ILE IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI**  
Isohyet range (mm/year) > 1000 - 3000

**DESCRIPTION**



Crop name	Cassava
Variety name	UMUCASS 46
Local name	TMS 07/0539
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (bundle/ hectare)	60
seed unit	Kg/ha
Spacing	1m by 1m or 1m by 0.8m
Grain/Flesh Color	Deep Yellow
Planting / Sowing Time	"Forest Zone: 1st April - 30th June: first season 1st August - 30th October: second season Savanna Zone: 1st June -30th July: first season 1st August - 30th October: second season"
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	300
Potential Yield	32 tonnes/ha
country average	32 tonnes/ha
Pest resistance	
Disease resistance	Highly resistant to Cassava Mosaic Disease
Other stresses	Drought Tolerant. Retention of leaves during dry Season
Nutritional quality	High beta Carotene (vitamine A). Low fiber content
Other qualities	High yielding, Early bulking

**NUTRIENT RECOMMENDATION**



90N-47P2O5-90K2O+15MgO

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



Application rate:	750kg of NPK 12-12-17+2MgO (*15 x 50 kg bags of NPK 12-12-17+2MgO per ha Best Grade recommended)
Time of Application:	8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**

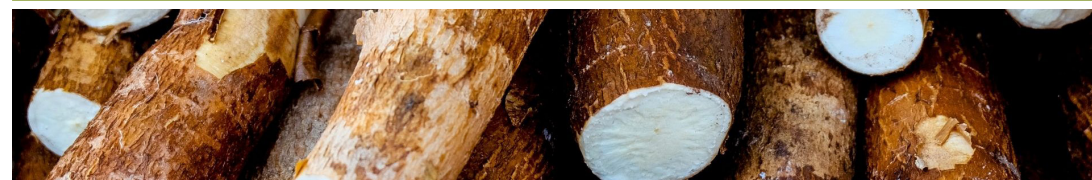


Application rate:	600kg of NPK 15-15-15 (12 x 50 kg bags of NPK 15-15-15 per ha)
Time of Application:	8 Weeks After Sowing (only one application found to make more economic sense for farmers)

**FERTILIZER SPECIFICATION**



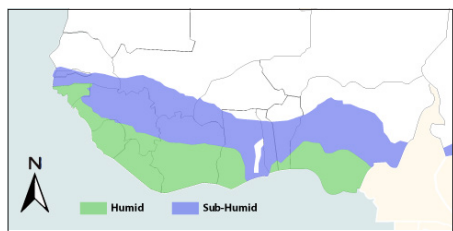
Application rate:	450kg of NPK 20-10-10 (9 x 50 kg bags of NPK 20-10-10 per ha Most Available Grade)
Time of Application:	8 Weeks After Sowing (only one application found to make more economic sense for farmers)



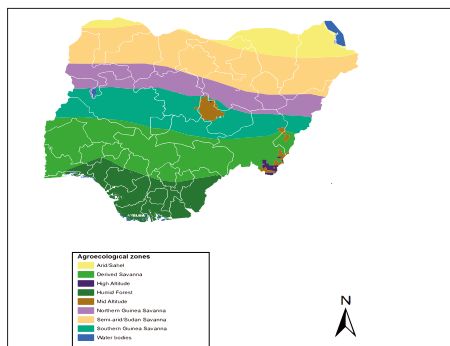
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	Control Mealy bugs (IPM). Fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide Pre plant: Glyphosate and Paraquat Selective: ?? "
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST, DERIVED SAVANNA - ADO EKITI, ILE IFE, ENUGU, IKOM, UMUAHIA, LOKOJA, MAKURDI, IBADAN, AKURE**  
Isohyet range (mm/year) > 2000 - 3000

**DESCRIPTION** ✓

Crop name	Cocoa
Variety name	CRINT cI
Local name	NGTC-10-7
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (seedlings/hectare)	1111
seed unit	Kg/ha
Spacing	3m by 3m
Fresh Matured Pod Color	Yellow/Red
Planting / Sowing Time	Perennial
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	1095
Potential Yield	3
country average	3
Pest resistance	
Disease resistance	
Other stresses	
Nutritional quality	High Magnesium
Other qualities	Early Maturity. Acceptable cocoa base quality

**NUTRIENT RECOMMENDATION** 🔄

60N-139P2O5-199K2O

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	860kg of NPK 20-10-10 ("17.2 x 50 kg bags/ha Banding around the three canopy for old crops")
Time of Application:	Once in a year at the beginning of raining season



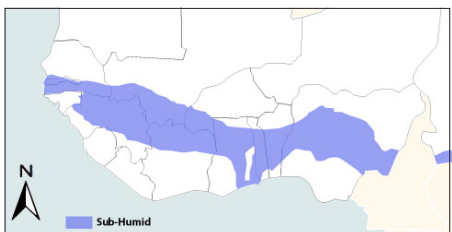
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow, Stone line, Mulching, grass strips, minimum/zero tillage are recommended
Method of fertilizer application	Banding around the three canopy for old crops, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	Mulching
Pest and Disease Management	"Control Mealy bugs and Pod Millers (IPM) Capsids, Fungicides, insecticides, Seed treatment, "
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide, Glyphosate and Paraquat Pre plant "
Cropping System	Provide Shading for cocoa seedlings to be transplanted, Pruning of matured trees, Plantain tree Or natural trees can be used to provide shade

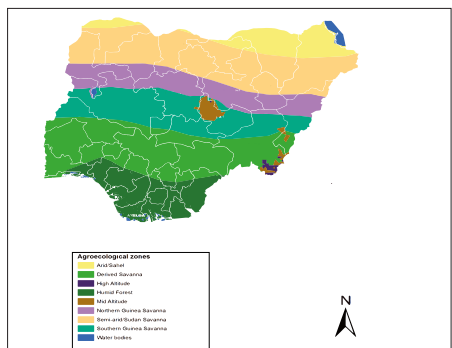


**DESCRIPTION** ✓

Crop name	Cotton
Variety name	SAMCOT 10
Local name	RASA (74) 165
Synonym	
Variety Type	
Quantity of seed (kg/ hectare)	15-20. Vегatively propagated
seed unit	kg/ha
Spacing	90cm by 45cm.
Grain/Flesh Color	White
Planting / Sowing Time	15th May - 30th June
Production system	Rainfall
Number of days from sowing / planting to maturity	130-150
Potential Yield	1.5-2 tonnes/ha
country average	1.5-2 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	Medium Staple (2830mm), fine lint with good luster.
Nutritional quality	
Other qualities	



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**NORTHERN GUINEA SAVANNA**  
Isohyet range (mm/year) > 900 - 1500

**FERTILIZER SPECIFICATION** ①

Application rate:	150kg of NPK 20-10-10 (3 x 50 kg bags/ha )
Time of Application:	2-3 weeks after Sowing



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes. Stone line, Mulching, grass strips, bunding, tie-ridging, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	Bunding
Pest Management	Control cotton boll worms, leaf rollers, leaf miners, suckers by IPM
Weed Control	Good agricultural practices (mechanical weeding) and herbicide. Glyphosate
Cropping System	Rotation with Cereals

**NUTRIENT RECOMMENDATION** 🔄

60N-25P2O5-20K2O+S+0.75B+Mn+Ca+Mg+Zn

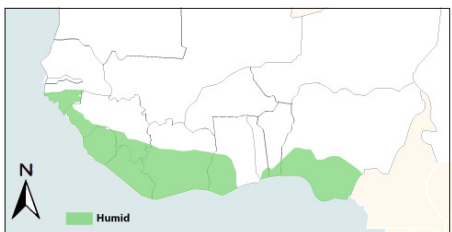
**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

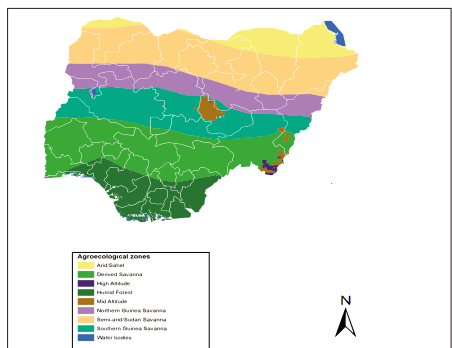


**DESCRIPTION** ✓

Crop name	Cotton
Variety name	SAMCOT 11
Local name	BAR XL4 (79)36
Synonym	
Variety Type	
Quantity of seed (kg/ hectare)	15-20
seed unit	kg/ha
Spacing	90cm by 45cm.
Grain/Flesh Color	White
Planting / Sowing Time	15th May-30th June. Unimodal
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	130-150
Potential Yield	1.5-2 tonnes/ha
country average	1.5-2 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	
Nutritional quality	
Other qualities	



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST**  
Isohyet range (mm/year) > 1500 - 3000

**FERTILIZER SPECIFICATION** ①

Application rate:	150kg of NPK 20-10-10 (3 x 50 kg bags/ha )
Time of Application:	2-3 weeks after Sowing



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes. Stone line, Mulching, grass strips, bunding, tie-ridging, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	Bunding
Pest Management	Contol cotton boll worms, leaf rollers, leaf miners, suckers by IPM
Weed Control	Good agricultural practices (mechanical weeding) and herbicide. Glyphosate
Cropping System	Rotation with Cereals

**NUTRIENT RECOMMENDATION** 🔄

60N-25P2O5-20K2O+S+0.75B+Mn+Ca+Mg+Zn

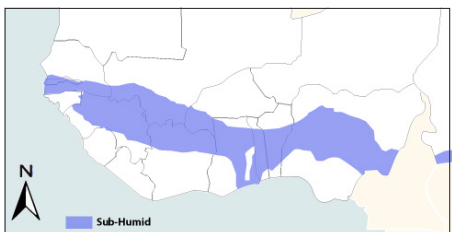
**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

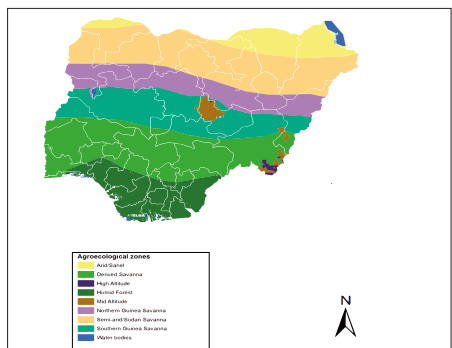


**DESCRIPTION** 

Crop name	Cotton
Variety name	SAMCOT 12
Local name	PIMAS
Synonym	
Variety Type	
Quantity of seed (kg/ hectare)	15-20
seed unit	kg/ha
Spacing	90cm by 45cm. 4-6 seed per hole
Grain/Flesh Color	White
Planting / Sowing Time	15th May-30th June
Production system	Rainfall
Number of days from sowing / planting to maturity	100-130
Potential Yield	1.5-2
country average	1.5-2
Pest resistance	
Disease resistance	
Other stresses	Long Staple
Nutritional quality	
Other qualities	



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**NORTHERN GUINEA SAVANNA**  
Isohyet range (mm/year) > 900 - 1500

**FERTILIZER SPECIFICATION** 

Application rate:	150kg of NPK 20-10-10 (3 x 50 kg bags/ha )
Time of Application:	2-3 weeks after Sowing



**NUTRIENT RECOMMENDATION** 

60N-25P2O5-20K2O+S+0.75B+Mn+Ca+Mg+Zn

**ORGANIC FERTILIZER RECOMMENDATION** 

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

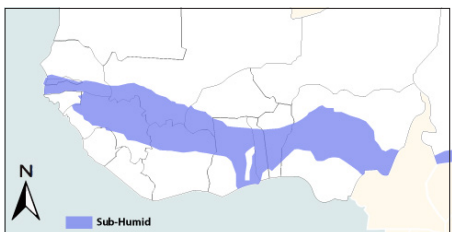
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes. Stone line, Mulching, grass strips, bunding, tie-ridging, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	Bunding
Pest Management	Contol cotton boll worms, leaf rollers, leaf miners, suckers by IPM
Weed Control	Good agricultural practices (mechanical weeding) and herbicide. Glyphosate
Cropping System	Rotation with Cereals

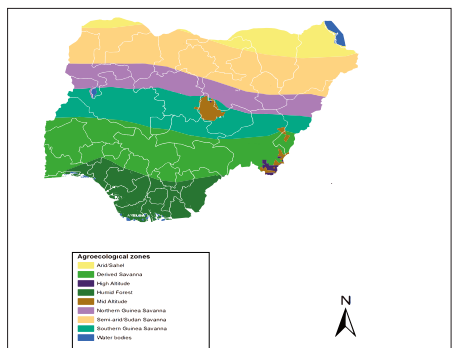


**DESCRIPTION** ✓

Crop name	Cotton
Variety name	SAMCOT 13
Local name	GIZA 45
Synonym	
Variety Type	hybrid
Quantity of seed (kg/ hectare)	15-20
seed unit	15-20
Spacing	90cm by 45cm.
Grain/Flesh Color	White
Planting / Sowing Time	15th May-30th June, Unimodal
Production system	Rainfed
Number of days from sowing / planting to maturity	130-150
Potential Yield	1.5-2 tonnes/ha
country average	1.5-2 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	Long Staple
Nutritional quality	
Other qualities	



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**NORTHERN GUINEA SAVANNA**  
Isohyet range (mm/year) > 900 - 1500

**FERTILIZER SPECIFICATION** ①

Application rate:	150kg of NPK 20-10-10 (3 x 50 kg bags/ha )
Time of Application:	2-3 weeks after Sowing



**NUTRIENT RECOMMENDATION** ⌘

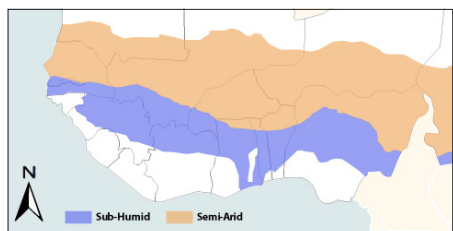
60N-25P2O5-20K2O+S+0.75B+Mn+Ca+Mg+Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

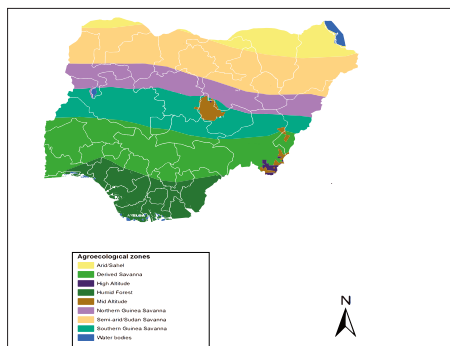
Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes. Stone line, Mulching, grass strips, bunding, tie-ridging, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	Bunding
Pest Management	Control cotton boll worms, leaf rollers, leaf miners, suckers by IPM
Weed Control	Good agricultural practices (mechanical weeding) and herbicide. Glyphosate
Cropping System	Rotation with Cereals



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB-HUMID, SEMI-ARID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA -ZARIA, DAURA, MICHKA, KUMBO,CHIROMAWA, FASKARI, BAGUDO, ZURU, CHAM, KALTUNGO, KACHIA, BIDA, ANYAGBA  
Isohyet range (mm/year) > 500-1200

**DESCRIPTION**



Crop name	Cowpea
Variety name	Ife brown
Local name	Ife brown
Synonym	IRAWO
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	25-30
seed unit	Kg/ha
Spacing	25cm by 75cm
Grain/Flesh Color	Brown
Planting / Sowing Time	15 July to 30th July
Production system	Rainfall
Number of days from sowing / planting to maturity	90-105
Potential Yield	3.5 tonnes/ha
country average	3.5 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION**



210N-36P205-20K20

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	22kg of Urea ( ½ x 50kg bag )
Time of Application:	Applied pre-plant,

**FERTILIZER SPECIFICATION**



Application rate:	200kg of SSP ( 4 x 50kg bags )
Time of Application:	Applied pre-plant,

**FERTILIZER SPECIFICATION**



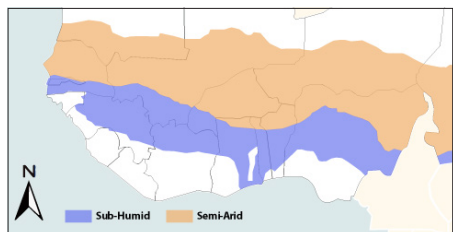
Application rate:	33kg of MOP ( 0.66 x 50kg bag )
Time of Application:	Applied pre-plant,



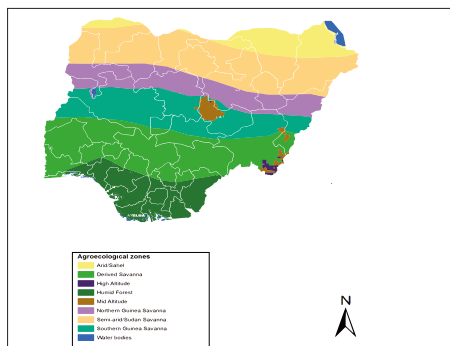
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcast and incorporated into the seedbeds before ridging
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disease use Apply Dithane M-45 (Mancozeb) Calizim-m, BAS - 350 to control leaf spot rust
Weed Control	"(i) 1.5kg a.i. Metolachlor + 1.0kg a.i. Prometyne (3 litres Dual 500EC + 2 litres Gesagard 500FW (4 litres Codal 400EC)/ha . (ii) 1.5kg a.i. Metolachlor + 0.8kg a.i. Diuron (3 litres Dual 500EC + 1kg Karmex 80WP)/ha"
Cropping System	Cereal legume. Sole cropping, mixed cropping, relay cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB-HUMID, SEMI-ARID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA -ZARIA, DAURA, MICHKA, KUMBO,CHIROMAWA, FASKARI, BAGUDO, ZURU, CHAM, KALTUNGO, KACHIA, BIDA, ANYAGBA  
Isohyet range (mm/year) > 500-1200

**DESCRIPTION** ✓

Crop name	Cowpea
Variety name	SAMPEA-1
Local name	I.A.R.-339
Synonym	NGVU-96-9
Variety Type	Open pollinated variety (OPV)
Quantity of seed (kg/ hectare)	25-30
seed unit	Kg/ha
Spacing	25 cm by 75 cm
Grain/Flesh Color	
Planting / Sowing Time	15 July to 30th July
Production system	Rainfall
Number of days from sowing / planting to maturity	73-78
Potential Yield	1.7-2.4 tonnes/ha
country average	1.7-2.4 tonnes/ha
Pest resistance	
Disease resistance	Resistant to brown blot
Other stresses	
Nutritional quality	good palatability, grains cook in 40-45 minutes

Other qualities

**NUTRIENT RECOMMENDATION** 🔄

210N-36P205-20K20

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	22kg of Urea ( ½ x 50kg bag )
Time of Application:	Applied pre-plant,

**FERTILIZER SPECIFICATION** ②

Application rate:	200kg of SSP ( 4 x 50kg bags )
Time of Application:	Applied pre-plant,

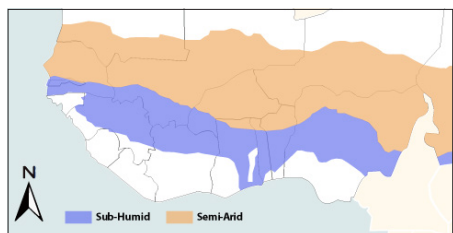
**FERTILIZER SPECIFICATION** ③

Application rate:	33kg of MOP ( 0.66 x 50kg bag )
Time of Application:	Applied pre-plant,

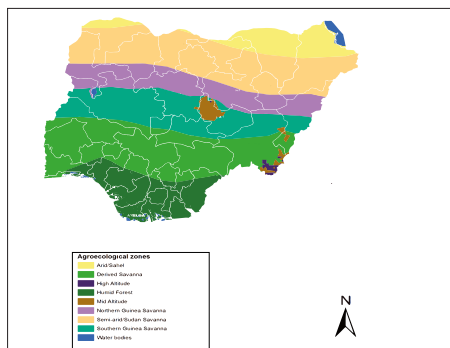


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcast and incorporated into the seedbeds before ridging
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disease use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust
Weed Control	"(i) 1.5kg a.i. Metolachlor + 1.0kg a.i. Prometyne (3 litres Dual 500EC + 2 litres Gesagard 500FW (4 litres Codal 400EC)/ha . (ii) 1.5kg a.i. Metolachlor + 0.8kg a.i. Diuron (3 litres Dual 500EC + 1kg Karmex 80WP)/ha"
Cropping System	Cereal legume. Sole cropping, mixed cropping, relay cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB-HUMID, SEMI-ARID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA -ZARIA, DAURA, MICHKA, KUMBO,CHIROMAWA, FASKARI, BAGUDO, ZURU, CHAM, KALTUNGO, KACHIA, BIDA, ANYAGBA  
Isohyet range (mm/year) > 500-1200

**DESCRIPTION** ✓

Crop name	Cowpea
Variety name	SAMPEA7
Local name	I.A.R.-48
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	25 - 30
seed unit	Kg/ha
Spacing	25cm by 75 cm
Grain/Flesh Color	Light Brown
Planting / Sowing Time	1st July to 15th August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	70-75
Potential Yield	1.5-2.5 tonnes/ha
country average	1.5-2.5 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	
Nutritional quality	good palatability,
Other qualities	High yielding, grains cook in 40-45 minutes

**NUTRIENT RECOMMENDATION** 🔄

210N-36P205-20K20

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	22kg of Urea ( ½ x 50kg bag )
Time of Application:	Applied pre-plant,

**FERTILIZER SPECIFICATION** ②

Application rate:	200kg of SSP ( 4 x 50kg bags )
Time of Application:	Applied pre-plant,

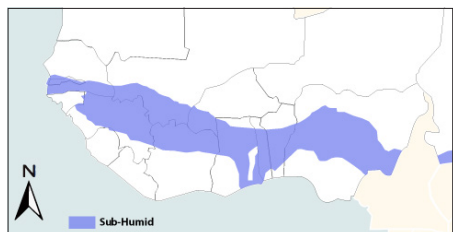
**FERTILIZER SPECIFICATION** ③

Application rate:	33kg of MOP ( 0.66 x 50kg bag )
Time of Application:	Applied pre-plant,

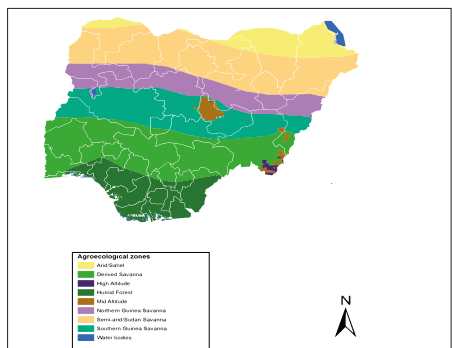


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcast and incorporated into the seedbeds before ridging
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disease use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust
Weed Control	"(i) 1.5kg a.i. Metolachlor + 1.0kg a.i. Prometyne (3 litres Dual 500EC + 2 litres Gesagard 500FW (4 litres Codal 400EC)/ha . (ii) 1.5kg a.i. Metolachlor + 0.8kg a.i. Diuron (3 litres Dual 500EC + 1kg Karmex 80WP)/ha"
Cropping System	Cereal legume, Sole cropping, mixed cropping, relay cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ZARIA, ZURU, MAKURDI, WUKARI, JALINGO, BIDA, LAPAI, MOKWA**  
 Isohyet range (mm/year) > 1200-1500

## DESCRIPTION

Crop name	Groundnut
Variety name	SAMNUT 21
Local name	UGA-2
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	33-45, Depending on seed-size and spacing
seed unit	kg/ha
Spacing	20cm x 90cm ridges and 60 x 16cm - 60 x 10 cm on flat
Grain Color	Tan
Planting / Sowing Time	1st June
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	80-100
Potential Yield	2-3 tonnes/ha
country average	2-3 tonnes/ha
Pest resistance	
Disease resistance	Rosette resistant
Other stresses	
Nutritional quality	
Other qualities	High oil content, Large seeded

## NUTRIENT RECOMMENDATION

54P2O5-25K2O

## ORGANIC FERTILIZER RECOMMENDATION

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

## FERTILIZER SPECIFICATION ①

Application rate:	300kg of SSP ( 6 x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 WAS

## FERTILIZER SPECIFICATION ②

Application rate:	42kg of MOP ( 0.88 x 50kg (1bag) )
Time of Application:	At land preparation or 2 WAS

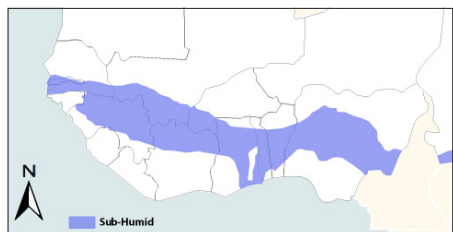
## FERTILIZER SPECIFICATION ③

Application rate:	540kg of NPK 20-10-10 ( 10.8 x 50kg (11bags))
Time of Application:	At land preparation or 2 WAS

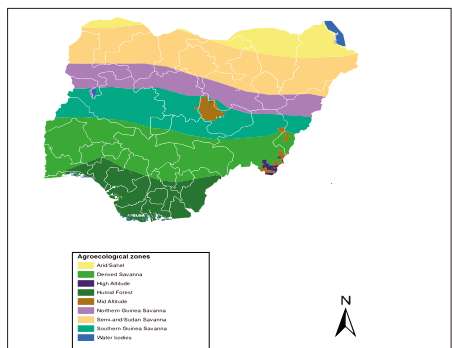


## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcasting or punch side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest and disease Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disese use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust. Control Aphis using
Weed Control	1.5kg a.i Metolachlor or 3.0kg. a.i Alachlor (3 litres Dual 500EC or 6 litres Lasso ha-1, followed by 1.5kg. Bentazone (3 litres Basagran). Conduct supplementary hoe-weeding and/or earthing up. Earthening up especially at pegging
Cropping System	Rotation (Cereals, cotton), E.g. rotation, inter-cropping/mixed cropping, Continuous monocropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - ZARIA, ZURU, MAKURDI, WUKARI, JALINGO, BIDA, LAPAI, MOKWA  
Isohyet range (mm/year) > 600-1200

**DESCRIPTION** ✓

Crop name	Groundnut
Variety name	SAMNUT 22
Local name	M-572.801
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	33-45
seed unit	kg/ha
Spacing	20cm apart on 90cm ridges and 60 x 16cm - 60 x 10 cm on flat. 55,000 plants/ ha on ridge and 100,00-150,000 on flat
Grain Color	Tan
Planting / Sowing Time	1st June to 30th July
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	80-100
Potential Yield	3-4 tonnes/ha
country average	3-4 tonnes/ha
Pest resistance	
Disease resistance	Rosette resistan
Other stresses	
Nutritional quality	
Other qualities	High oil content, High Haulms

**RECOMMENDATION** ↻

54P2O5-25K2O

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION** ①

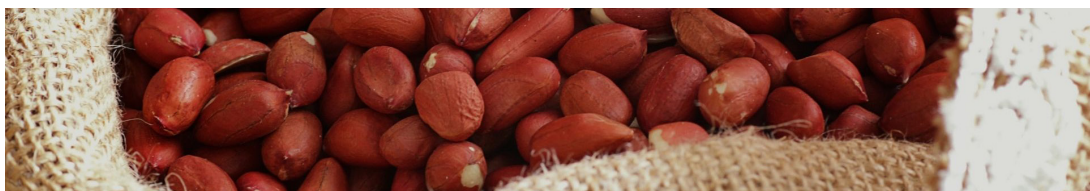
Application rate:	300kg of SSP ( 6 x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 WAS

**FERTILIZER SPECIFICATION** ②

Application rate:	42kg of MOP ( 0.88 x 50kg (1bag) )
Time of Application:	At land preparation or 2 WAS

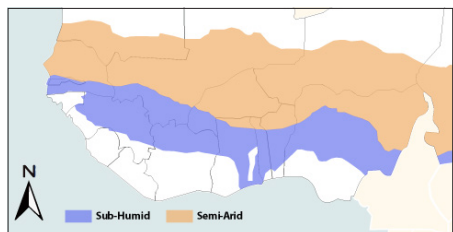
**FERTILIZER SPECIFICATION** ③

Application rate:	540kg of NPK 20-10-10 ( 10.8 x 50kg (11bags))
Time of Application:	At land preparation or 2 WAS

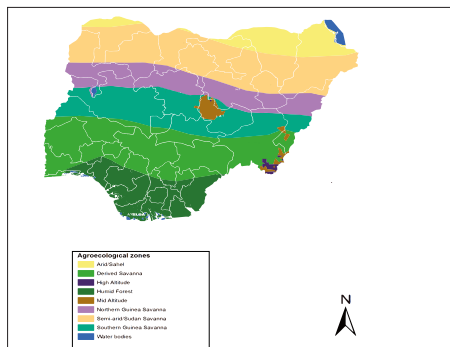


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcasting or punch side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest and disease Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disese use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust. Control Aphis using
Weed Control	1.5kg a.i Metolachlor or 3.0kg. a.i Alachlor (3 litres Dual 500EC or 6 litres Lasso ha-1, followed by 1.5kg. Bentazone (3 litres Basagran). Conduct supplementary hoe-weeding and/or earthing up. Earthening up especially at pegging
Cropping System	Rotation (Cereals, cotton). E.g. rotation, inter-cropping/mixed cropping, Continuous monocropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SEMI-ARID, SUB-HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, ARID/SAHEL, SEMI-ARID/SUDAN SAVANNA-TAFAWA BALEWA, NINGI, GEREI, DAMBOA, GWARMAI, ZARIA, ZURU BUNGUDU  
Isohyet range (mm/year) > 600-1200

## DESCRIPTION

Crop name	Groundnut
Variety name	SAMNUT 23
Local name	ICCGV-1596894
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	33-45
seed unit	kg/ha
Spacing	20cm x 90cm ridges and 60 x 16cm - 60 x 10 cm on flat, 55,000 plants/ ha on ridge and 100,00-150,000 on flat
Grain Color	Tan
Planting / Sowing Time	1st June to 30th July
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	75-90
Potential Yield	2,5-3 tonnes/ha
country average	
Pest resistance	
Disease resistance	Rosette resistant
Other stresses	
Nutritional quality	
Other qualities	High oil content, small to medium seeded

## RECOMMENDATION

54P2O5-25K2O

## ORGANIC FERTILIZER RECOMMENDATION

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

## FERTILIZER SPECIFICATION ①

Application rate:	300kg of SSP ( 6 x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 WAS

## FERTILIZER SPECIFICATION ②

Application rate:	42kg of MOP ( 0.88 x 50kg (1bag) )
Time of Application:	At land preparation or 2 WAS

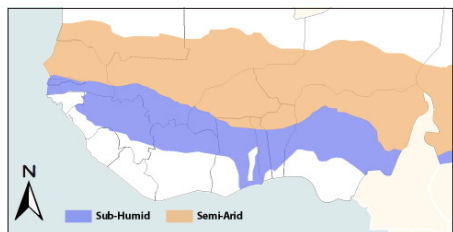
## FERTILIZER SPECIFICATION ③

Application rate:	540kg of NPK 20-10-10 ( 10.8 x 50kg (11bags)
Time of Application:	At land preparation or 2 WAS

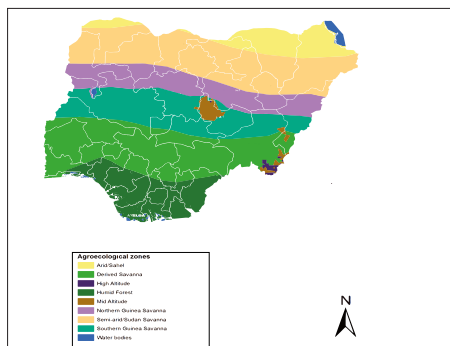


## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcasting or punch side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest and disease Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disese use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust. Control Aphis using
Weed Control	1.5kg a.i Metolachlor or 3.0kg. a.i Alachlor (3 litres Dual 500EC or 6 litres Lasso ha-1, followed by 1.5kg. Bentazone (3 litres Basagran). Conduct supplementary hoe-weeding and/or earthing up. Earthening up especially at pegging
Cropping System	Rotation (Cereals, cotton). E.g. rotation, inter-cropping/mixed cropping, Continuous monocropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI-ARID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, ARID/SAHEL, SEMI-ARID/SUDAN SAVANNA-TAFAWA BALEWA, NINGI, GEREI, DAMBOA, GWARMAI, ZARIA, ZURU BUNGUDU  
 Isohyet range (mm/year) > 600-1200

## DESCRIPTION



Crop name	Groundnut
Variety name	SAMNUT 24
Local name	ICIAR 19BT
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/hectare)	33-45
seed unit	kg/ha
Spacing	"20cm apart on 90cm ridges and 60 x 16cm - 60 x 10 cm on flat. 55,000 plants/ ha on ridge and 100,00-150,000 on flat Under high level of crop husbandry and/or favourable growth conditions, it is suggested that planting on the flat to give 100,000 - 150,000 plants ha-1 results in improved yields, provided leaf-spot diseases are controlled."
Grain Color	Tan
Planting / Sowing Time	1st June to 30th July
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	Extra early maturing
Potential Yield	2 tonnes/ha
country average	2 tonnes/ha
Pest resistance	
Disease resistance	Rosette resistant
Other stresses	
Nutritional quality	
Other qualities	High oil content

## NUTRIENT RECOMMENDATION



54P2O5-25K2O

## ORGANIC FERTILIZER RECOMMENDATION



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

## FERTILIZER SPECIFICATION



Application rate:	(300kg or + (42kg or ) or 540 kg of SSP ( 6 x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 Weeks After Sowing (WAS)

## FERTILIZER SPECIFICATION



Application rate:	42kg of MOP ( 1x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 WAS

## FERTILIZER SPECIFICATION



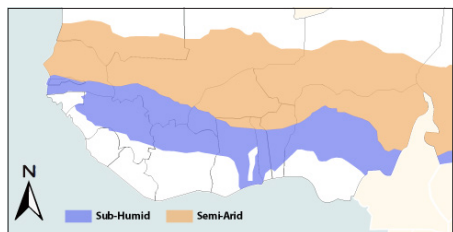
Application rate:	540kg of NPK 20-10-10 (11 x 50kg bags, As Simple Fertilizers are hard to find on the market use NPK 20:10:10)
Time of Application:	At land preparation or 2 WAS



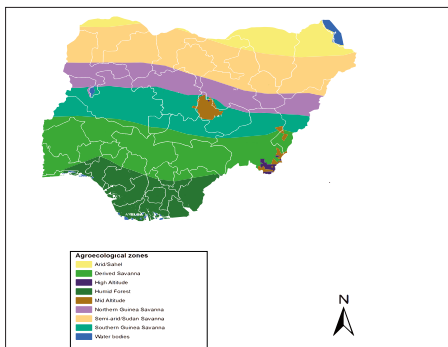
## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcasting or punch side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest and disease Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disese use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust. Control Aphis using
Weed Control	1.5kg a.i Metolachlor or 3.0kg. a.i Alachlor (3 litres Dual 500EC or 6 litres Lasso ha-1, followed by 1.5kg. Bentazone (3 litres Basagran). Conduct supplementary hoe-weeding and/or earthing up. Earthening up especially at pegging
Cropping System	Rotation (Cereals, cotton). E.g. rotation, inter-cropping/mixed cropping, Continuous monocropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SEMI-ARID, SUB-HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, ARID/SAHEL, SEMI-ARID/SUDAN SAVANNA-TAFAWA BALEWA, NINGI, GEREI, DAMBOA, GWARMAI, ZARIA, ZURU BUNGUDU  
Isohyet range (mm/year) > 600-1200

## DESCRIPTION



Crop name	Groundnut
Variety name	SAMNUT 25
Local name	ICGX-SM00020/P5/P10
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	33-45
seed unit	kg/ha
Spacing	20cm apart on 90cm ridges and 60 x 16cm - 60 x 10 cm on flat. 55,000 plants/ ha on ridge and 100,00-150,000 on flat
Grain Color	Tan
Planting / Sowing Time	1st June to 30th July
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	Early maturing
Potential Yield	3.8 tonnes/ha
country average	3.8 tonnes/ha
Pest resistance	
Disease resistance	High Rosette resistant
Other stresses	
Nutritional quality	
Other qualities	"High yield and early maturity"

## NUTRIENT RECOMMENDATION



54P2O5-25K2O

## ORGANIC FERTILIZER RECOMMENDATION



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

## FERTILIZER SPECIFICATION



Application rate:	(300kg or + (42kg or ) or 540 kg of SSP ( 6 x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 Weeks After Sowing (WAS)

## FERTILIZER SPECIFICATION



Application rate:	42kg of MOP ( 1x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 WAS

## FERTILIZER SPECIFICATION



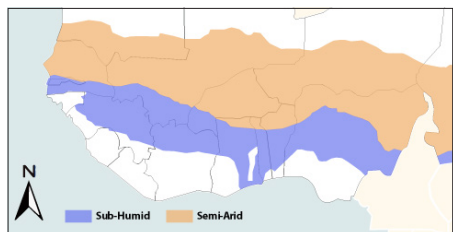
Application rate:	540kg of NPK 20-10-10 (11 x 50kg bags, As Simple Fertilizers are hard to find on the market use NPK 20:10:10)
Time of Application:	At land preparation or 2 WAS



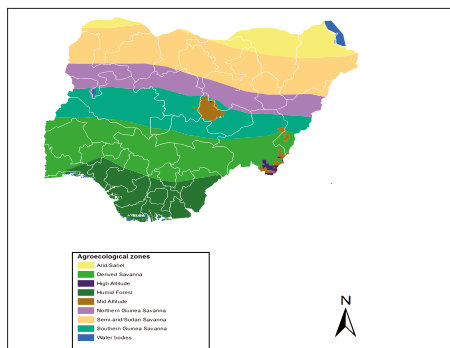
## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcasting or punch side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest and disease Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disese use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust. Control Aphis using
Weed Control	1.5kg a.i Metolachlor or 3.0kg. a.i Alachlor (3 litres Dual 500EC or 6 litres Lasso ha-1, followed by 1.5kg. Bentazone (3 litres Basagran). Conduct supplementary hoe-weeding and/or earthing up. Earthening up especially at pegging
Cropping System	Rotation (Cereals, cotton). E.g. rotation, inter-cropping/mixed cropping, Continuous monocropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SEMI-ARID, SUB-HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA, NORTHERN GUINEA SAVANNA - TAFAWA BALEWA, NINGI, GEREI, DAMBOA, GWARMAI, ZARIA, ZURU BUNGUDU  
Isohyet range (mm/year) > 800 - 1300

**DESCRIPTION** ✓

Crop name	Groundnut
Variety name	SAMNUT 26
Local name	ICGX-SM00018/P5/P15/P2
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	33-45
seed unit	kg/ha
Spacing	20cm apart on 90cm ridges and 60 x 16cm - 60 x 10 cm on flat. 55,000 plants/ ha on ridge and 100,00-150,000 on flat
Grain Color	Tan
Planting / Sowing Time	1st June to 30th July
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	Early maturing
Potential Yield	3.8 tonnes/ha
country average	3.8 tonnes/ha
Pest resistance	
Disease resistance	High Rosette resistant
Other stresses	
Nutritional quality	
Other qualities	"High yield and early maturity"

**NUTRIENT RECOMMENDATION** 🔄

54P2O5-25K2O

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	300kg of SSP ( 6 x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 Weeks After Sowing (WAS)

**FERTILIZER SPECIFICATION** ②

Application rate:	42kg of MOP ( 1x 50kg bags. As Simple Fertilizers are hard to find on the market use NPK 20:10:10 )
Time of Application:	At land preparation or 2 WAS

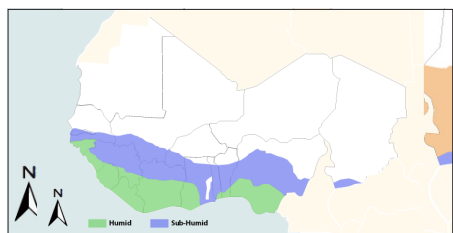
**FERTILIZER SPECIFICATION** ③

Application rate:	540kg of NPK 20-10-10 ( 11 x 50kg bags, As Simple Fertilizers are hard to find on the market use NPK 20:10:10)
Time of Application:	At land preparation or 2 WAS

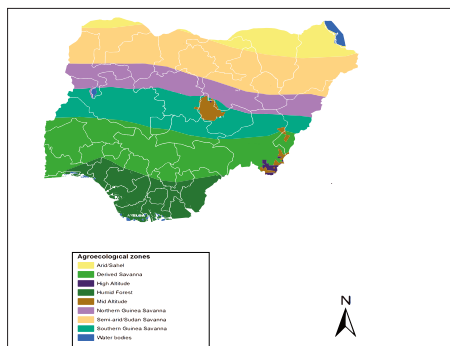


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Broadcasting or punch side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, stone lining and drainage
Pest and disease Management	For pest control use 50g a.i. Sherperplus (1.25 litres Cymbush Cypermethrin) 10%EC + 3 litres Dimethoate (Rogor or Perfekthion) 40%EC/ha-1 For Disese use Apply Dithane M-45 (Mancozeb) Calizin-m, BAS - 350 to control leaf spot rust. Control Aphis using
Weed Control	1.5kg a.i Metolachlor or 3.0kg. a.i Alachlor (3 litres Dual 500EC or 6 litres Lasso ha-1, followed by 1.5kg. Bentazone (3 litres Basagran). Conduct supplementary hoe-weeding and/or earthing up. Earthening up especially at pegging
Cropping System	Rotation (Cereals, cotton).E.g. rotation, inter-cropping/mixed cropping, Continuous monocropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
HUMID, SUB-HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, HUMID FOREST-ADO EKITI, ILE IFE, ENUGU. CALABAR, MOKWA, ABUJA, MINNA, LAFIA, KEFFI, SAMINAKA, ZURU, SABUWA  
Isohyet range (mm/year) > 2500-3000

**DESCRIPTION** ✓

Crop name	Maize
Variety name	30Y87
Local name	30y87
Synonym	
Variety Type	Hybrid
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha
Grain/Flesh Color	Yellow
Planting / Sowing Time	10 April and 15 -August
Production system	Rainfall
Number of days from sowing / planting to maturity	120
Potential Yield	12 tonnes/ha
country average	12 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	Lodging
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION** 🔄

150N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

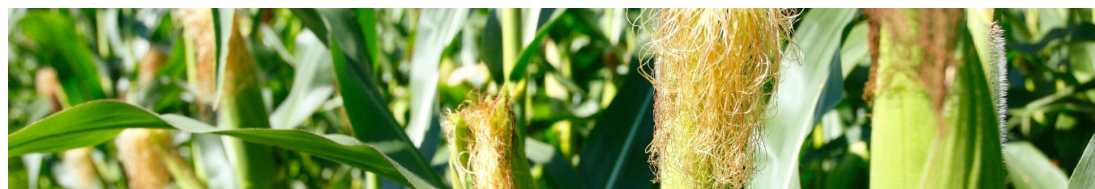
Application rate:	400kg of NPK 20-10-10 ( 8 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)
Time of Application:	At land preparation or 2 WAS

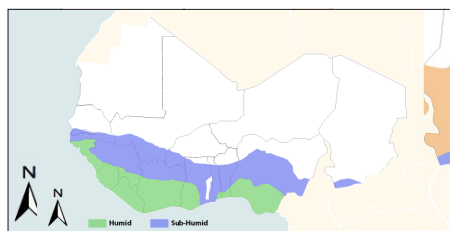
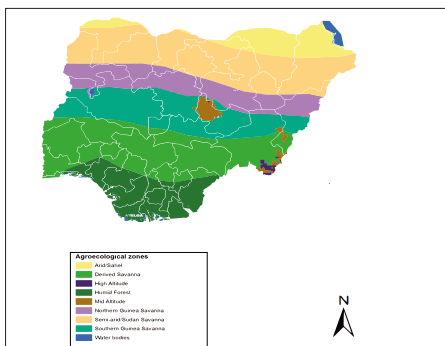
**FERTILIZER SPECIFICATION** ③

Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambligo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)


**WEST AFRICA AGRO-ECOLOGICAL ZONE**  
**HUMID, SUB-HUMID**

**COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE**
**SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA-GUSAU, KAFINSOLI,BILLIRI, SABUWA,**  
**Isohyet range (mm/year) > 700-1600**
**DESCRIPTION**

Crop name	Maize
Variety name	99 TZEE-Ypop STR
Local name	SAMMAZ 32
Synonym	
Variety Type	Open Pollination Variety (OPV)
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively
Grain/Flesh Color	YELLOW
Planting / Sowing Time	20-30 July
Production system	Rainfall
Number of days from sowing / planting to maturity	80-85
Potential Yield	4.3 tonnes/ha
country average	4.3 tonnes/ha
Pest resistance	Striga, Tolerant
Disease resistance	(MSV) Maize Streak Virus
Other stresses	Lodging, Drought
Nutritional quality	(QPM) Quality Protein Maize
Other qualities	

**NUTRIENT RECOMMENDATION**

120N-60P2O5-30K2O +2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION**

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION 1**

Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	8 - 10 days after sowing

**FERTILIZER SPECIFICATION 2**

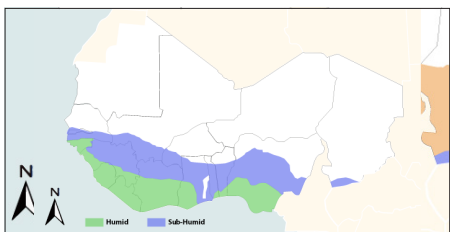
Application rate:	200kg of NPK 27-13-13 ( 4 x 50kg bags/ha)
Time of Application:	8 - 10 days after sowing

**FERTILIZER SPECIFICATION 3**

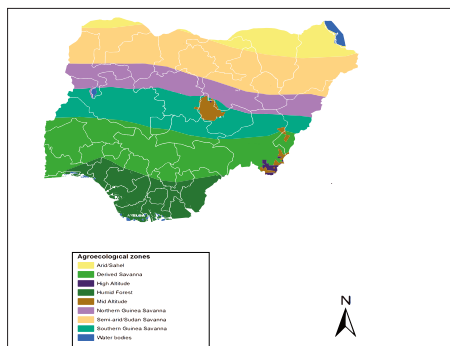
Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	4 weeks after sowing


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambigo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosulfurone"
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**HUMID FOREST-ILE EFE, ADO, EKITI, CALABAR, ENUGU**  
Isohyet range (mm/year) > 2500-3000

**DESCRIPTION** ✓

Crop name	Maize
Variety name	BR9928DMSR
Local name	BR9928DMSR
Synonym	
Variety Type	Open Pollination Variety (OPV)
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively
Grain/Flesh Color	Yellow
Planting / Sowing Time	10 April and 15 -August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	110
Potential Yield	3-4 tonnes/ha
country average	3-4 tonnes/ha
Pest resistance	Stem Borer
Disease resistance	MSV, DMR, Downy Mildew Resistant
Other stresses	
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION** 🔄

120N-60P2O5-30K2O +2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	300kg of NPK 20-10-10 ( 6 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	200kg of NPK 27-13-13 ( 4 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

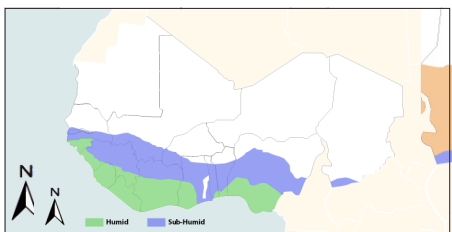
**FERTILIZER SPECIFICATION** ③

Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing

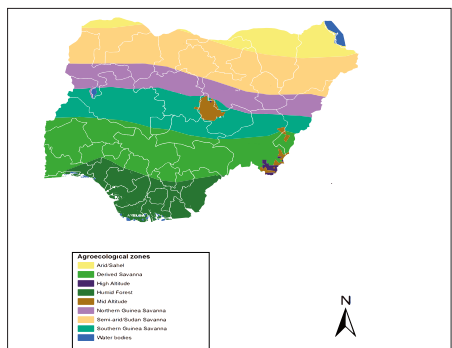


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambigo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

DERIVED SAVANNA, HUMID FOREST-MOKWA, ABUJA, MINNA, LAFIYA  
Isohyet range (mm/year) > 1500-2500

**DESCRIPTION** ✓

Crop name	Maize
Variety name	BR9943DMSR
Local name	BR9943DMSR
Synonym	
Variety Type	Open Pollinated Variety (OPV)
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha
Grain/Flesh Color	White
Planting / Sowing Time	10 April and 15 August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	110
Potential Yield	3-4 tonnes/ha
country average	3-4 tonnes/ha
Pest resistance	Stem Borer
Disease resistance	Maize Streak Virus, DMR, Downey Mildew Resistance
Other stresses	Lodging
Nutritional quality	
Other qualities	

**RECOMMENDATION** 🔄

120N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	300kg of NPK 20-10-10 ( 6 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	200kg of NPK 27-13-13 ( 4 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

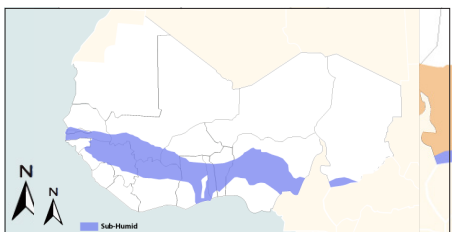
**FERTILIZER SPECIFICATION** ③

Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing

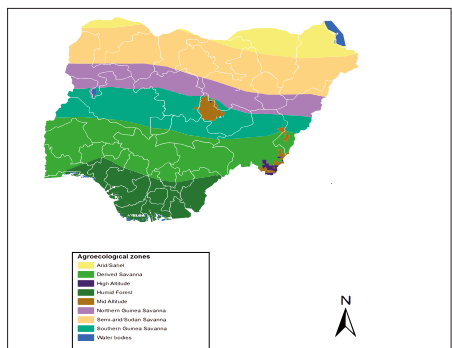


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, AmbliGo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosulfuron "
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA - SAMINAKA, ZARIA, MAIGANA, LERE, SABUWA  
Isohyet range (mm/year) > 900 - 1600

**DESCRIPTION** ✓

Crop name	Maize
Variety name	SAMMAZ 15
Local name	IWD C2 Syn F2
Synonym	
Variety Type	(OPV) Open Pollinated Variety
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha or
Grain/Flesh Color	White
Planting / Sowing Time	5-20 June
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	100-110
Potential Yield	6.9 tonnes/ha
country average	6.9 tonnes/ha
Pest resistance	Striga, Tolerant
Disease resistance	(MSV)Maize Streak Virus
Other stresses	

Nutritional quality  
Other qualities

**NUTRIENT RECOMMENDATION** 🔄

120N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate: When possible  
Time of Application: If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate: 400kg of NPK 20-10-10 ( 8 x 50 kg bags/ha)  
Time of Application: 2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate: 250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)  
Time of Application: 2 weeks after sowing

**FERTILIZER SPECIFICATION** ③

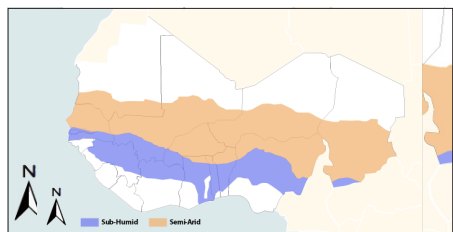
Application rate: 100kg of Urea (2 x 50 kg bags of urea per ha)  
Time of Application: 6 weeks after sowing



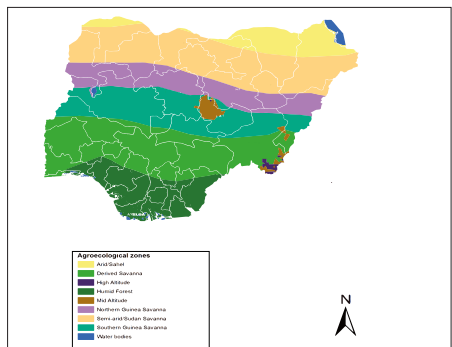
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambigo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)





WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI-ARID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA-SAMINAKA, ZARIA, MAIGANA, LERE, SABUWA  
Isohyet range (mm/year) > 700-1600

**DESCRIPTION**



Crop name	Maize
Variety name	SAMMAZ 28
Local name	99TZEE-Y-STR
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively, 53,333 plants/ha
Grain/Flesh Color	YELLOW
Planting / Sowing Time	20-30 June
Production system (Ecology en Francais)	Irrigation
Number of days from sowing / planting to maturity	100-110
Potential Yield	4 tonnes/ha
country average	4 tonnes/ha
Pest resistance	Striga, Tolerant
Disease resistance	(MSV) Maize Streak Virus
Other stresses	Lodging, Drought
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION**



120N-60P2O5-30K2O +2S+ 1B+ 1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



Application rate:	400kg of NPK 20-10-10 ( 8 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



Application rate:	250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



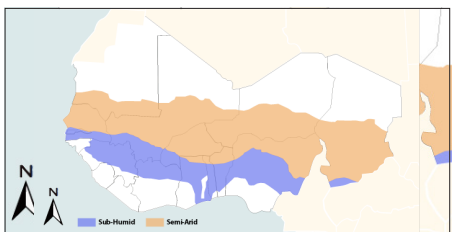
Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing



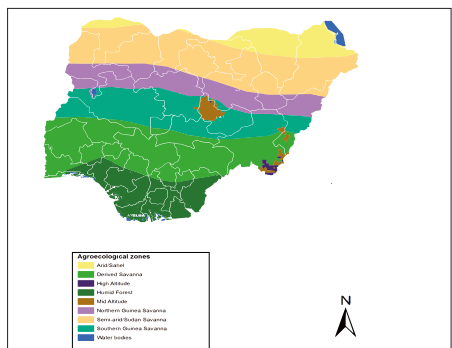
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM), Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambligo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide . Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SEMI-ARID, SUB-HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, DERIVED SAVANNA-MOKWA, ABUJA MINNA, LAFIA, KEFFI, SAMINAKA, ZURU, SABUWA  
Isohyet range (mm/year) > 1500-2500

**DESCRIPTION** ✓

Crop name	Maize
Variety name	SAMMAZ 30
Local name	LNTP_xLNTP-w-C3
Synonym	LNTP-W
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha
Grain/Flesh Color	White
Planting / Sowing Time	10 April and 15 -August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	110-120
Potential Yield	3.5-4 tonnes/ha
country average	3.5-4 tonnes/ha
Pest resistance	
Disease resistance	MSV
Other stresses	Low N tolerant
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION** 🔄

120N-60P2O5-30K2O +2S+ 1B+ 1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	300kg of NPK 20-10-10 ( 6 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

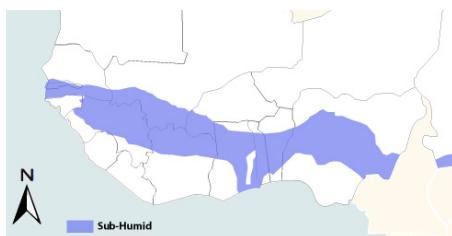
**FERTILIZER SPECIFICATION** ③

Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing

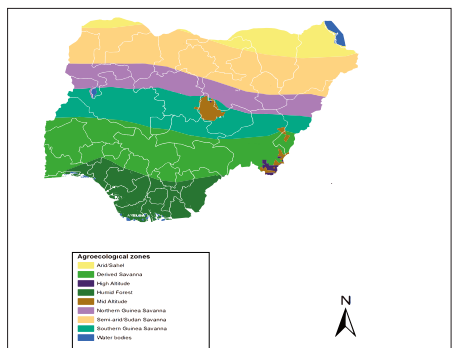


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambligo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosulfurone "
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA-MOKWA, ABUJA, MINNA, LAFIYA  
Isohyet range (mm/year) > 900-1600

**DESCRIPTION**



Crop name	Maize
Variety name	SAMMAZ 31
Local name	LNTP-Y-C5
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively
Grain/Flesh Color	Yellow
Planting / Sowing Time	5-20 June
Production system	Rainfall
Number of days from sowing / planting to maturity	110-120
Potential Yield	3.5-4 tonnes/ha
country average	3.5-4 tonnes/ha
Pest resistance	
Disease resistance	(MSV) Maize Streak Virus
Other stresses	Drought, Low N tolerant
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION**



120N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



Application rate:	300kg of NPK 20-10-10 ( 6 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



Application rate:	250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



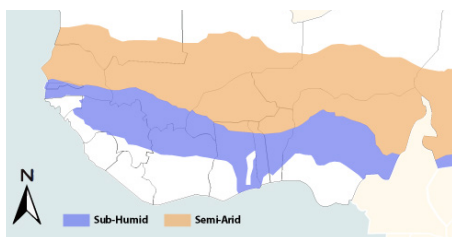
Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing



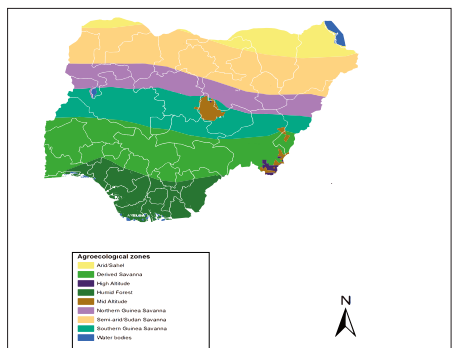
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, AmbliGo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosulfurone "
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI-ARID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA-GUSAU, FUNTUA DAUDAWA, IKARA  
Isohyet range (mm/year) > 700-1600

**DESCRIPTION** ✓

Crop name	Maize
Variety name	SAMMAZ 33
Local name	2000Syn EE-WSTR
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75cm x 20cm (single seed) 5cm x 40cm (double) 66,666 plants/ha
Grain/Flesh Color	White
Planting / Sowing Time	30 June -30 July
Production system (Ecology en Français)	irrigation
Number of days from sowing / planting to maturity	80-85
Potential Yield	3.9 tonnes/ha
country average	3.9 tonnes/ha
Pest resistance	Striga
Disease resistance	(MSV) Maize Streak Virus
Other stresses	
Nutritional quality	(QPM) Quality protein Maize
Other qualities	

**NUTRIENT RECOMMENDATION** 🔄

120N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

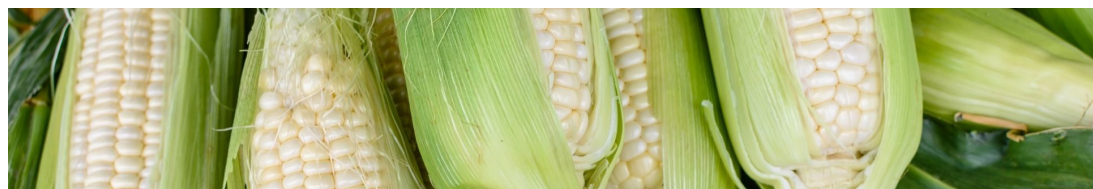
Application rate:	300kg of NPK 20-10-10 ( 6 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

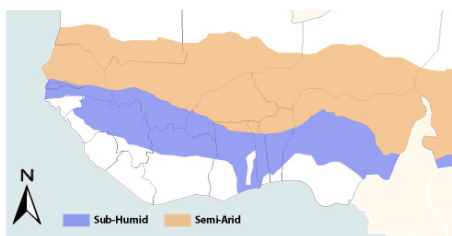
**FERTILIZER SPECIFICATION** ③

Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing

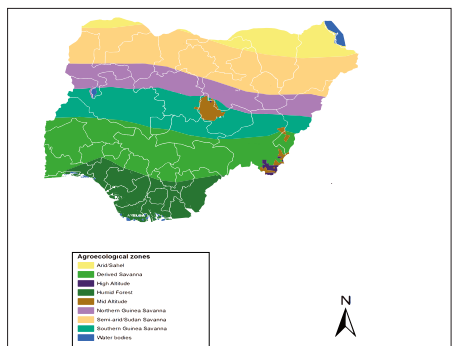


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes, In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM), Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambigo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide, Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosulfurone "
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SEMI-ARID; SUB-HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, DERIVED SAVANNA-MOKWA, ABUJA MINNA, LAFIA, KEFFI, SAMINAKA, ZURU, SABUWA  
Isohyet range (mm/year) > 1500-2500

**DESCRIPTION**



Crop name	Maize
Variety name	SAMMAZ 52
Local name	PVA Syn 13
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively, 53,333 plants/ha
Grain/Flesh Color	Orange
Planting / Sowing Time	10 April and 15 -August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	110
Potential Yield	6 tonnes/ha
country average	6 tonnes/ha
Pest resistance	
Disease resistance	(MSV) Maize Streak Virus, Rust, Leaf blight, curvularia leave spot
Other stresses	
Nutritional quality	Pro-Vitamin A Rich, intermediate level of pro vitamin a of 9.8 miligram /g
Other qualities	

**NUTRIENT RECOMMENDATION**



120N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



Application rate:	200kg of NPK 27-13-13 ( 4 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



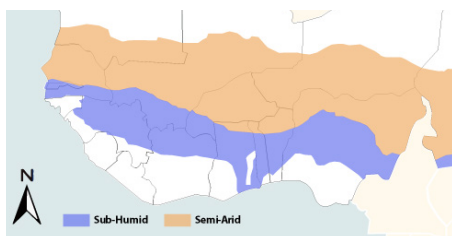
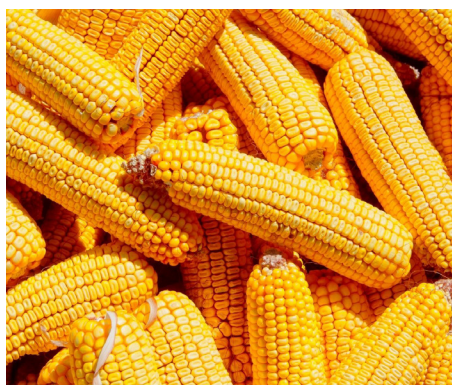
Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing



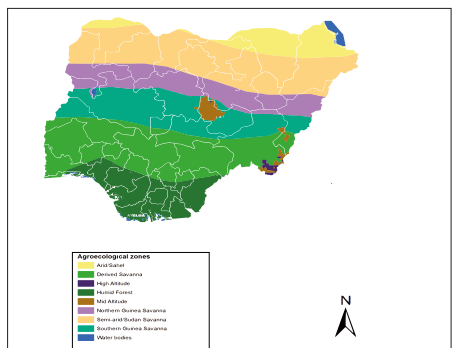
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambligo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI-ARID; SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA-**  
Isohyet range (mm/year) > 700-1600

**DESCRIPTION**



Crop name	Maize
Variety name	SAMMAZ20
Local name	TZE Comp 3DT
Synonym	
Variety Type	Open pollinated Variety
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha
Grain/Flesh Color	WHITE
Planting / Sowing Time	20-30 June
Production system	Irrigation
Number of days from sowing / planting to maturity	95-100
Potential Yield	3-4 tonnes/ha
country average	3-4 tonnes/ha
Pest resistance	
Disease resistance	(MSV) Maize Streak Virus
Other stresses	High to Drought, to Low Soil Nitrogen
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION**



100N-50P2O5-30K2O +2S+ 1B+ 1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



Application rate:	200kg of NPK 27-13-13 ( 4 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



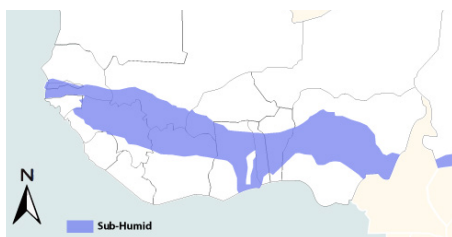
Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing



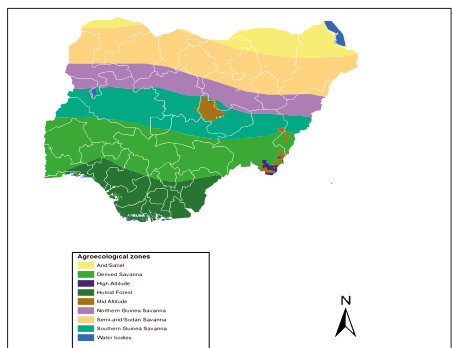
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, AmbliGo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

**SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA-**  
Isohyet range (mm/year) > 900 - 1600

**DESCRIPTION** ✓

Crop name	Maize
Variety name	SC651
Local name	M1026-10
Synonym	
Variety Type	Hybrid
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha
Grain/Flesh Color	White
Planting / Sowing Time	5-20 June
Production system	Rainfall
Number of days from sowing / planting to maturity	90-100
Potential Yield	6 tonnes/ha
country average	6 tonnes/ha
Pest resistance	Striga
Disease resistance	
Other stresses	Drought
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION** 🔄

150N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	400kg of NPK 20-10-10 ( 8 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	250kg of NPK 27-13-13 ( 5 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

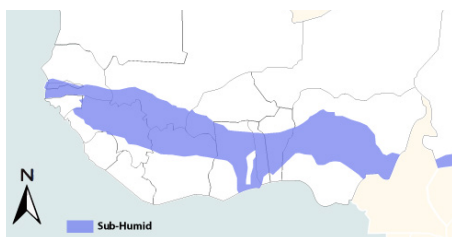
**FERTILIZER SPECIFICATION** ③

Application rate:	100kg of Urea ( 2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing

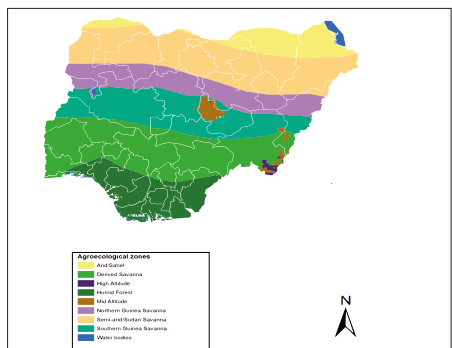


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambligo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	Good agricultural practices (mechanical weeding) and herbicide
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB -HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

"NORTHERN GUINEA SAVANNA-SAMINAKA, ZARIA, LERE, MAIGANA, JOS, SABUWA  
Isohyet range (mm/year) > 900-1600

**DESCRIPTION**



Crop name	Maize
Variety name	SC719
Local name	SC719
Synonym	
Variety Type	Hybrid
Quantity of seed (kg/ hectare)	20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively
Grain/Flesh Color	White
Planting / Sowing Time	5-20 June
Production system	Rainfall
Number of days from sowing / planting to maturity	120
Potential Yield	10-12 tonnes/ha
country average	10-12 tonnes/ha
Pest resistance	
Disease resistance	(MSV) Maize Streak Virus, Leave spot
Other stresses	Drought
Nutritional quality	
Other qualities	

**NUTRIENT RECOMMENDATION**



150N-60P2O5-60K2O+2S+1B+1Ca+2Mg+2Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	400kg of NPK 20-10-10 ( 8 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



Application rate:	250kg of NPK 27-13-13 (4 x 50kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION**



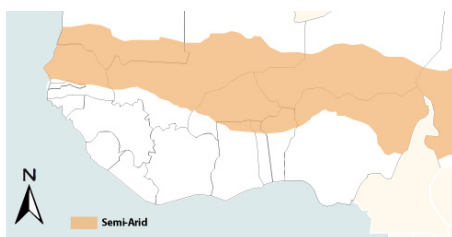
Application rate:	100kg of Urea (2 x 50 kg bags of urea per ha)
Time of Application:	6 weeks after sowing



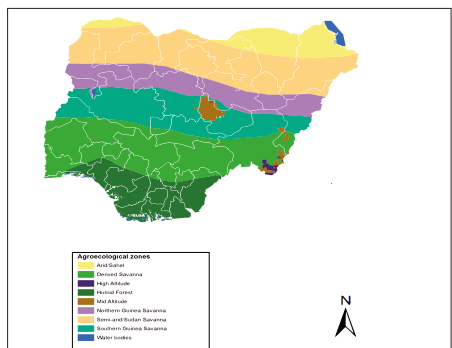
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes, In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW and apply (IPM). Fall Army Worm , Integrated Pest Management ( CaterpillarForce(Cheaper Option), Sharpshooter by Walcott Find active ingredient, Ambigo Syngenta Isachet per CP20 sprayer x10 for one hectar, emamectin - 20g /20L )
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Pre plant Glyphosate and Paraquat Selective herbicide for maize Nicosurforone"
Cropping System	Rotation (legumes, cotton, Soybean)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI-ARID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA-JIBIA. GASHUWA, HADEJA, MALUMFASHI, GWARMAI, TSAFE, DOGON KUKA, POTISKUM  
Isohyet range (mm/year) > 600-1000

**DESCRIPTION** ✓

Crop name	Millet
Variety name	PE05532
Local name	LCICM-3
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	10-15
Seed unit	Kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively
Grain/Flesh Color	Yellow
Planting / Sowing Time	May to June
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	90
Potential Yield	5 tonnes/ha
country average	5 tonnes/ha
Pest resistance	
Disease resistance	Resistant to downy mildew
Other stresses	
Nutritional quality	
Other qualities	High yielding, & Stout stalk for fencing

**NUTRIENT RECOMMENDATION** 🔄

60N+30P2O5+30K2O

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

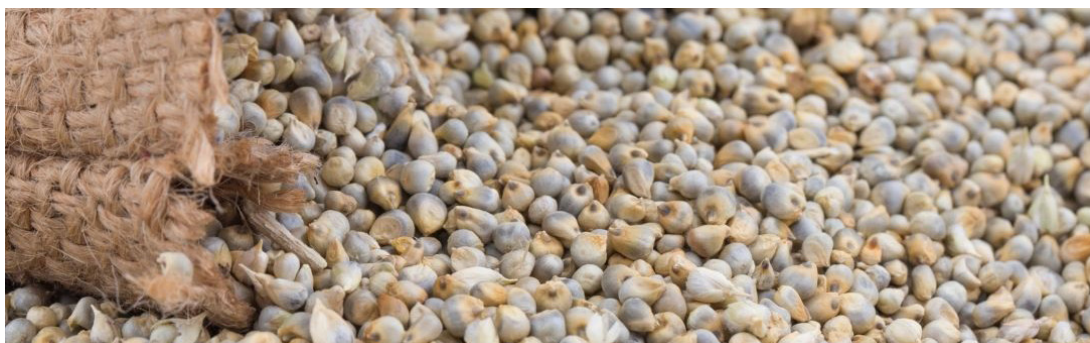
Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate:	100kg of NPK 20-10-10 ( 8 x 50 kg bags/ha)
Time of Application:	2 weeks after sowing

**FERTILIZER SPECIFICATION** ②

Application rate:	100kg of Urea (2 x 50kg bags/ha)
Time of Application:	4 weeks after sowing



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

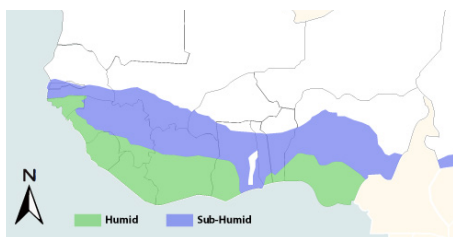
Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides)
Cropping System	Rotation (legumes, cotton)



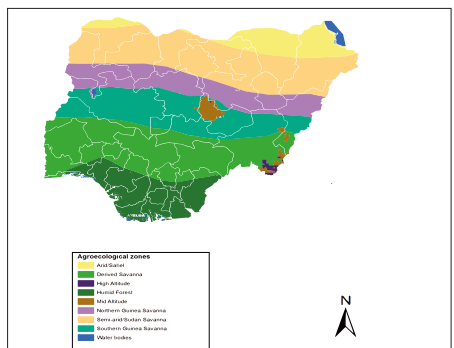








WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB HUMID, HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA, HUMID FOREST-WARRI, ABAKILIKI, BENDE, OTUKPO, LAU, WUKARI, DADIN KOWA, KURA, MAFARA, GORONYO, ARGUNGU, LOKOJA, Isohyet range (mm/year) > 800

**DESCRIPTION**



Crop name	Rice
Variety name	FARO 57
Local name	TOX4004-43-1-2-1
Synonym	
Variety Type	Pure Line
Quantity of seed (kg/ hectare)	20-40
kg/ha	
Spacing	Transplant 1-2 seedling 20cm by 20cm or dibble 20cm by 20cm for upland. 14-21 days old seedling or dibble 4-6 seeds per hill
Grain/Flesh Color	White
Planting/sowing time	
Production system	Irrigation
Number of days from sowing / planting to maturity	110-115
Potential Yield	6 tonnes/ha
country average	6 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	lodging,drought, Iron Toxicity, blast and rice yellow mottle virus diseases
Nutritional quality	
Other qualities	long grain, Aromatic, Cooking quality, etc

**NUTRIENT RECOMMENDATION**



100N-50P2O5-50K2O+2S+1B+1Mn+2Ca+2Mg+1Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	at transplanting as basal or 2-3 WAS
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	2-3 after transplanting or sowing
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	6-7weeks after transplanting or sowing



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow, puddling and leveling. bunding, minimum tillage, recommended land preparation
Method of fertilizer application	Punch and side placement (direct seeding), Broadcasting, UDP
Amendments	"Add organic manure when necessary. rock phosphate,organic matter, Organic manure, Compost "
Water Management	Basin, alternate wetting and drying, drainage. irrigation, water harvesting techniques
Pest Management	Scout for insects and apply pesticide (IPM) if needed. fungicides(Delsane M45, Apron Plus), insecticides, Seed treatment, Integrated pest management
Weed Control	"Good agricultural practices (Manual, mechanical weeding and use of herbicides. Pre Plant Herbicide: Glyphosate and Paraquat Pre emergence herbicides: butachlor Selective Rice: Propanil and 2-4-D"
Cropping System	rotation (sweet potato, potato, vegetables). E.g. rotation, inter-cropping/mixed cropping, Continuous mono-cropping

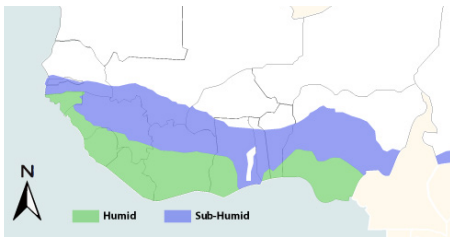




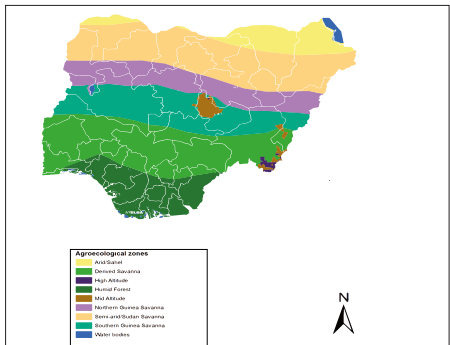








WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB HUMID, HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

HUMID FOREST, NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, DERIVED SAVANNA, SEMI-ARID/SUDAN SAVANNA- WARRI, ABAKILIKI, UMUAHIA, OTUKPO, LAU, WUKARI, DADIN KOWA, KURA, MAFARA,  
Isohyet range (mm/year) > 800

**DESCRIPTION**



Crop name	Rice
Variety name	FARO 64
Local name	
Synonym	
Variety Type	Pure Line
Quantity of seed (kg/ hectare)	40-50
seed unit	kg/ha
Spacing	dibble 20cm by 20cm for upland
Grain/Flesh Color	White, Yellow, Brown, Red,
sowing time	
Production system	Rainfall
Number of days from sowing / planting to maturity	100-105
Potential Yield	5.2 tonnes/ha
country average	5.2 tonnes/ha
Pest resistance	
disease resistance	
Other stresses	lodging drought tolerance
Nutritional quality	quality protien, Vitamin A, Micronutrients
Other qualities	long grain, Aromatic, Cooking quality, etc

**NUTRIENT RECOMMENDATION**



100N-50P2O5-50K2O+2S+1B+1Mn+2Ca+2Mg+1Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



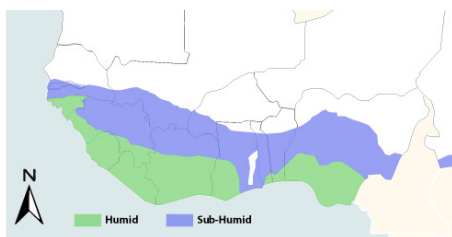
Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	at transplanting as basal or 2-3 WAS
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	2-3 after transplanting or sowing
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	6-7weeks after transplanting or sowing



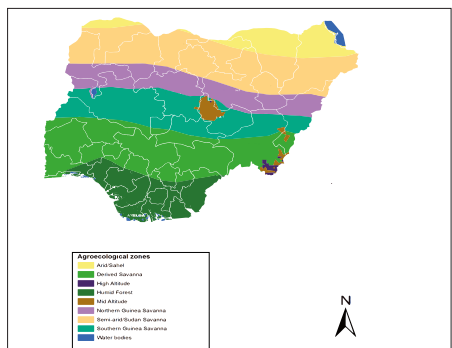
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow, leveling, minimum tillage, recommended land preparation
Method of fertilizer application	Punch and side placement (direct seeding), Broadcasting
Amendments	"Add organic manure when necessary. rock phosphate, organic matter, Organic manure, Compost "
Water Management	Basin, alternate wetting and drying, drainage, irrigation, water harvesting techniques
Pest Management	Scout for insects and apply pesticide (IPM) if needed. fungicides(Delsane M45, Apron Plus), insecticides, Seed treatment, Integrated pest management
Weed Control	Good agricultural practices (Manual, mechanical weeding and use of herbicides.
Cropping System	rotation (sweet potato, potato, vegetables). E.g. rotation, inter-cropping/mixed cropping, Continuous mono-cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB HUMID, HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

HUMID FOREST, NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, DERIVED SAVANNA, SEMI-ARID/SUDAN SAVANNA- WARRI, ABAKILIKI, UMOAHIA, OTUKPO, LAU, WUKARI, DADIN KOWA, KURA, MAFARA, Isohyet range (mm/year) > 800

**DESCRIPTION**



Crop name	Rice
Variety name	FARO 66
Local name	ART351:12-2-B-5-B
Synonym	
Variety Type	Pure Line
Quantity of seed (kg/ hectare)	20-40
seed unit	kg/ha
Spacing	Transplant 1-2 seedling 20cm by 20cm or dibble 20cm by 20cm for upland. 14-21 days old seedling or dibble 4-6 seeds per hill
Grain Color	White
Planting/Sowing time	
Production system	Irrigation
Number of days from sowing / planting to maturity	105-110
Potential Yield	6.7 tonnes/ha
country average	6.7 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	submergence tolerant, moderately tolerant to iron Toxicity, lodging
Nutritional quality	
Other qualities	long, medium and slender grain, Cooking quality, etc

**NUTRIENT RECOMMENDATION**



100N-50P2O5-50K2O+2S+1B+1Mn+2Ca+2Mg+1Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



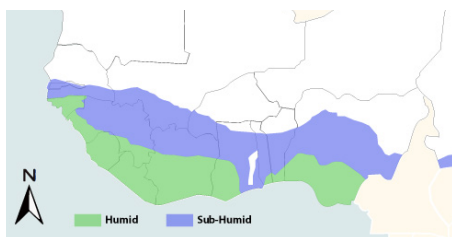
Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	at transplanting as basal or 2-3 WAS
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	2-3 after transplanting or sowing
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	6-7weeks after transplanting or sowing



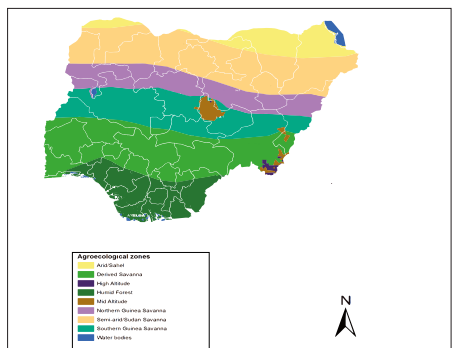
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow, puddling and leveling. bunding, minimum tillage, recommended land preparation
Method of fertilizer application	Punch and side placement (direct seeding), Broadcasting, UDP
Amendments	"Add organic manure when necessary. rock phosphate, organic matter, Organic manure, Compost "
Water Management	Basin, alternate wetting and drying, drainage. irrigation, water harvesting techniques
Pest Management	Scout for insects and apply pesticide (IPM) if needed. fungicides(Delsane M45, Apron Plus), insecticides, Seed treatment, Integrated pest management
Weed Control	"Good agricultural practices (Manual, mechanical weeding and use of herbicides. Pre Plant Herbicide: Glyphosate and Paraquat Pre emergence herbicides: butachlor Selective Rice: Propanil and 2-4-D"
Cropping System	rotation (sweet potato, potato, vegetables). E.g. rotation, inter-cropping/mixed cropping, Continuous mono-cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB HUMID, HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

HUMID FOREST, NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, DERIVED SAVANNA, SEMI-ARID/SUDAN SAVANNA- WARRI, ABAKILIKI, UMOAHIA, OTUKPO, LAU, WUKARI, DADIN KOWA, KURA, MAFARA, Isohyet range (mm/year) > 800

**DESCRIPTION** 

Crop name	Rice
Variety name	FARO 67
Local name	ART350:10-2-I-B
Synonym	.
Variety Type	Pure Line
Quantity of seed (kg/ hectare)	20-40
seed unit	kg/ha
Spacing	Transplant 1-2 seedling 20cm by 20cm or dibble 20cm by 20cm for upland. 15-21 days old seedling or dibble 4-6 seeds per hill
Grain/Flesh Color	White, Yellow, Brown, Red, etc
Production system	Irrigation
Number of days from sowing / planting to maturity	115-125
Potential Yield	6.7 tonnes/ha
country average	6.7 tonnes/ha
Pest resistance	
country average	
Other stresses	submergence tolerant, moderately tolerant to iron Toxicity, lodging
Nutritional quality	
Other qualities	long and Slender grain, Cooking quality, etc

**NUTRIENT RECOMMENDATION** 

100N-50P2O5-50K2O+2S+1B+1Mn+2Ca+2Mg+1Zn

**ORGANIC FERTILIZER RECOMMENDATION** 

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

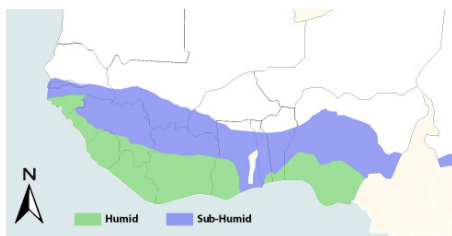
**FERTILIZER SPECIFICATION** 

Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	at transplanting as basal or 2-3 WAS
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	2-3 after transplanting or sowing
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	6-7weeks after transplanting or sowing

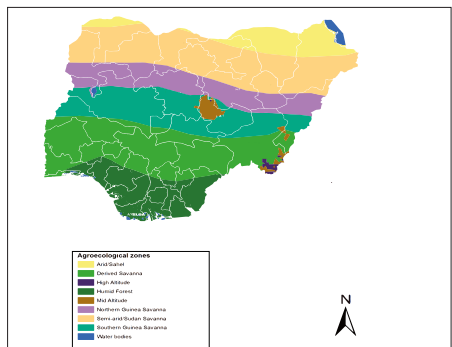


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 

Soil and Water Conservation Techniques	Plough, harrow, puddling and leveling. bunding, minimum tillage, recommended land preparation
Method of fertilizer application	Punch and side placement (direct seeding), Broadcasting, UDP
Amendments	"Add organic manure when necessary. rock phosphate, organic matter, Organic manure, Compost "
Water Management	Basin, alternate wetting and drying, drainage. irrigation, water harvesting techniques
Pest Management	Scout for insects and apply pesticide (IPM) if needed. fungicides(Delsane M45, Apron Plus), insecticides, Seed treatment, Integrated pest management
Weed Control	"Good agricultural practices (Manual, mechanical weeding and use of herbicides. Pre Plant Herbicide: Glyphosate and Paraquat Pre emergence herbicides: butachlor Selective Rice: Propanil and 2-4-D"
Cropping System	rotation (sweet potato, potato, vegetables). E.g. rotation, inter-cropping/mixed cropping, Continuous mono-cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB HUMID, HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

HUMID FOREST, NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, DERIVED SAVANNA, SEMI-ARID/SUDAN SAVANNA- WARRI, ABAKILIKI, UMUAHIA, OTUKPO, LAU, WUKARI, DADIN KOWA, KURA, MAFARA, Isohyet range (mm/year) > 800

**DESCRIPTION**



Crop name	Rice
Variety name	GAWAL RI
Local name	CHAOTAN
Synonym	
Variety Type	Hybrid
Quantity of seed (kg/ hectare)	20-40
seed unit	kg/ha
Spacing	Transplant 1-2 seedling 20cm by 20cm or dibble 20cm by 20cm for upland. 14-21 days old seedling or dibble 4-6 seeds per hill
Grain Color	White
sowing time	
Production system	Irrigation
Number of days from sowing / planting to maturity	100-105
Potential Yield	10 tonnes/ha
country average	10 tonnes/ha
Pest and Disease resistance	resistance to blast
Other stresses	lodging
disease resistance	
Nutritional quality	
Other qualities	high yielding, long grain, Cooking quality, etc

**NUTRIENT RECOMMENDATION**



100N-50P2O5-50K2O+2S+1B+1Mn+2Ca+2Mg+1Zn

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

**FERTILIZER SPECIFICATION**



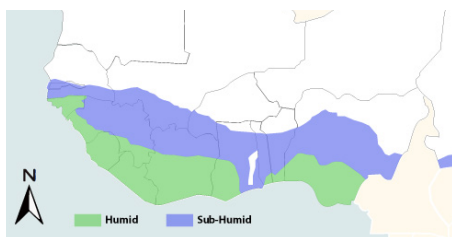
Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	at transplanting as basal or 2-3 WAS
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	2-3 after transplanting or sowing
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	6-7weeks after transplanting or sowing



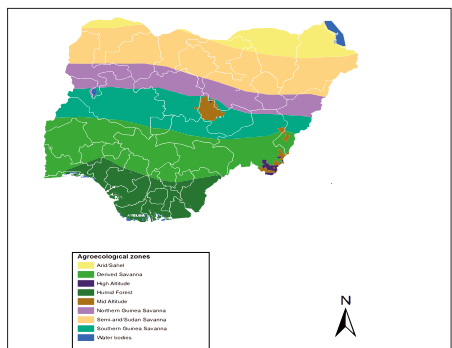
**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**



Soil and Water Conservation Techniques	Plough, harrow, puddling and leveling. bunding, minimum tillage, recommended land preparation
Method of fertilizer application	Punch and side placement (direct seeding), Broadcasting, UDP
Amendments	"Add organic manure when necessary. rock phosphate, organic matter, Organic manure, Compost "
Water Management	Basin, alternate wetting and drying, drainage. irrigation, water harvesting techniques
Pest Management	Scout for insects and apply pesticide (IPM) if needed. fungicides(Delsane M45, Apron Plus), insecticides, Seed treatment, Integrated pest management
Weed Control	"Good agricultural practices (Manual, mechanical weeding and use of herbicides. Pre Plant Herbicide: Glyphosate and Paraquat Pre emergence herbicides: butachlor Selective Rice: Propanil and 2-4-D"
Cropping System	rotation (sweet potato, potato, vegetables). E.g. rotation, inter-cropping/mixed cropping, Continuous mono-cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB HUMID, HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

HUMID FOREST, NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, DERIVED SAVANNA, SEMI-ARID/SUDAN SAVANNA- WARRI, ABAKILIKI, UMOAHIA, OTUKPO, LAU, WUKARI, DADIN KOWA, KURA, MAFARA, Isohyet range (mm/year) > 800

**DESCRIPTION** ✓

Crop name	Rice
Variety name	FARO 65
Local name	
Synonym	
Variety Type	Pure Line
Quantity of seed (kg/ hectare)	40-50
seed unit	kg/ha
Spacing	dibble 20cm by 20cm for upland
Grain/Flesh Color	White
sowing time	
Production system	Rainfall
Number of days from sowing / planting to maturity	105-110
Potential Yield	6.4 tonnes/ha
country average	6.4 tonnes/ha
Pest resistance	
disease resistance	
Other stresses	lodging drought tolerance
Nutritional quality	quality protien, Vitamin A, Micronutrients
Other qualities	long grain, Aromatic, Cooking quality, etc

**NUTRIENT RECOMMENDATION** 🔄

100N-50P2O5-50K2O+2S+1B+1Mn+2Ca+2Mg+1Zn

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

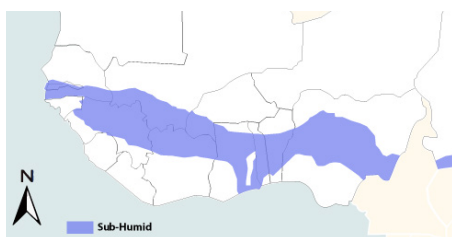
**FERTILIZER SPECIFICATION** ①

Application rate:	250kg of NPK 20-10-10 ( 5 x 50 kg bags/ha)
Time of Application:	at transplanting as basal or 2-3 WAS
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	2-3 after transplanting or sowing
Application rate:	50kg of Urea (1 bag of 50kg UREA)
Time of Application:	6-7weeks after transplanting or sowing

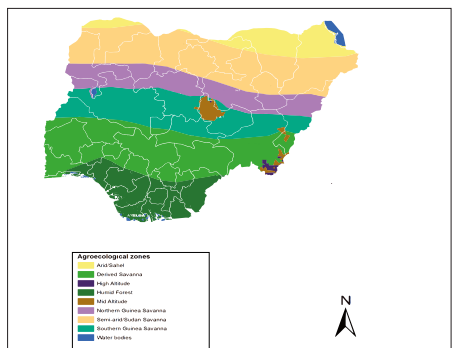


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow, leveling. minimum tillage, recommended land preparation
Method of fertilizer application	Punch and side placement (direct seeding), BroadcastingFDP, Broadcasting, Banding
Amendments	"Add organic manure when necessary. rock phosphate,organic matter, Organic manure, Compost "
Water Management	Basin, alternate wetting and drying, drainage. irrigation, water harvesting techniques
Pest Management	Scout for insects and apply pesticide (IPM) if needed. fungicides(Delsane M45, Apron Plus), insecticides, Seed treatment, Integrated pest management
Weed Control	"Good agricultural practices (Manual, mechanical weeding and use of herbicides. Pre Plant Herbicide: Glyphosate and Paraquat Pre emergence herbicides: butachlor Selective Rice: Propanil and 2-4-D"
Cropping System	rotation (sweet potato, potato, vegetables). E.g. rotation, inter-cropping/mixed cropping, Continuous mono-cropping



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA  
Isohyet range (mm/year) > 900-1000

**DESCRIPTION**



Crop name	SESAME
Variety name	NCRIBEN-01M
Local name	530-6-10
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	4.0-5.0
Seed unit	Kg/ha
Spacing	60cm by 10cm
Grain/Flesh Color	Attractive color
Planting / Sowing Time	Early july -Augst
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	100-110
Potential Yield	0.6-0.7 tonnes/ha
country average	0.6-0.7 tonnes/ha
Pest resistance	
Disease resistance	Moderately resistance to leaf rot and collar rot
Other stresses	
Nutritional quality	high quality oil used in the pharmaceuticals and industries.

Other qualities

**NUTRIENT RECOMMENDATION**



60N+30P2O5+30K2O

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	300kg of NPK 20-10-10 ( 6 bags of NPK 20:10:10)
Time of Application:	At sowing

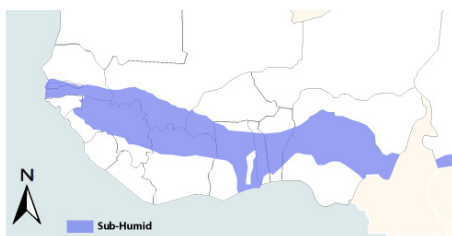


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**

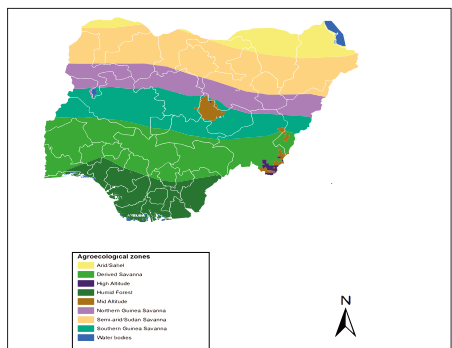


Soil and Water Conservation Techniques	planting on flat, thinning to 2 stands per hills and regular weeding.
Method of fertilizer application	Broadcasting
Amendments	Add organic manure when available
Water Management	
Pest and Disease Management	Scout for pest and diseases and apply treatments
Weed Control	Good agricultural practices (mechanical weeding) and herbicide
Cropping System	Rotation (legumes, Maize)





WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA  
Isohyet range (mm/year) > 900-1000

**DESCRIPTION**



Crop name	SESAME
Variety name	NCRIBEN-02M
Local name	TYPE-04(NO.1)
Synonym	
Variety Type	Open pollinated variety
Quantity of seed (kg/ hectare)	4-5
Seed unit	Kg/ha
Spacing	60cm by 10cm
Grain/Flesh Color	Attractive color
Planting / Sowing Time	Early july -August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	110-125
Potential Yield	0.55-0.6 tonnes/ha
country average	0.55-0.6 tonnes/ha
Pest resistance	
Disease resistance	Moderately resistance to leaf rot and collar rot
Other stresses	delay shattering
Nutritional quality	high quality oil used in the pharmaceuticals and industries.

Other qualities

**NUTRIENT RECOMMENDATION**



60N+30P2O5+30K2O

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	300kg of NPK 20-10-10 ( 6 bags of NPK 20:10:10)
Time of Application:	At sowing

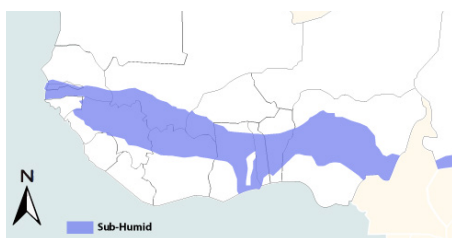


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**

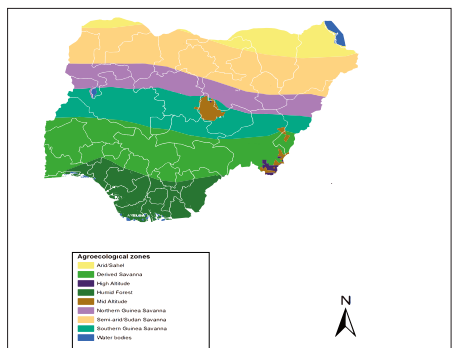


Soil and Water Conservation Techniques	planting on flat, thinning to 2 stands per hills and regular weeding.
Method of fertilizer application	Broadcasting
Amendments	Add organic manure when available
Water Management	
Pest and Disease Management	Scout for pest and diseases and apply treatments
Weed Control	Good agricultural practices (mechanical weeding) and herbicide
Cropping System	Rotation (legumes, Maize)





WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA  
Isohyet range (mm/year) > 900-1000

**DESCRIPTION**



Crop name	SESAME
Variety name	NCRIBEN-03L
Local name	GOZA-25
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	4.0-5.0
Seed unit	Kg/ha
Spacing	60cm by 10cm
Grain/Flesh Color	Attractive color
Planting / Sowing Time	Early july -August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	100-110
Potential Yield	0.5-0.55 tonnes/ha
country average	0.5-0.55 tonnes/ha
Pest resistance	
Disease resistance	Moderately resistance to leaf rot and collar rot
Other stresses	Drought resistant
Nutritional quality	high quality oil used in the pharmaceuticals and industries.
Other qualities	Good seed quality

**NUTRIENT RECOMMENDATION**



60N+30P2O5+30K2O

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	300kg of NPK 20-10-10 ( 6 bags of NPK 20:10:10)
Time of Application:	At sowing

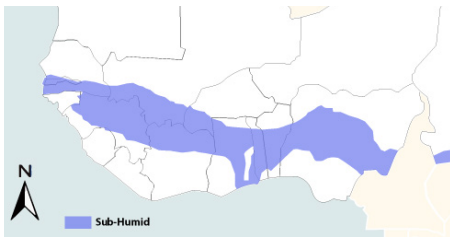


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**

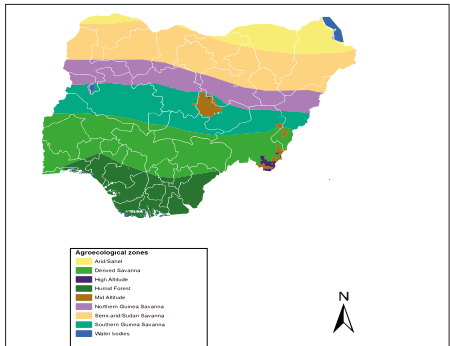


Soil and Water Conservation Techniques	planting on flat, thinning to 2 stands per hills and regular weeding.
Method of fertilizer application	Broadcasting
Amendments	Add organic manure when available
Water Management	
Pest and Disease Management	Scout for pest and diseases and apply treatments
Weed Control	Good agricultural practices (mechanical weeding) and herbicide
Cropping System	Rotation (legumes, Maize)





WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA  
Isohyet range (mm/year) > 900-1000

**DESCRIPTION**



Crop name	SESAME
Variety name	NCRIBEN-04E
Local name	Ex-Sudan
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	4.0-5.0
Seed unit	kg/ha
Spacing	60cm by 10cm
Grain/Flesh Color	Attractive color
Planting / Sowing Time	Early july -August
Production system (Ecology)	Rainfall
Number of days from sowing / planting to maturity	85-90
Potential Yield	1.3 tonnes/ha
country average	1.3 tonnes/ha
Pest resistance	
Disease resistance	Moderately resistance to leaf rot and collar rot
Other stresses	
Nutritional quality	high quality oil used in the pharmaceuticals and industries.
Other qualities	Earliness and high grain yield

**NUTRIENT RECOMMENDATION**



60N+30P2O5+30K2O

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	300kg of NPK 20-10-10 ( 6 bags of NPK 20:10:10)
Time of Application:	At sowing

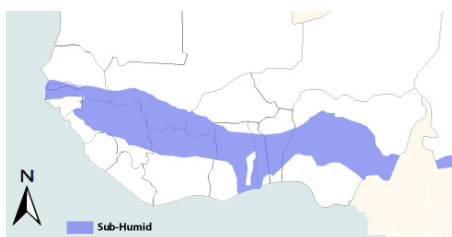


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**

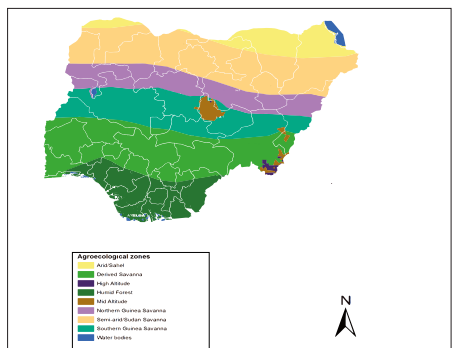


Soil and Water Conservation Techniques	planting on flat, thinning to 2 stands per hills and regular weeding.
Method of fertilizer application	Broadcasting
Amendments	Add organic manure when available
Water Management	
Pest and Disease Management	Scout for pest and diseases and apply treatments
Weed Control	Good agricultural practices (mechanical weeding) and herbicide
Cropping System	Rotation (legumes, Maize)





WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA  
Isohyet range (mm/year) > 900-1000

**DESCRIPTION**



Crop name	SESAME
Variety name	NCRIBEN-05E
Local name	Kenena 4
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	4.0-5.0
Seed Unit	Kg/ha
Spacing	60cm by 10cm
Grain/Flesh Color	Attractive color
Planting / Sowing Time	Early july -August
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	85-90
Potential Yield	1.2 tonnes/ha
country average	1.2 tonnes/ha
Pest resistance	
Disease resistance	Moderately resistance to leaf rot and collar rot
Other stresses	
Nutritional quality	high quality oil used in the pharmaceuticals and industries.
Other qualities	Earliness and high grain yield

**NUTRIENT RECOMMENDATION**



60N+30P2O5+30K2O

**ORGANIC FERTILIZER RECOMMENDATION**



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION**



Application rate:	300kg of NPK 20-10-10 ( 6 bags of NPK 20:10:10)
Time of Application:	At sowing

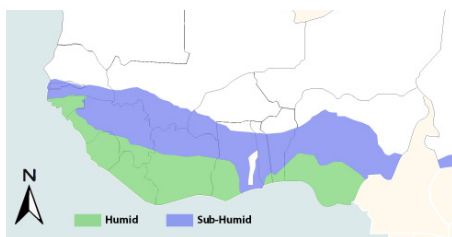


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT**

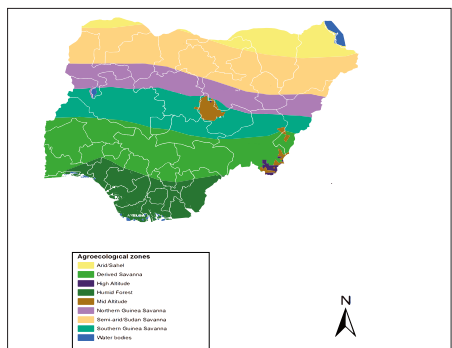


Soil and Water Conservation Techniques	planting on flat, thinning to 2 stands per hills and regular weeding.
Method of fertilizer application	Broadcasting
Amendments	Add organic manure when available
Water Management	
Pest and Disease Management	Scout for pest and diseases and apply treatments
Weed Control	Good agricultural practices (mechanical weeding) and herbicide
Cropping System	Rotation (legumes, Maize)





WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID - HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SOUTHERN GUINEA SAVANNA-SAMINAKA, ZARIA, KAFANCHAN, BIDA, MAKURDI, WUKARI, MOKUWA, OBAJANA  
Isohyet range (mm/year) > 1000-2500

**DESCRIPTION** ✓

Crop name	Sorghum
Variety name	SAMSORG 42
Local name	SSV98001
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	10-20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha or
Grain/Flesh Color	White
Planting / Sowing Time	1st June
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	120-160
Potential Yield	2.5-3 tonnes/ha
country average	2.5-3 tonnes/ha
Pest resistance	
Disease resistance	Tolerant to most leaves diseases
Other stresses	
Nutritional quality	
Other qualities	High yielding, large white seed type

**NUTRIENT RECOMMENDATION** 🔄

64N+32P205+30K20

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate: When possible  
Time of Application: If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** ①

Application rate: 220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)  
Time of Application: 2- 3 weeks after sowing

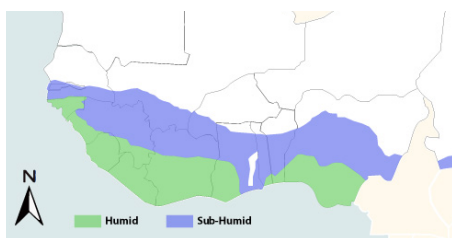
**FERTILIZER SPECIFICATION** ②

Application rate: 100kg of Urea (2 x 50 kg bags/ha)  
Time of Application: 8 - 10 weeks after sowing

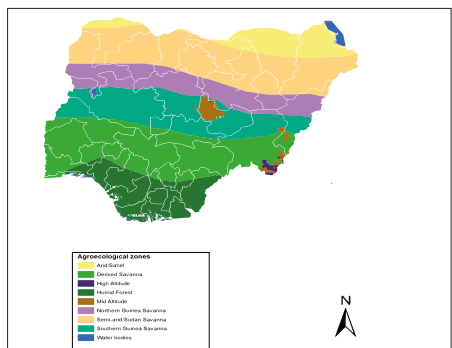


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW, Stem Borer and apply (IPM). Zai and Half moon on degraded lands
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides. Use pre-plant herbicides (Glyphosate and Paraquat) to eradicate emerged weeds before land preparation
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SUB-HUMID - HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA-FUNTUA, ZARIA, ZURU, KANKARA, MAIGANA, TAFAWA BALEWA, KALTUNGO, ZING, GARKIDA, BIU IKARA  
Isohyet range (mm/year) > 900-1500

## DESCRIPTION

Crop name	Sorghum
Variety name	CSR 01
Local name	CSR 01
Synonym	Farafara Ex Kano
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	10-20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha or
Grain/Flesh Color	White
Planting / Sowing Time	20th June to 20th July
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	90-110
Potential Yield	2.5-3 tonnes/ha
country average	2.5-3 tonnes/ha
Pest resistance	Tolerant to Striga
Disease resistance	Resistance to major leaf diseases
Other stresses	
Nutritional quality	Excellent grains qualities for industrial use in malting and brewing
Other qualities	

## NUTRIENT RECOMMENDATION

64N+32P205+30K20

## ORGANIC FERTILIZER RECOMMENDATION

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

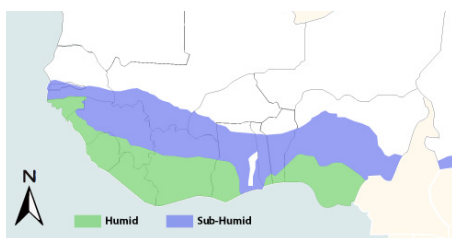
## FERTILIZER SPECIFICATION 1

Application rate:	220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)
Time of Application:	2- 3 weeks after sowing
Application rate:	100kg of Urea (2 x 50 kg bags/ha)
Time of Application:	8 - 10 weeks after sowing

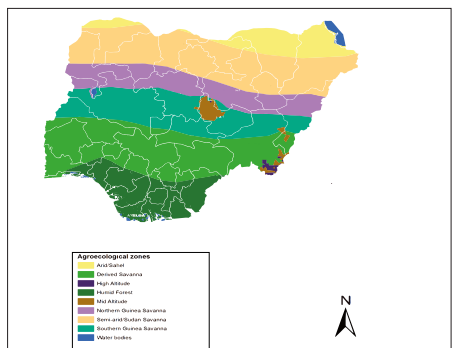


## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage. Zai and Half moon on degraded lands
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides. Use pre-plant herbicides (Glyphosate and Paraquat) to eradicate emerged weeds before land preparation
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SUB-HUMID - HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

NORTHERN GUINEA SAVANNA, SEMI-ARID/SUDAN SAVANNA-FUNTUA, ZARIA, ZURU, KANKARA, MAIGANA, TAFAWA BALEWA, KALTUNGO, ZING, GARKIDA, BIU IKARA  
Isohyet range (mm/year) > 1000-2500

## DESCRIPTION



Crop name	Sorghum
Variety name	SAMSORG 17
Local name	SSV-3 (SK-5912)
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	10-20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha or
Grain/Flesh Color	Yellow
Planting / Sowing Time	1st - 20th June
Production system	Rainfall
Number of days from sowing / planting to maturity	120-160
Potential Yield	3-3.5 tonnes/ha
country average	3-3.5 tonnes/ha
Pest resistance	Tolerant to Stiga
Disease resistance	Resistant to major leave diseases
Other stresses	Lodging, Drought
Nutritional quality	Good for brewing
Other qualities	High yielding

## NUTRIENT RECOMMENDATION



64N+32P205+30K20

## ORGANIC FERTILIZER RECOMMENDATION



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Inoculants

## FERTILIZER SPECIFICATION



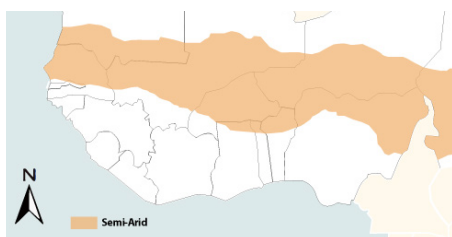
Application rate:	220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)
Time of Application:	2- 3 weeks after sowing
Application rate:	100kg of Urea (2 x 50 kg bags/ha)
Time of Application:	8 - 10 weeks after sowing



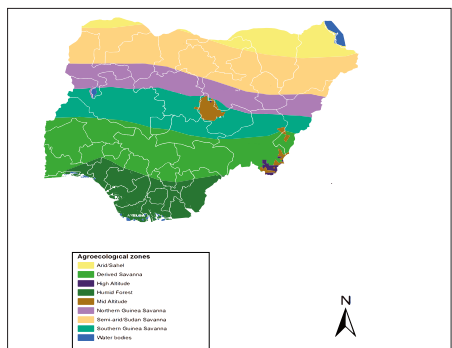
## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage. Zai and Half moon on degraded lands
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides. Use pre-plant herbicides (Glyphosate and Paraquat) to eradicate emerged weeds before land preparation
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI - ARID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA-GASHUWA, DAMBOA, JIBIA, GORONYO, ARGUNGU, BUNGUDU, MUBI, SHUWA  
Isohyet range (mm/year) > 700-900

**DESCRIPTION** ✓

Crop name	Sorghum
Variety name	SAMSORG 40
Local name	ICSV 400
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	10-20
seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively. 53,333 plants/ha or
Grain/Flesh Color	Cream
Planting / Sowing Time	20th June to 20th July
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	70-85
Potential Yield	2-2.5 tonnes/ha
country average	2-2.5 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	Lodging, & Drought tolerant
Nutritional quality	Good food and malting quality
Other qualities	Good response to fertilizer

**NUTRIENT RECOMMENDATION** 🔄

64N+32P205+30K20

**ORGANIC FERTILIZER RECOMMENDATION** 🌿

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

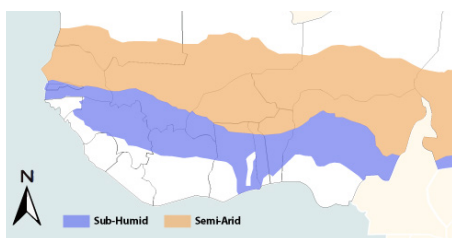
**FERTILIZER SPECIFICATION** ①

Application rate:	220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)
Time of Application:	2- 3 weeks after sowing
Application rate:	100kg of Urea (2 x 50 kg bags/ha)
Time of Application:	8 - 10 weeks after sowing

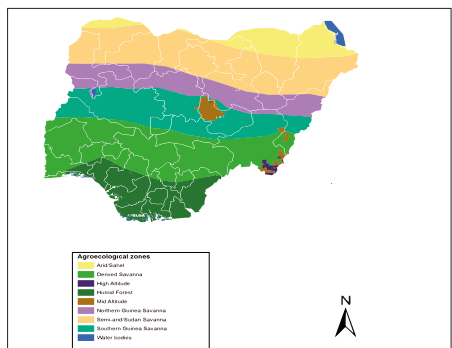


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 👍

Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage. Zai and Half moon on degraded lands
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides. Use pre-plant herbicides (Glyphosate and Paraquat) to eradicate emerged weeds before land preparation
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
SEMI ARID, SUB HUMID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA, NORTHERN GUINEA SAVANNA-JIBIA. GASHUWA, HADEJA, MALUMFASHI, GWARMAI, TSAFE  
Isohyet range (mm/year) > 600-1000

## DESCRIPTION



Crop name	Sorghum
Variety name	SAMSORG 45
Local name	12KNICSV-188
Synonym	Deko
Variety Type	Open Pollinated Variety
Quantity of seed (kg/ hectare)	10-20
seed unit	kg/ha
Spacing	75cm by 25cm single plant per hill. 53,333 plants/ha or
Grain Color	White
Planting / Sowing Time	20th June to 20th July
Production system (Ecology en Français)	Rainfall
Number of days from sowing / planting to maturity	70-85
Potential Yield	4.2 tonnes/ha
country average	4.2 tonnes/ha
Pest resistance	
Disease resistance	Tolerant to major diseases
Other stresses	Drought tolerant
Nutritional quality	Good malting property. Used in production of beverages
Other qualities	Early maturity, High yielding and Good grains

## NUTRIENT RECOMMENDATION



64N+32P2O5+30K2O

## ORGANIC FERTILIZER RECOMMENDATION



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

## FERTILIZER SPECIFICATION



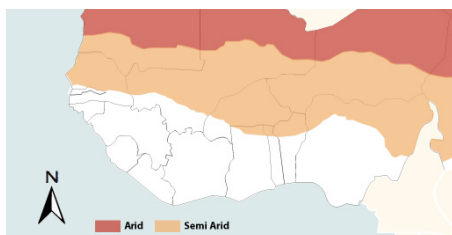
Application rate:	220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)
Time of Application:	2- 3 weeks after sowing
Application rate:	100kg of Urea (2 x 50 kg bags/ha)
Time of Application:	8 - 10 weeks after sowing



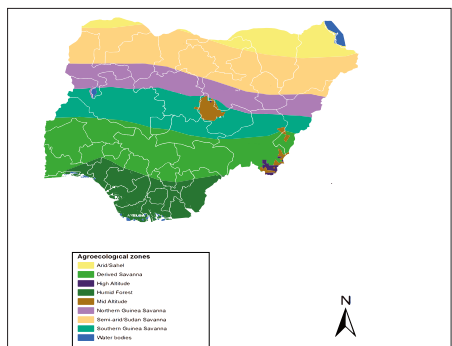
## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage. Zai and Half moon on degraded lands
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides. Use pre-plant herbicides (Glyphosate and Paraquat) to eradicate emerged weeds before land preparation
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
ARID AND SEMI ARID



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA, NORTHERN GUINEA SAVANNA-JIBIA. GASHUWA, HADEJA, MALUMFASHI, GWARMAI, TSAFE  
Isohyet range (mm/year) > 600-1000

## DESCRIPTION



Crop name	Sorghum
Variety name	SAMSORG 46
Local name	12KNCSV-22
Synonym	
Variety Type	Open Pollinated Variety
Quantity of seed (kg/hectare)	10-20
seed unit	kg/ha
Quantity of seed (kg/hectare)	10-20
Spacing	75cm by 25cm single plant per hill. 53,333 plants/ha or
Grain Color	White
Planting / Sowing Time	20th June to 20th July. In Northern Guinea Savanna delay sowing till July ending
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	70-85
country average	70-85
Pest resistance	
Disease resistance	Tolerant to major diseases
Other stresses	Drought tolerant
Nutritional quality	Good malting property. Used in production of beverages
Other qualities	Early maturity, High yielding and Good grains

## NUTRIENT RECOMMENDATION



64N+32P205+30K20

## ORGANIC FERTILIZER RECOMMENDATION



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

## FERTILIZER SPECIFICATION



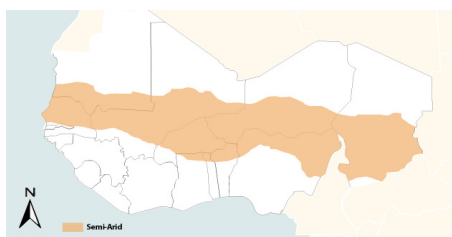
Application rate:	220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)
Time of Application:	2- 3 weeks after sowing
Application rate:	100kg of Urea (2 x 50 kg bags/ha)
Time of Application:	8 - 10 weeks after sowing



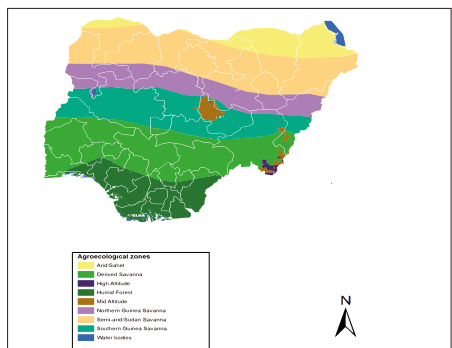
## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes. In addition stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available. Zai and Half moon on degraded lands
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides. Use pre-plant herbicides (Glyphosate and Paraquat) to eradicate emerged weeds before land preparation
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**SEMI-ARID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

SEMI-ARID/SUDAN SAVANNA-GASHUWA, DAMBOA, JIBIA, GORONYO, ARGUNGU, BUNGUDU, MUBI, SHUWA  
 Isohyet range (mm/year) > 700-900

## DESCRIPTION



Crop name	Sorghum
Variety name	SAMSORGH 41
Local name	CSV 111
Synonym	
Variety Type	Open pollinated variety
Quantity of seed (kg/ hectare)	10-20
Seed unit	kg/ha
Spacing	75 by 25 single and 75 by 50 double plant per hill respectively
Grain/Flesh Color	Cream
Planting / Sowing Time	20th June to 20th July
Production system (Ecology en Francais)	Rainfall
Number of days from sowing / planting to maturity	70-80
Potential Yield	1.5-2 tonnes/ha
country average	1.5-2 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	Drought
Nutritional quality	Good local food quality
Other qualities	High yield and Hard grain

## NUTRIENT RECOMMENDATION



64N+32P205+30K20

## ORGANIC FERTILIZER RECOMMENDATION



Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Innoculants

## FERTILIZER SPECIFICATION



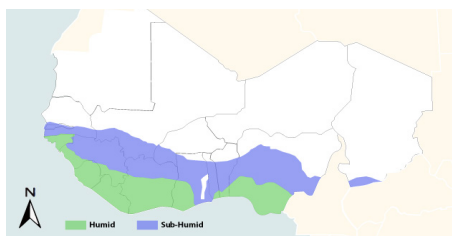
Application rate:	220kg of NPK 20-10-10 (4.4 x 50 kg bags/ha)
Time of Application:	2- 3 weeks after sowing
Application rate:	100kg of Urea (2 x 50 kg bags/ha)
Time of Application:	8 - 10 weeks after sowing



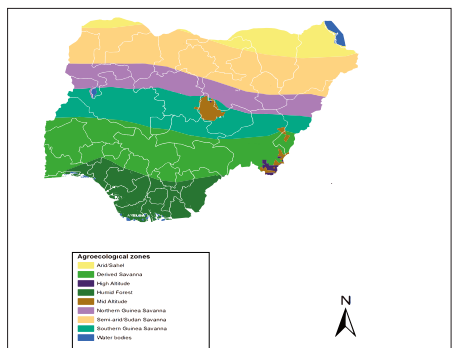
## GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT



Soil and Water Conservation Techniques	Plough, harrow +/- ridging across slopes
Method of fertilizer application	Punch, side place and cover
Amendments	Add organic manure when available
Water Management	Bunding, tie-ridging, drainage
Pest Management	Scout for FAW, Stem Borer and apply (IPM)
Weed Control	1.0kg Atrazine (= 2 litres Gesaprim 500 FW)/ha (mechanical or manual weeding can be employed to supplement applied herbicides)
Cropping System	Rotation (legumes, cotton)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

"HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA" - YAM ZONES OF NIGERIA (ADO, EKITI, ILE-IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI)

Isohyet range (mm/year) > 1000-3000

**DESCRIPTION** 

Crop name	Yam
Variety name	TD
Local name	TDa98/01166
Synonym	Water Yam
Variety Type	Hybrid
Number of seed (seeds/ hectare)	10000
Seed unit	kg/ha
Spacing	1m by 1m
Grain/Flesh Color	White
Planting / Sowing Time	From November to April
Production system	Rainfall
Number of days from sowing / planting to maturity	300-330
Potential Yield	26-30 tonnes/ha
country average	26-30 tonnes/ha
Pest resistance	Tolerant to Pest
Disease resistance	Tolerant to Disease
Other stresses	Drought
Nutritional quality	Good For Pounded Yam, Frying and Boiling
Other qualities	High yielding

**NUTRIENT RECOMMENDATION** 

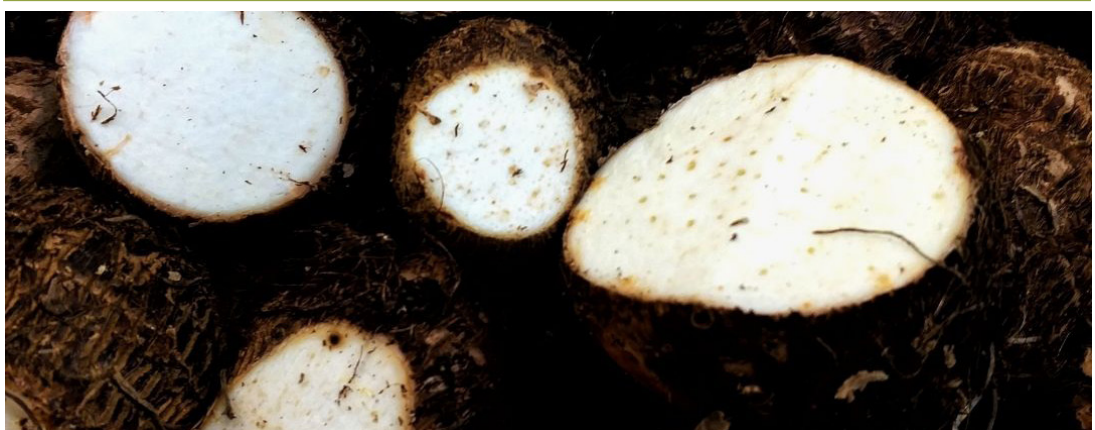
90N-120P2O5-90K2O

**ORGANIC FERTILIZER RECOMMENDATION** 

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Innoculants

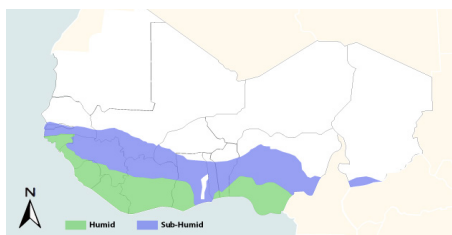
**FERTILIZER SPECIFICATION** 

Application rate:	600kg of NPK 15-15-15 (12 x 50 kg bags/ha 9 x 50 kg bags/ha)
Time of Application:	8 weeks after planting
Application rate:	450kg of NPK 20-10-10 (12 x 50 kg bags/ha 9 x 50 kg bags/ha)
Time of Application:	8 weeks after planting

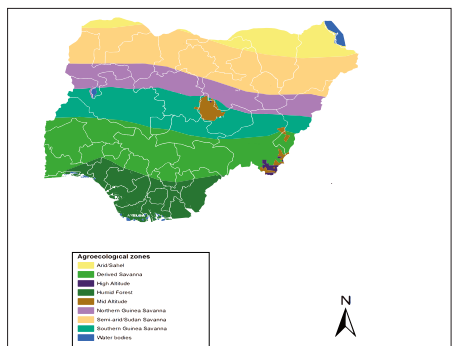


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	IPM. e.g. fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Glyphosate and Paraquat Pre plant (Gramazone Banned in the Country)  Pre Emergence fluometuron + Metalachlor, Atrazine + Pendimethalin"
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

"HUMID FOREST, DERIVED SAVANNA,SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA" - YAM ZONES OF NIGERIA (ADO, EKITI, ILE-IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI)

Isohyet range (mm/year) > 1000-3000

**DESCRIPTION** 

Crop name	Yam
Variety name	UMUDr-18
Local name	TDR89/02475
Synonym	
Variety Type	Hybrid
Number of seed (seeds/ hectare)	10000
Seed unit	Kg/ha
Spacing	1m by 1m
Flesh Color	White
Planting / Sowing Time	From November to April
Production system	Rainfall
Number of days from sowing / planting to maturity	300-330
Potential Yield	31 tonnes/ha
country average	31 tonnes/ha
Pest resistance	Tolerant to Pest
Disease resistance	Tolerant to Disease
Other stresses	Drought
Nutritional quality	Good For Pounded Yam, Frying and Boiling
Other qualities	High yielding

**NUTRIENT RECOMMENDATION** 

90N-120P2O5-90K2O

**ORGANIC FERTILIZER RECOMMENDATION** 

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofortifiers, Biostimulants, Inoculants

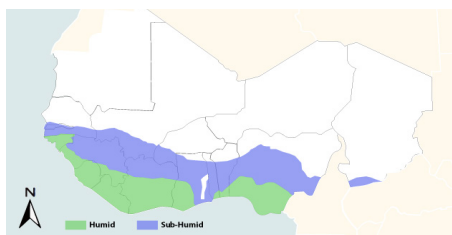
**FERTILIZER SPECIFICATION** 

Application rate:	600kg of NPK 15-15-15 (12 x 50 kg bags/ha 9 x 50 kg bags/ha)
Time of Application:	8 weeks after planting
Application rate:	450kg of NPK 20-10-10 (12 x 50 kg bags/ha 9 x 50 kg bags/ha)
Time of Application:	8 weeks after planting

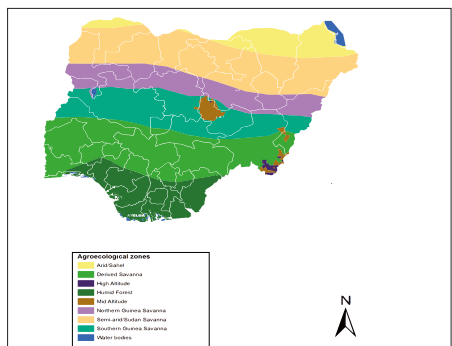


**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 

Soil and Water Conservation Techniques	Plough, harrow & ridge across slopes or Construct mounds. Stone line, Mulching, grass strips, bunding, minimum/zero tillage are recommended
Method of fertilizer application	Band, side place and cover
Amendments	Add organic manure when available and necessary
Water Management	
Pest Management	IPM. e.g. fungicides, insecticides, Seed treatment,
Weed Control	"Good agricultural practices (mechanical weeding) and herbicide. Glyphosate and Paraquat Pre plant (Gramazone Banned in the Country)  Pre Emergence fluometuron+Metolachlor, Atrazine+ Pendimethalin "
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



WEST AFRICA AGRO-ECOLOGICAL ZONE  
**HUMID, SUB-HUMID**



COUNTRY-SPECIFIC AGRO-ECOLOGICAL ZONE

"HUMID FOREST, DERIVED SAVANNA, SOUTHERN GUINEA SAVANNA, NORTHERN GUINEA SAVANNA" - YAM ZONES OF NIGERIA (ADO, EKITI, ILE-IFE, ENUGU, CALABAR, KADUNA, KAFANCHAN, LAFIA, MINNA, MUBI, LOKOJA, MAKURDI)

Isohyet range (mm/year) > 1000-3000

**DESCRIPTION** 

Crop name	Yam
Variety name	UMUDr-20
Local name	TDR98/00933
Synonym	
Variety Type	Hybrid
Number of seed (seeds/ hectare)	10000
Seed unit	Kg/ha
Spacing	1m by 1m
Flesh Color	White
Planting / Sowing Time	From November to April
Production system	Rainfall
Number of days from sowing / planting to maturity	300-330
Potential Yield	39.8 tonnes/ha
Country average	39.8 tonnes/ha
Pest resistance	
Disease resistance	
Other stresses	
Nutritional quality	
Other qualities	High yielding

**NUTRIENT RECOMMENDATION** 

90N-120P2O5-90K2O

**ORGANIC FERTILIZER RECOMMENDATION** 

Application rate:	When possible
Time of Application:	If available add any of the following :Organic manure, Compost, Biofertilizers, Biostimulants, Inoculants

**FERTILIZER SPECIFICATION** 

Application rate:	600kg of NPK 15-15-15 (12 x 50 kg bags/ha 9 x 50 kg bags/ha)
Time of Application:	8 weeks after planting
Application rate:	450kg of NPK 20-10-10 (12 x 50 kg bags/ha 9 x 50 kg bags/ha)
Time of Application:	8 weeks after planting



**GOOD AGRICULTURAL PRACTICES (GAP) & MANAGEMENT** 

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	Pre Emergence fluometuron + Metalachlor, Atrazine + Pendimethalin
	"
Cropping System	Rotation (shallow rooted crops, Like Maize sorghum, and legumes)



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