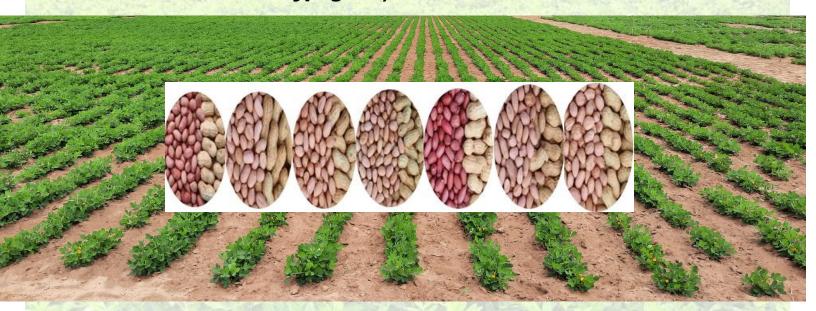
VARIETY CATALOGUE OF GRONDNUTS (Arachis Hypogaea) IN TANZANIA



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FOREWORD

Groundnut (*Arachis hypogaea* L.) is a domesticated pulse and leguminous oilseed, nutritious and rich in energy, providing 567 calories per 100g (Akpo et al., 2021). Groundnut contains 40-50% fat, 20-50% protein, and 10-20% carbohydrates and minerals which are very essential to human body development. In addition to nutritional value of the grain, groundnut being a legume crop increases soil fertility by fixing atmospheric nitrogen in the root nodes and thus escalating the production of other crops when used in rotation or in intercropping. Moreover, groundnut plant stalks, shells, haulms, hays and seed cakes are often used as animal feeds and manure to enhance soil fertility. Groundnut is the 6th highest contributor to the Tanzania GDP after Banana, Beans, Maize, Cassava and Paddy contributing about 5% (ICRISAT and TARI, 2016). Groundnut sub-sector has employed 14 million people who depend on its cultivation and income source in the country (Lukurugu et al., 2021; Mwalongo et al., 2020). More, than 1 million hectare is under groundnut production and the country produce 0.69 million metric tons with an average productivity of 0.69t/ha of groundnuts (FAOSTAT, 2022).

Despite its significance in enhancing soil fertility, household income, and human nutrition, majority of smallholder farmers constituting about 75% still use landrace varieties (Bakari et al., 2021). Limited use of improved groundnut varieties and their allied technologies contribute to low productivity ranging from 0.5 t/ha to 1 t/ha, increase of biotic and abiotic stresses which contribute to less market value (Akpo et al., 2020; Daudi et al., 2018). Efforts have been made with researchers in collaboration with other groundnut stakeholders and development partners to enhance variety development, seed production, accessibility, and availability by all actors in the value chain. These efforts facilitated the release of 17 improved groundnut varieties under groundnut research program. These varieties are high-yielding, drought tolerant, rosette-resistance and have market preferred traits. Therefore, this catalogue has been developed to enhance adoption of improved groundnut varieties in Tanzania. The catalogue provides in depth information about variety identification, agro-ecological requirement, agronomic and morphological characteristics, and reaction to biotic and abiotic stresses. Moreover, this information to quide investment and marketing decisions by all groundnut value chain actors. It is anticipated that this document will facilitate higher adoption rates and increase multiple uses of the groundnut crop for improving farmer's income and livelihood.

May I profoundly recognize the efforts of research scientists from TARI Naliendele Centre and all the partners for successfully contributing to research which have resulted into the release of groundnut varieties described in this document.

Dr. Geoffrey S. Mkamilo
DIRECTOR GENERAL, TARI

ACKNOWLEDGEMENT

The production of this document was made possible through combined effort rendered by many national and international institutions and scientists who immensely contributed to the successful completion of the work. We would like to extend our sincere gratitude to Dr. Geoffrey S. Mkamilo, the Director General of Tanzania Agricultural Research Institute for his fully support and guidance of this initiative. Appreciations are due to staff of TARI-Naliendele whose contributions in various capacities of variety development, maintenance, and seed production.

The authors express their appreciation to the Accelerated Varietal Improvement and Seed Systems in Africa (AVISA) project led by the International Maize and Wheat Improvement Center (CIMMYT) in partnership with Syngenta Foundation for Sustainable Agriculture (SFSA) through for the commitment in providing technical and financial support for improving the livelihoods of small-scale producers and consumers of groundnuts in the country and for supporting the production of the catalogue. Our gratitude is also extended to the Bill and Melinda Gates Foundation (BMGF) for the financial support to AVISA project and the development of this catalogue.

INTRODUCTION

Groundnut is one of the most significant annual crop in the world, rich in food nutrients with about 20% protein, 40% oil, various minerals and vitamins (Daudi et al., 2018). In some developing countries, groundnut adds up to around 25% up to 60% of the small-scale farmer's income (Bakari et al., 2021). It is estimated that, at farm level, at least 23% of households in developing countries are employed in groundnut production (FAO, 2018).

Cultivated peanut or groundnut (*Arachis hypogaea* L., AABB, 2n = 4x = 40) is an allotetraploid and a predominantly self-pollinated legume crop. It has cleistogamous flowers, but cross pollination can occur due to several reasons. It is highly adapted to tropical and subtropical climates of the world, and serves as a key oilseed crop both for small-scale farmers and the oil industry especially in Africa and Asia. The crop is a valuable source of dietary protein and oil as well as a supplement to livestock feed. Groundnut seed is a rich source of oil (48-50%), protein (26-28%), dietary fiber, minerals, and vitamins (Pasupuleti *et al.* 2013). It is the fifth most important oilseed crop in the world in terms of volume of oil production after soybeans, cotton, rapeseed and sunflower. In addition, the crop has the ability to fix atmospheric nitrogen into the soil, which improves soil fertility.

Globally, groundnut is cultivated on about 31.59 million hectares with an annual production of approximately 53.64 million tons and productivity of about 1.699 t ha⁻¹ in 2020 (FAOSTAT 2022). It is widely grown in more than 100 countries of tropical, subtropical, and warm temperate regions of the globe (Upadhyaya *et al.* 2012). According to FAOSTAT (2022), Africa produce about 16,860,272 tonnes (31.4%) of groundnut out of which Tanzania produce only 690,000 tonnes (1.4%) as of 2020 statistics.

Although groundnut is of economic, social and cultural importance, its productivity is severely constrained by several biotic and abiotic factors. Drought is the major abiotic constraint affecting groundnut productivity and quality worldwide. Two thirds of the global production are under rain-fed systems of the semi-arid tropics where rainfall is generally erratic and insufficient, causing unpredictable drought stress (Reddy et al. 2003).

The most important biotic factors affecting groundnut production and productivity in the country include groundnut rosette disease caused by virus, rust, and early and late leaf spot disease. Groundnut rosette disease is most devastating under rainfall conditions, while rust epidemics is favored under high humid and high temperature conditions. Aflatoxin caused by the fungal pathogen *Aspergillus flavus* affects groundnut quality. Socio-economic constraints such as the high cost of seeds, high labour demand and low

price of groundnut also contribute to the low production and productivity of the crop in the country (Katundu et al. 2014).

Groundnuts (Arachis Hypogaea) in Tanzania

In Tanzania, where groundnut is one of the main annual crops, the production cost of groundnut is cheaper than of other annual crops like rice (Akpo, Muricho, et al., 2020; Bakari et al., 2021). The total production cost of groundnut ranges from 500,000 TZS/ha to 1,000,000 TZS/ha compared to rice, which ranges from 2,500,000 TZS/ha to 3,250,000 TZS/ha (Ndabila, 2018). Groundnut can be produced in all areas with an altitude below 1500m and having alluvial soils (Daudi et al., 2012). In Tanzania, groundnut is mainly produced in Dodoma, Tabora, Geita, Shinyanga, Songwe Mbeya, Katavi, Singida, Rukwa and Manyara regions (URT, 2021). Likewise, groundnut is largely produced in Kigoma, Mwanza, Mtwara, Simiyu and Kagera. Most of these regions are either semi-arid or arid and mostly challenged by drought, food insecurity and poverty.

Currently, the country needs to cope with increasing drought due to climate change, market shift, and other biotic and abiotic stresses (Zurich, 2014). In addressing these challenges for improving people's livelihood, Tanzania Agricultural Research Institute (TARI) in collaboration with other development partners released 17 improved groundnut varieties (Mwalongo et al., 2020). Six improved groundnut varieties were release between 1960s and 1990s (Daudi *et al.*, 2012). The outcomes, however, were below expectations attaining maximum average productivity of 444 kg/ha during the period. Thereafter, 11 more improved varieties were released, and productivity increased to an average of 745 kg/ha. This is still less than the average productivity of Africa, which is 800kg/ha (FAO, 2020). Even though the new varieties were available, it was reported that about 81% of the groundnut producers still use old varieties, which are less resistant to drought and diseases, have low productivity between (0.5t/ha to 1t/ha) against the potential yield of between (1-2t/ha) and low market value (Mwakimata, 2017).

Limited use of improved varieties by farmers was reported as one of the major bottlenecks to realize high yield in the country (Daudi et al. 2018; Akpo et al. 2020). Use of improved varieties will make ever lasting effects on peoples' health, financial power and human resource capacity of the country. Studies illustrate that the groundnut market is expanding in Tanzania due to a rapid population growth rate of 3.1 per year, multiple uses of groundnut and exports of about 20,000 tons per year (URT, 2020). All these factors combined raised an alarm of increasing awareness and use of improved groundnut varieties.

This variety catalogue underscores the important characteristics of all the released groundnut varieties since 1960s to date, an effort to enhance stakeholders' awareness and groundnut utilization along the value chain in Tanzania.

Groundnuts (Arachis Hypogaea) Varieties Released in Tanzania

Tanzania Agricultural Research Institute (TARI) in collaboration with Development Partners released 17 improved groundnut varieties (Mwalongo et al., 2020). Six improved groundnut varieties were release between 1960s and 1990s (Daudi et al., 2012). The description of the varieties have been provided in the document.

Nyota 1983

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Johari 1985

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Seed colour Seed size Medium size kernels Medium		
Seed size Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Other Sprout at maturity if harvesting is delayed Reaction to Pest and diseases Early leaf spot Rosette Medium size kernels Agronomic charals 10 - 115 00 0 Number of days to 75% flowering 35-40 35-40 10 - 1.2 Grain Yield of station (t/ha) 0.85 Fertile and well drained Other Sprout at maturity if harvesting is delayed Reaction to Pest and diseases Early leaf spot Tolerant Susceptible		
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Other Sprout at maturity if harvesting is delayed Reaction to Pest and diseases Early leaf spot Tolerant Late leaf spot Tolerant Rosette Susceptible	Grain Yield on farm (t/ha)	0.85
Reaction to Pest and diseasesEarly leaf spotTolerantLate leaf spotTolerantRosetteSusceptible	Soils	Fertile and well drained
Early leaf spotTolerantLate leaf spotTolerantRosetteSusceptible		Sprout at maturity if harvesting is delayed
Late leaf spotTolerantRosetteSusceptible		
Rosette Susceptible	Early leaf spot	Tolerant
	Late leaf spot	Tolerant
Leaf rust Susceptible	Rosette	Susceptible
	Leaf rust	Susceptible

Pendo 1998

Variety NamePendo 1998Variety IdentificationsICGMS-33Original CodeICGMS-33Kiswahili namePendoLocal NameUpendo, serenaYear of Release1998Responsible Research InstituteTARI Naliendele CentreGrowing Area of RecommendationAreas with rainfall range of 750 – 1200mm and lightAltitude0 – 1500 metres above sea level (m.a.s.l)Morphological characteristicsLight green plantGrowth habiterect
Original Code Kiswahili name Pendo Upendo, serena Year of Release Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude O – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Kiswahili name Local Name Upendo, serena Year of Release Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude 0 – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Local Name Year of Release 1998 Responsible Research Institute Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude 0 – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Year of Release Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude 0 – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Responsible Research Institute Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude O – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Growing Area of RecommendationAreas with rainfall range of 750 – 1200mm and lightAltitude0 – 1500 metres above sea level (m.a.s.l)Morphological characteristicsLight green plant
Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude 0 – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Altitude 0 – 1500 metres above sea level (m.a.s.l) Morphological characteristics Leaf colour Light green plant
Morphological characteristicsLight green plant
Morphological characteristicsLight green plant
Growth habit erect
Growth habit
Plant height (cm): 23-25
Flower colour Orange yellow
Pod colour at maturity Khaki
Seed shape Oval
Testa texture Smooth
Seed colour Tan
Seed size Medium
Shelling (%) 62-65
Agronomic characteristics
Days to maturity 90 – 100
Quantity of Seed per hectare (kg) 80
Number of days to 75% flowering 25-30
A hundred seed weight (g) 35-40
Grain Yield of station (t/ha) 1.0 - 1.5
Grain Yield on farm (t/ha) 1.1
Soils Fertile and well drained
Other Sprout at maturity if harvesting is delayed
Nutritional characteristics
Protein Content (%) 32.3
Iron (Fe) content (ppm, mg/kg) 41.1
Zinc (Zn) content (ppm, mg/kg) 82
Oil Content (%w/w) 44.5
Reaction to Pest and diseases
Early leaf spot Tolerant
Late leaf spot Tolerant
Rosette Susceptible
Leaf rust Susceptible

Sawia 1998

Variety NameSawia 1998Variety IdentificationsICGMS 46Kiswahili nameSawiaLocal NameSawiaYear of Release1998Responsible Research InstituteTARI Naliendele CentreGrowing Area of RecommendationAreas with rainfall range of 750 – 1200mm and lightAltitude0-1500maslMorphological characteristicsLeaf colourGrowth habitSemi spreadPlant height (cm):20-23Flower colourOrange yellowPod colour at maturityKhakiSeed shapeOvalTesta textureSmoothSeed colourTanSeed sizeMediumShelling (%)65-68Agronomic characteristicsAgronomic characteristicsDays to maturity110-115Quantity of Seed per hectare (kg)80-100Number of days to 75% flowering30-40A hundred seed weight (g)35-40Grain Yield of station (t/ha)1.0-1.2		Sama 1990		
Original Code Kiswahili name Local Name Year of Release Responsible Research Institute Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude O-1500masl Morphological characteristics Leaf colour Growth habit Semi spread Plant height (cm): Pod colour at maturity Khaki Seed shape Oval Testa texture Seed colour Seed colour Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A Hundred seed weight (g) ARI Naliendele Centre Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1		Variety Name	Sawia 1998	
Kiswahili name Local Name Sawia Year of Release Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude O-1500masl Morphological characteristics Leaf colour Growth habit Semi spread Plant height (cm): Plower colour Orange yellow Pod colour at maturity Khaki Seed shape Testa texture Smooth Seed colour Seed colour Seed colour Seed size Medium Shelling (%) Agronomic characteristics Days to maturity I10-115 Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) STANCE ARIANIA Maliendele Centre Gawia 1998 TARI Naliendele Centre FARI Naliendele Centre TARI Naliendele Centre TARI Naliendele Centre Tops Tave with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and l		Variety Identifications		
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Year of Release1998Responsible Research InstituteTARI Naliendele CentreGrowing Area of RecommendationAreas with rainfall range of 750 – 1200mm and lightAltitude0-1500maslMorphological characteristicsEaf colourLeaf colourGreenGrowth habitSemi spreadPlant height (cm):20-23Flower colourOrange yellowPod colour at maturityKhakiSeed shapeOvalTesta textureSmoothSeed colourTanSeed sizeMediumShelling (%)65-68Agronomic characteristicsAgronomic characteristicsDays to maturity110-115Quantity of Seed per hectare (kg)80-100Number of days to 75% flowering30-40A hundred seed weight (g)35-40		Kiswahili name	Sawia	
Responsible Research Institute Growing Area of Recommendation Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude O-1500masl Morphological characteristics Leaf colour Growth habit Semi spread Plant height (cm): Pod colour at maturity Fod colour at maturity Seed shape Oval Testa texture Seed colour Seed colour Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light O-1500masl Areas with rainfall range of 750 – 1200mm and light		Local Name	Sawia	8
Growing Area of RecommendationRegions/AreasAreas with rainfall range of 750 – 1200mm and lightAltitude0-1500maslMorphological characteristicsEaf colourLeaf colourGreenGrowth habitSemi spreadPlant height (cm):20-23Flower colourOrange yellowPod colour at maturityKhakiSeed shapeOvalTesta textureSmoothSeed colourTanSeed sizeMediumShelling (%)65-68Agronomic characteristicsAgronomic characteristicsDays to maturity110-115Quantity of Seed per hectare (kg)80-100Number of days to 75% flowering30-40A hundred seed weight (g)35-40	ų	Year of Release	1998	
Regions/Areas Areas with rainfall range of 750 – 1200mm and light Altitude 0-1500masl Morphological characteristics Leaf colour Green Growth habit Semi spread Plant height (cm): 20-23 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 65-68 Agronomic characteristics Days to maturity 110-115 Quantity of Seed per hectare (kg) 80-100 Number of days to 75% flowering A hundred seed weight (g) 35-40		Responsible Research Institute	TARI Naliendele Centre	
Ilight Altitude O-1500masl Morphological characteristics Leaf colour Growth habit Semi spread Plant height (cm): Pod colour at maturity Feed shape Testa texture Seed colour Seed size Shelling (%) Shelling (%) Agronomic characteristics Days to maturity Altitude O-1500masl Orange Green Growth Semi spread Orange yellow Nedium Shaki Seed shape Oval Tan Seed shape Medium Shelling (%) Shelling (%) Shelling (%) Shelling (%) Agronomic characteristics Days to maturity I10-115 Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Seen		Growing Area of Recommendation		
Altitude 0-1500masl Morphological characteristics Leaf colour Green Growth habit Semi spread Plant height (cm): 20-23 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 65-68 Agronomic characteristics Days to maturity 110-115 Quantity of Seed per hectare (kg) 80-100 Number of days to 75% flowering 30-40 A hundred seed weight (g) 35-40	S	Regions/Areas	Areas with rainfall range of 750 – 1200mm and	
Morphological characteristicsLeaf colourGreenGrowth habitSemi spreadPlant height (cm):20-23Flower colourOrange yellowPod colour at maturityKhakiSeed shapeOvalTesta textureSmoothSeed colourTanSeed sizeMediumShelling (%)65-68Agronomic characteristicsDays to maturityQuantity of Seed per hectare (kg)80-100Number of days to 75% flowering30-40A hundred seed weight (g)35-40	ļ		light	i
Leaf colour Growth habit Semi spread Plant height (cm): 20-23 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Green Green Semi spread Habitation Semi spread Medium Shaki Smooth Tan Seed size Medium 110-115 Quantity of Seed per hectare (kg) 80-100 Number of days to 75% flowering A hundred seed weight (g) 35-40			0-1500masl	
Growth habit Plant height (cm): 20-23 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Semi spread Nrange spread Name spread Name spread Nedium Shouth Smooth Smo	1			ı
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Flower colour Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Coval Caracteristics Medium Shelling (%) Assume the content of the content of the colour o	í	Growth habit		ı
Pod colour at maturity Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Khaki Khaki Khaki Smooth Smooth Fan 110-115 Medium 110-115	1	Plant height (cm):	20-23	Ì
Seed shape Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 65-68 Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Smooth Tan Medium 110-115 80-100 110-115 90-100 10	ı	Flower colour	Orange yellow	i
Testa texture Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Smooth Medium 110-115 85-68 80-100 30-40 30-40 35-40				
Seed colour Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Tan Medium 110-115 80-100 30-40 30-40 31-40		Seed shape	Oval	
Seed size Medium Shelling (%) 65-68 Agronomic characteristics Days to maturity 110-115 Quantity of Seed per hectare (kg) 80-100 Number of days to 75% flowering 30-40 A hundred seed weight (g) 35-40	2	Testa texture	Smooth	6
Shelling (%) 65-68 Agronomic characteristics Days to maturity 110-115 Quantity of Seed per hectare (kg) 80-100 Number of days to 75% flowering 30-40 A hundred seed weight (g) 35-40		Seed colour	Tan	
Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) 110-115 80-100 30-40 35-40		Seed size	Medium	
Days to maturity 110-115 Quantity of Seed per hectare (kg) 80-100 Number of days to 75% flowering 30-40 A hundred seed weight (g) 35-40			65-68	
Quantity of Seed per hectare (kg)80-100Number of days to 75% flowering30-40A hundred seed weight (g)35-40		Agronomic characteristics		
Number of days to 75% flowering 30-40 A hundred seed weight (g) 35-40	i			
A hundred seed weight (g) 35-40				
Grain Yield of station (t/ha) 1.0-1.2				
		Grain Yield of station (t/ha)		
Grain Yield on farm (t/ha) 0.95		\	0.95	
Soils Fertile and well drained	P		Fertile and well drained	
Other	į			F
Reaction to Pest and diseases	1			
Early leaf spot Tolerant		Early leaf spot	Tolerant	
Late leaf spot Tolerant		Late leaf spot	Tolerant	
Rosette Susceptible		Rosette	Susceptible	
Leaf rust Susceptible		Leaf rust	Susceptible	

Mnanje 2009

Mnanje 2009	
Variety Name	Mnanje 2009
Variety Identifications	
Original Code	ICGV-SM-83708
Kiswahili name	Mnanje 2009
Local Name	Nyekundu kubwa,
	karanga Malawi
Year of Release	2009
	TARI Naliendele Centre
Growing Area of Recommendation	
	All major groundnut growing areas in Tanzania
Altitude	0-1500 m above sea level
Morphological characteristics	
Leaf colour	Dark green
Growth habit	semi spreading
Plant height (cm):	20-23
Flower colour	Orange Yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Smooth
Seed colour	Red
Seed size	Large
Shelling (%)	65-72
Agronomic characteristics	110.115
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	40-50
Grain Yield of station (t/ha)	1.3-1.5
Grain Yield on farm (t/ha)	1.0-1.1
Soils	Fertile, well-drained soil
Other	
Nutritional characteristics	20 F
Protein Content (%)	29.5
Iron (Fe) content (ppm, mg/kg)	65.4
Zinc (Zn) content (ppm, mg/kg)	35.3 E1.E
Oil Content (%w/w)	51.5
Reaction to Pest and diseases	Toloront
	Tolerant
	Tolerant
Rosette	Susceptible
Leaf rust	Tolerant

Naliendele 2009

Naliendele 2009	
Variety Name	Naliendele 2009
Variety Identifications	
Original Code	ICGV-SM 99555
Kiswahili name	Naliendele 2009
Local Name	Naliendele 2009
Year of Release	2009
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Light green
Growth habit	Erect
Plant height (cm)	23-25
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Smooth
Seed colour	Tan
Seed size	Medium
Shelling (%)	51-55
Agronomic characteristics	
Days to maturity	90-100
Quantity of Seed per hectare (kg)	80
Number of days to 75% flowering	25-28
A hundred seed weight (g)	35-40
Grain Yield of station (t/ha)	1.0-1.1
Grain Yield on farm (t/ha)	0.9
Soils	Fertile, well-drained soil
Other	Drought tolerant
Nutritional characteristics	
Protein Content (%)	34.5
Iron (Fe) content (ppm, mg/kg)	50.7
Zinc (Zn) content (ppm, mg/kg)	84.1
Oil Content (%w/w)	40.1
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Susceptible
2001 1000	очестве

Mangaka 2009

Variety Identifications ICGV-SM-99557 Original Code ICGV-SM-99557 Kiswahili name Mangaka 2009 Local Name Mangaka 2009 Year of Release 2009 Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation All major groundnut growing areas in Tanzania Regions/Areas All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Light green Leaf colour Light green Growth habit erect Plant height (cm): 23-25 Flower colour Orange yellow Fod colour at maturity Khaki Seed shape Oval Sest stexture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30	Mangaka 2009	
Original Code Kiswahili name Mangaka 2009 Local Name Year of Release Responsible Research Institute Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Leaf colour Growth habit erect Plant height (cm): 123-25 Flower colour Oval Testa texture Seed shape Oval Testa texture Seed colour Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield on farm (t/ha) Soils Grain Yield on farm (t/ha) Characteristics Protein Content (9%) Nurtitional characteristics Protein Content (9m), mg/kg) Jiro (Poerant Reaction to Pest and diseases Early leaf spot Logarth Susceptible Rosette Susceptible Foseltie Susceptible	Variety Name	Mangaka 2009
Original Code Kiswahili name Mangaka 2009 Local Name Year of Release Responsible Research Institute Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Leaf colour Growth habit erect Plant height (cm): 123-25 Flower colour Oval Testa texture Seed shape Oval Testa texture Seed colour Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield on farm (t/ha) Soils Grain Yield on farm (t/ha) Characteristics Protein Content (9%) Nurtitional characteristics Protein Content (9m), mg/kg) Jiro (Poerant Reaction to Pest and diseases Early leaf spot Logarth Susceptible Rosette Susceptible Foseltie Susceptible	Variety Identifications	
Local Name Year of Release Responsible Research Institute Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Leaf colour Plant height (cm): 23-25 Flower colour Pod colour at maturity Seed shape Oval Testa texture Seed ciour Seed size Shelling (%) Agronomic characteristics Agronomic characteristics Agronomic characteristics Agronomic characteristics Shelling (%) Agronomic characteristics Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Jinc (Zn) content (ppm, mg/kg) Jinc (Zn) content (ppm, mg/kg) At late leaf spot Late leaf spot Sosette Susceptible Susceptible Susceptible	Original Code	ICGV-SM-99557
Year of Release 2009 Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Light green Leaf colour Light green Growth habit erect Plant height (cm): 23-25 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg)	Kiswahili name	Mangaka 2009
Responsible Research Institute Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Leaf colour Growth habit Plant height (cm): Plant height (cm): Pod colour at maturity Seed shape Oval Testa texture Smooth Seed colour Seed size Shelling (%) Seed size Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield on farm (t/ha) Soils Other Nutritional characteristics Protein Content (pm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Prosette All major groundnut growing areas in Tanzania Altitude O - 1500masl Medium Shaki Smooth Smooth Smooth Smooth Smooth Smooth Seed colour Tan Medium Soilo Soi-65 Agronomic characteristics Po-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (9w/w) 41.1 Reaction to Pest and diseases Early leaf spot Late leaf spot Susceptible Susceptible	Local Name	Mangaka 2009
Growing Area of Recommendation All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Leaf colour Leaf colour Light green Growth habit erect Plant height (cm): 23-25 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (Post and diseases Early leaf spot Tolerant Late leaf spot Susceptible	Year of Release	2009
Regions/Areas All major groundnut growing areas in Tanzania Altitude 0 - 1500masl Morphological characteristics Leaf colour Light green Growth habit erect Plant height (cm): 23-25 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity 99-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Susceptible Rosette Susceptible	Responsible Research Institute	TARI Naliendele Centre
Altitude 0 - 1500masl Morphological characteristics Leaf colour cerect Plant height (cm): 23-25 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 2.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Susceptible Rosette Susceptible	Growing Area of Recommendation	
Morphological characteristicsLight greenLeaf colourLight greenGrowth habiterectPlant height (cm):23-25Flower colourOrange yellowPod colour at maturityKhakiSeed shapeOvalTesta textureSmoothSeed colourTanSeed sizeMediumShelling (%)63-65Agronomic characteristics80Days to maturity90-100Quantity of Seed per hectare (kg)80Number of days to 75% flowering25-30A hundred seed weight (g)35-40Grain Yield of station (t/ha)1.0-1.5Grain Yield on farm (t/ha)1.0Other2-3 seeds per podNutritional characteristicsFertile, well-drained soilProtein Content (%)32.9Iron (Fe) content (ppm, mg/kg)47.8Zinc (Zn) content (ppm, mg/kg)94.5Oil Content (%w/w)41.1Reaction to Pest and diseasesEarly leaf spotTolerantLate leaf spotSusceptibleRosetteSusceptible		All major groundnut growing areas in Tanzania
Leaf colour Growth habit erect Plant height (cm): 23-25 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Testa texture Smooth Seed colour Shelling (%) 63-65 Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Other 2-3 seeds per pod Nutritional characteristics Protein Content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Rosette Frosette Frosette Frosette Frosette Susceptible Rosette		0 - 1500masl
Growth habit erect Plant height (cm): 23-25 Flower colour Orange yellow Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Susceptible Rosette Foxel Careet Orange yellow Chaki 23-25 Maki Festive Seed size Smooth Seed size Silow Silow Seed size Silow Sil	Morphological characteristics	
Plant height (cm): Plower colour Pod colour at maturity Rhaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Rumber of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Oil Content (9ww/w) Reaction to Pest and diseases Early leaf spot Rosette Oval Tan Smooth Smooth Smooth Smooth Smooth Sed vell Smooth Smooth Sed vell Smooth Sed vell Smooth Sed or Tan Sed Simooth Tan Sed Simooth Sed or Sed Simooth Sed or Sed Simooth Sed or Tolerant Late leaf spot Susceptible Susceptible	Leaf colour	Light green
Flower colour Pod colour at maturity Khaki Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Sagronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Tinc (Zn) content (ppm, mg/kg) Cil Content (%w/w) Reaction to Pest and diseases Early leaf spot Susceptible Rosette Smooth Smo	Growth habit	
Pod colour at maturity Seed shape Oval Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Other Nutritional characteristics Protein Content (%) Nurtitional characteristics Protein Content (pm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Qil Content (%w/w) Reaction to Pest and diseases Early leaf spot Susceptible Rosette Susceptible	3	23-25
Seed shape Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Fertile, well-drained soil Other 1.0-1.5 Grain Yield on farm (t/ha) Soils Fertile, well-drained soil Other Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Susceptible Rosette Susceptible		
Testa texture Smooth Seed colour Tan Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Susceptible Rosette Susceptible	Pod colour at maturity	Khaki
Seed colour Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Grain Yield on farm (t/ha) Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette Susceptible	Seed shape	Oval
Seed size Medium Shelling (%) 63-65 Agronomic characteristics Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Susceptible Rosette Susceptible	Testa texture	Smooth
Shelling (%) Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Grain Yield on farm (t/ha) Soils Other Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Rosette Susceptible Po-100 90-100 90-100 100 100 100 100	Seed colour	Tan
Agronomic characteristics Days to maturity Quantity of Seed per hectare (kg) Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) Soils Other 1.0 Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Rosette Susceptible Susceptible	Seed size	Medium
Days to maturity 90-100 Quantity of Seed per hectare (kg) 80 Number of days to 75% flowering 25-30 A hundred seed weight (g) 35-40 Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Tolerant Late leaf spot Susceptible Rosette		63-65
Quantity of Seed per hectare (kg)80Number of days to 75% flowering25-30A hundred seed weight (g)35-40Grain Yield of station (t/ha)1.0-1.5Grain Yield on farm (t/ha)1.0SoilsFertile, well-drained soilOther2-3 seeds per podNutritional characteristicsProtein Content (%)32.9Iron (Fe) content (ppm, mg/kg)47.8Zinc (Zn) content (ppm, mg/kg)94.5Oil Content (%w/w)41.1Reaction to Pest and diseasesTolerantLate leaf spotSusceptibleRosetteSusceptible		
Number of days to 75% flowering A hundred seed weight (g) Grain Yield of station (t/ha) I.0-1.5 Grain Yield on farm (t/ha) Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Susceptible Susceptible		
A hundred seed weight (g) Grain Yield of station (t/ha) 1.0-1.5 Grain Yield on farm (t/ha) 1.0 Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette Susceptible		
Grain Yield of station (t/ha) Grain Yield on farm (t/ha) Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette Susceptible		
Grain Yield on farm (t/ha) Soils Fertile, well-drained soil Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette Susceptible Susceptible		
Soils Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette Fertile, well-drained soil 2-3 seeds per pod 47.8 42.9 47.8 47.8 21.1 Reaction to Pest and diseases Early leaf spot Susceptible Susceptible Susceptible		
Other 2-3 seeds per pod Nutritional characteristics Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Tolerant Late leaf spot Susceptible Rosette Susceptible		
Nutritional characteristicsProtein Content (%)32.9Iron (Fe) content (ppm, mg/kg)47.8Zinc (Zn) content (ppm, mg/kg)94.5Oil Content (%w/w)41.1Reaction to Pest and diseasesTolerantEarly leaf spotSusceptibleRosetteSusceptible		
Protein Content (%) 32.9 Iron (Fe) content (ppm, mg/kg) 47.8 Zinc (Zn) content (ppm, mg/kg) 94.5 Oil Content (%w/w) 41.1 Reaction to Pest and diseases Early leaf spot Tolerant Late leaf spot Susceptible Rosette Susceptible		2-3 seeds per pod
Iron (Fe) content (ppm, mg/kg)47.8Zinc (Zn) content (ppm, mg/kg)94.5Oil Content (%w/w)41.1Reaction to Pest and diseasesTolerantEarly leaf spotTolerantLate leaf spotSusceptibleRosetteSusceptible		
Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette Susceptible Susceptible	3	
Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot Late leaf spot Rosette 41.1 Tolerant Susceptible Susceptible		
Reaction to Pest and diseases Early leaf spot Tolerant Late leaf spot Susceptible Rosette Susceptible	0.000	
Early leaf spotTolerantLate leaf spotSusceptibleRosetteSusceptible		41.1
Late leaf spotSusceptibleRosetteSusceptible		
Rosette Susceptible		
Leaf rust Susceptible	Rosette	
	Leaf rust	Susceptible

Nachingea 2009

Nachingea 2009	Albania and Albania and Company of the Company of t
Variety Name	Nachingwea 2009
Variety Identifications	
Original Code	ICGV-SM 01711
Kiswahili name	Nachingwea 2009
Local Name	Nachingwea 2009
Year of Release	2009
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Dark green
Growth habit	Semi spread
Plant height (cm)	20-23
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Rough
Seed colour	Tan
Seed size	Large
Shelling (%)	54-60
Agronomic characteristics	
Days to maturity	110-120
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	40-50
Grain Yield of station (t/ha)	1.05-1.25
Grain Yield on farm (t/ha)	0.95
Soils	Fertile, well-drained soil
Other	
Nutritional characteristics	
Protein Content (%)	1 24 2
	31.3
Iron (Fe) content (ppm, mg/kg)	23.1
Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg)	23.1 77.5
Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w)	23.1
Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases	23.1 77.5 44.5
Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot	23.1 77.5
Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases	23.1 77.5 44.5
Iron (Fe) content (ppm, mg/kg) Zinc (Zn) content (ppm, mg/kg) Oil Content (%w/w) Reaction to Pest and diseases Early leaf spot	23.1 77.5 44.5 Tolerant

Masasi 2009

Masasi 2009	Albania and Albani
Variety Name	Masasi 2009
Variety Identifications	
Original Code	ICGV-SM 01712
Kiswahili name	Masasi 2009
Local Name	Masasi 2009
Year of Release	2009
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Dark green
Growth habit	Alternate, semi spread
Plant height (cm):	20-23
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Smooth
Seed colour	Red
Seed size	Large
Shelling (%)	63-68
Agronomic characteristics	
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	40-50
Grain Yield of station (t/ha)	1.1-1.5
Grain Yield on farm (t/ha)	1.0
Soils	Fertile, well-drained soil
Other	
Nutritional characteristics	
Protein Content (%)	25.4
Iron (Fe) content (ppm, mg/kg)	20.6
Zinc (Zn) content (ppm, mg/kg)	23.1
Oil Content (%w/w)	46.7
-	
Reaction to Pest and diseases	
Reaction to Pest and diseases Early leaf spot	Tolerant
Reaction to Pest and diseases Early leaf spot Late leaf spot	Tolerant Tolerant
Reaction to Pest and diseases Early leaf spot	Tolerant

Nachi 2015

Nachi 2015	
Variety Name	Nachi 2015
Variety Identifications	
Original Code	ICG-SM 90704
Kiswahili name	Nachi 2015
Local Name	Kata kiuno
Year of Release	2015
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Dark green
Growth habit	Alternate, semi spread
Plant height (cm)	20-23
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Rough
Seed colour	Tan
Seed size	Large
Shelling (%)	62-70
Agronomic characteristics	
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	40-45
Grain Yield of station (t/ha)	1.0-1.8
Grain Yield on farm (t/ha)	1.3
Soils	Fertile, well-drained soil
Other	
Nutritional characteristics	
Protein Content (%)	32.4
Iron (Fe) content (ppm, mg/kg)	33.9
Zinc (Zn) content (ppm, mg/kg)	66
Oil Content (%w/w)	43.7
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

Kuchele 2015

Kuchele 2015	
Variety Name	Kuchele 2015
Variety Identifications	
Original Code	ICG 8326
Kiswahili name	Kuchele 2015
Local Name	Kuchele 2015
Year of Release	2015
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Dark green
Growth habit	Alternate, semi spread
Plant height (cm)	20-23
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Smooth
Seed colour	Red
Seed size	Large
Shelling (%w/w)	65-72
Agronomic characteristics	
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	30-35
A hundred seed weight (g)	50-60
Grain Yield of station (t/ha)	1.0-1.5
Grain Yield on farm (t/ha)	1.0
Soils	Fertile, well-drained soil
Other	Best for confectionery market
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

Narinut 2015

Variety Name Narinut 2015 Variety Identifications Original Code ICGV-SM 01731 Kiswahili name Narinut 2015 Local Name Narinut 2015
Original Code ICGV-SM 01731 Kiswahili name Narinut 2015
Kiswahili name Narinut 2015
Local Name Narinut 2015
Year of Release 2015
Responsible Research Institute TARI Naliendele Centre
Growing Area of Recommendation
Regions/Areas All major groundnut growing areas in Tanzania
Altitude 0-1500masl
Morphological characteristics
Leaf colour Dark green
Growth habit Alternate, semi spread
Plant height (cm) 20-23
Flower colour Orange yellow
Pod colour at maturity Khaki
Seed shape Oval
Testa texture Smooth
Seed colour Tan
Seed size Large
Shelling (%w/w) 57-65
Agronomic characteristics
Days to maturity 110-115
Quantity of Seed per hectare (kg) 80-100
Number of days to 75% flowering 35-40
A hundred seed weight (g) 65-70
Grain Yield of station (t/ha) 1.5-2.0
Grain Yield on farm (t/ha) 1.0
Soils Fertile, well-drained soil
Other Best for confectionery market
Nutritional characteristics
Protein Content (%) 24.2
Iron (Fe) content (ppm, mg/kg) 20.5
Zinc (Zn) content (ppm, mg/kg) 25.2
Oil Content (%w/w) 46.2
Reaction to Pest and diseases
Early leaf spot Tolerant
Late leaf spot Tolerant
Rosette Tolerant
Leaf rust Tolerant

Naliendele 2016

Variety Name	Naliendele 2016
Variety Identifications	
Original Code	ICGV-SM 08503
Kiswahili name	Naliendele 2016
Local Name	Karanga malawi
Year of Release	2018
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Dark green
Growth habit	Alternate, semi spread
Plant height (cm)	20-23
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Smooth
Seed colour	Red
Seed size	Large
Shelling (%w/w)	65-72
Agronomic characteristics	
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	45-50
Grain Yield of station (t/ha)	1.0-1.5
Grain Yield on farm (t/ha)	0.9
Soils	Fertile, well-drained soil
Other	
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

Tanzanut 2016

Tanzanut 2016	
Variety Name	Tanzanut 2016
Variety Identifications	
Original Code	ICGV-SM 01514
Kiswahili name	Tanzanut 2016
Local Name	Tanzanut 2016
Year of Release	2018
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendatio	n Maria Mari
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Green
Growth habit	Alternate, semi spread
Plant height (cm)	23-25
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Rough smooth
Seed colour	Tan
Seed size	Medium
Shelling (%)	50-53
Agronomic characteristics	
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	40-45
Grain Yield of station (t/ha)	1.2-1.5
Grain Yield on farm (t/ha)	1.0
Soils	Fertile, well-drained soil
Other	
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Susceptible

Mtwaranut 2016

Variety Name	Mtwaranut 2016
Variety Identifications	
Original Code	ICGV-SM 07599
Kiswahili name	Mtwaranut 2016
Local Name	Mtwaranut 2016
Year of Release	2018
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	All major groundnut growing areas in Tanzania
Altitude	0-1500masl
Morphological characteristics	
Leaf colour	Dark green
Growth habit	Alternate, semi spread
Plant height (cm)	20-23
Flower colour	Orange yellow
Pod colour at maturity	Khaki
Seed shape	Oval
Testa texture	Smooth
Seed colour	Tan
Seed size	Large
Shelling (%)	54-58
Agronomic characteristics	
Days to maturity	110-115
Quantity of Seed per hectare (kg)	80-100
Number of days to 75% flowering	35-40
A hundred seed weight (g)	65-70
Grain Yield of station (t/ha)	1.1-1.3
Grain Yield on farm (t/ha)	1.0
Soils	Fertile, well-drained soil
Other	
Reaction to Pest and diseases	T .1
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

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