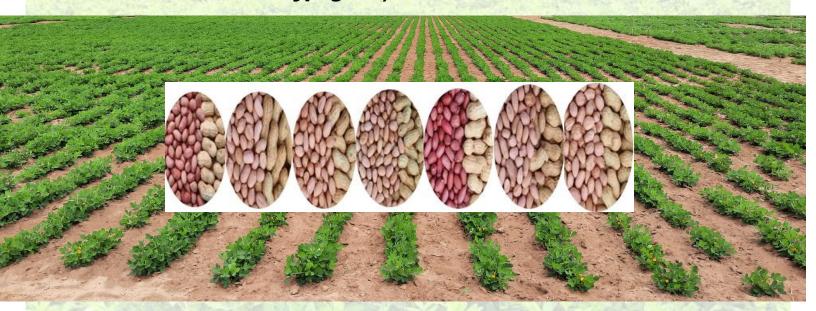
VARIETY CATALOGUE OF GROUNDNUTS (Arachis Hypogaea) IN TANZANIA



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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

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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

Nyuta 1905	
Variety Name	Nyota 1983
Variety Identifications	
Original Code	Span cross
Kiswahili name	Nyota
Local Name	Serena, mwezi mmoja
Year of Release	1983
Responsible Research Institute	TARI Naliendele
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	, and the second se
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	small kernels
Agronomic characteristics	
Days to maturity	90 – 100
Quantity of Seed per hectare (kg)	80
Number of days to 75% flowering	26-30
A hundred seed weight (g)	35-40
Grain Yield of station (t/ha)	0.8-1.5
Grain Yield on farm (t/ha)	0.8
Soils	Fertile and well drained
Other	Sprout at maturity if harvesting is delayed
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

Johari 1985

Variety Name	Johari 1985
Variety Identifications	Johan 1903
Original Code	Robut - 33
Kiswahili name	Johari
Local Name	Johari
Year of Release	1985
Responsible Research Institute	TARI Naliendele
Growing Area of Recommendation	17/11 Nationalic
Regions/Areas	Areas with rainfall range of 750 – 1200mm and
regions, ruedo	light
Altitude	0 – 1500 metres above sea level (m.a.s.l)
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	Tan kernels
Seed size	Medium size kernels
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)	35-40
Grain Yield of station (t/ha)	1.0 - 1.2
Grain Yield on farm (t/ha)	0.85
Soils	Fertile and well drained
Other	Sprout at maturity if harvesting is delayed
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Susceptible
Leaf rust	Susceptible

Pendo 1998

Variety Name	Pendo 1998
Variety Identifications	
Original Code	ICGMS-33
Kiswahili name	Pendo
Local Name	Upendo, serena
Year of Release	1998
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
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 (%)	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

Sawia 1990		
Variety Name	Sawia 1998	
Variety Identifications		
Original Code	ICGMS 46	
Kiswahili name	Sawia	
Local Name	Sawia	
Year of Release	1998	Ē
Responsible Research Institute	TARI Naliendele Centre	
Growing Area of Recommendation		Ø.
Regions/Areas	Areas with rainfall range of 750 – 1200mm and	
	light	Ĭ
Altitude	0-1500masl	
Morphological characteristics		
Leaf colour	Green	Ł
Growth habit	Semi spread	10
Plant height (cm):	20-23	ij
Flower colour	Orange yellow	9
Pod colour at maturity	Khaki	
Seed shape	Oval	
Testa texture	Smooth	à
Seed colour	Tan	
Seed size	Medium	2
Shelling (%)	65-68	
Agronomic characteristics		
Days to maturity	110-115	E
Quantity of Seed per hectare (kg)	80-100	3
Number of days to 75% flowering	30-40	
A hundred seed weight (g)	35-40	Z
Grain Yield of station (t/ha)	1.0-1.2	
Grain Yield on farm (t/ha)	0.95	
Soils	Fertile and well drained	h
Other		2
Reaction to Pest and diseases		
Early leaf spot	Tolerant	
Late leaf spot	Tolerant	Ì
Rosette	Susceptible	
Leaf rust	Susceptible	þ

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
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation	
Regions/Areas	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	
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	20.5
Protein Content (%)	29.5
Iron (Fe) content (ppm, mg/kg)	65.4
Zinc (Zn) content (ppm, mg/kg)	35.3
Oil Content (%w/w)	51.5
Reaction to Pest and diseases	Talayant
Early leaf spot	Tolerant
Late leaf spot	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
	AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.

Mangaka 2009

Variety Identifications 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 a Regions/Areas All major groundnut growing a 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 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 o	
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Morphological characteristicsLeaf colourLight greenGrowth habiterectPlant height (cm):23-25Flower colourOrange yellowPod colour at maturityKhakiSeed shapeOvalTesta textureSmoothSeed colourTanSeed sizeMediumShelling (%)63-65Agronomic characteristics90-100Quantity 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)1.0SoilsFertile, 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 diseasesEarly leaf spotLate leaf spotSusceptible	growing areas in Tanzania
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Early leaf spot Tolerant Late leaf spot Susceptible	
Late leaf spot Susceptible	
Rosette	
Leaf rust Susceptible	
Luccontible	

Nachingea 2009

	Nachingea 2009	the same of the sa
	Variety Name	Nachingwea 2009
	Variety Identifications	
	Original Code	ICGV-SM 01711
	Kiswahili name	Nachingwea 2009
	Local Name	Nachingwea 2009
j	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
8	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
Ž	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	
9	Nutritional characteristics	
	Protein Content (%)	31.3
	Iron (Fe) content (ppm, mg/kg)	23.1
4	Zinc (Zn) content (ppm, mg/kg)	77.5
	Oil Content (%w/w)	44.5
	Reaction to Pest and diseases	
	Early leaf spot	Tolerant
	Late leaf spot	Tolerant
	Rosette	Tolerant
	Leaf rust	Tolerant

Masasi 2009

Masasi 2009	
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	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

Nachi 2015

Variety Identifications Original Code Kiswahili name Local Name Year of Release Responsible Research Institute Growing Area of Recommendation Regions/Areas Altitude Morphological characteristics Leaf colour Growth habit Plant height (cm) Pod colour at maturity Nachi 2015 Kata kiuno TARI Naliendele Centre TARI Naliendele Centre TARI Naliendele Centre Dark green Alternate, semi spread Plant height (cm) Pod colour at maturity Khaki
Original Code Kiswahili name Nachi 2015 Local Name Year of Release Year of Release 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 Growth habit Alternate, semi spread Plant height (cm) 20-23 Flower colour Orange yellow
Original Code Kiswahili name Nachi 2015 Local Name Kata kiuno Year of Release Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania Altitude O-1500masl Morphological characteristics Leaf colour Growth habit Alternate, semi spread Plant height (cm) Porange yellow Orange yellow
Local Name Year of Release Zo15 Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania Altitude O-1500masl Morphological characteristics Leaf colour Dark green Growth habit Alternate, semi spread Plant height (cm) Flower colour Orange yellow
Year of Release Responsible Research Institute TARI Naliendele Centre Growing Area of Recommendation Regions/Areas Altitude O-1500masl Morphological characteristics Leaf colour Growth habit Plant height (cm) Plower colour Orange yellow
Responsible Research Institute Growing Area of Recommendation Regions/Areas All major groundnut growing areas in Tanzania O-1500masl Morphological characteristics Leaf colour Growth habit Plant height (cm) Plower colour Orange yellow TARI Naliendele Centre All major groundnut growing areas in Tanzania Alternate, semis green Alternate, semi spread Plant height (cm) Orange yellow
Growing Area of RecommendationAll major groundnut growing areas in TanzaniaAltitude0-1500maslMorphological characteristicsDark greenGrowth habitAlternate, semi spreadPlant height (cm)20-23Flower colourOrange yellow
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
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Morphological characteristicsDark greenLeaf colourDark greenGrowth habitAlternate, semi spreadPlant height (cm)20-23Flower colourOrange yellow
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Growth habit Alternate, semi spread Plant height (cm) 20-23 Flower colour Orange yellow
Plant height (cm) 20-23 Flower colour Orange yellow
Flower colour Orange yellow
9.7
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

Kuchele 2015

Kuchele 2015	A CONTRACTOR OF THE PROPERTY O
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

Narinut 2015	Narinut 2015
Variety Name Variety Identifications	Natiliut 2015
-	ICGV-SM 01731
Original Code Kiswahili name	Narinut 2015
Local Name	Narinut 2015 Narinut 2015
Year of Release	2015
Responsible Research Institute	TARI Naliendele Centre
Growing Area of Recommendation Regions/Areas	All major groundput growing areas in Tanzania
Altitude	All major groundnut growing areas in Tanzania 0-1500masl
Morphological characteristics	0-1300IIIdSI
Leaf colour	Dark groop
Growth habit	Dark green
	Alternate, semi spread 20-23
Plant height (cm) Flower colour	
Pod colour at maturity	Orange yellow Khaki
	Oval
Seed shape Testa texture	Smooth
Seed colour	Tan
Seed size	Large
Shelling (%w/w)	57-65
Agronomic characteristics	110-115
Days to maturity	80-100
Quantity of Seed per hectare (kg)	
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 Nutritional characteristics	Best for confectionery market
	24.2
Protein Content (%)	20.5
Iron (Fe) content (ppm, mg/kg)	25.2
Zinc (Zn) content (ppm, mg/kg)	46.2
Oil Content (%w/w)	TU.Z
Reaction to Pest and diseases Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

Naliendele 2016

Naliendele 2016	A manufactured by the second of the second o
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 Recommenda	tion
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
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Tanzanut 2016

	Tanzanut 2016	
	Variety Name	Tanzanut 2016
	Variety Identifications	
	Original Code	ICGV-SM 01514
à	Kiswahili name	Tanzanut 2016
	Local Name	Tanzanut 2016
Ġ	Year of Release	2018
	Responsible Research Institute	TARI Naliendele Centre
Ė	Growing Area of Recommendation	
	Regions/Areas	All major groundnut growing areas in Tanzania
j	Altitude	0-1500masl
į	Morphological characteristics	
į	Leaf colour	Green
	Growth habit	Alternate, semi spread
Š	Plant height (cm)	23-25
ì	Flower colour	Orange yellow
	Pod colour at maturity	Khaki
١	Seed shape	Oval
	Testa texture	Rough smooth
į	Seed colour	Tan
ì	Seed size	Medium
	Shelling (%)	50-53
	Agronomic characteristics	
	Days to maturity	110-115
Z	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
į	Grain Yield on farm (t/ha)	1.0
ī	Soils	Fertile, well-drained soil
Ī	Other	
	Reaction to Pest and diseases	
١	Early leaf spot	Tolerant
	Late leaf spot	Tolerant
	Rosette	Tolerant
	Leaf rust	Susceptible
ø		

Mtwaranut 2016

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 Recommenda	tion
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	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Tolerant
Leaf rust	Tolerant

References

- Akpo, E., Bakari, H., Lukurugu, G. A., Daudi, H., Muricho, G., Minja, A., Nzunda, J., Ojiewo, C., & Varshney, R. (2021). *Comparative advantage of newly-released varieties of groundnut in Tanzania* (Policy Brief 36, ICRISAT).
- Akpo, E., Muricho, G., Lukurugu, G. A., Opie, H., Ojiewo, C., & Varshney, R. (2020). Legume seed production for sustainable seed supply and crop productivity: case of ground nut in Tanzania and Uganda. *Journal of Crop Improvement*, 34(04), 518–539. https://doi.org/10.1080/15427528.2020.1740368
- Akpo, E., Ojiewo, C. O., Omoigui, L. O., Rubyogo, J. C., & Varshney, R. K. (2020). Sowing Legume Seeds, Reaping Cash: A Renaissance within Communities in Sub-Saharan Africa. Springer Nature, 106pp.
- Bakari, H., Mwalongo, S., Akpo, E., Lukurugu, G. A., Nzunda, J., Gekanana, R., Waithira, G., Ojiewo, C. O., & Varshney, R. K. (2021). A Business Case for Enhanced Investments in the Groundnut Value Chain in Tanzania. Working paper Series No. 3. Hyderabad, India: CGIAR Research Program on Grain Legumes and Dryland Cereals, and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). 88 pp.
- Daudi, H., Shimelis, H., Laing, M., Okori, P., & Mponda, O. (2018). Groundnut production constraints, farming systems, and farmer-preferred traits in Tanzania. *Journal of Crop Improvement*, 32(6), 812–828. https://doi.org/10.1080/15427528.2018.1531801
- Katundu, B. M. A., Mhina, M. L., Arbogast, G., & Kumburu, N. P. (2014). Socio-Economic Factors Limiting Smallholder Groundnut Production in Tabora Region. In *Policy Research for Development*.
- Lukurugu, G. A., Mponda, O. K., Akpo, E., Monyo, E. S., Nzunda, J., Daudi, H., Joseph, A., Mlimbila, H. G., Ndolelwa, D., & Mkandawile, C. (2021). Groundnut Seed Production and Distribution Through Multi-Stakeholder Platforms in Southern Region of Tanzania. In E. Akpo, C. O. Ojiewo, I. Kapran, L. O. Omoigui, A. Diama, & R. K. Varshney (Eds.), Enhancing Smallholder Farmers' Access to Seed of Improved Legume Varieties Through Multi-stakeholder Platforms. Springer. https://doi.org/10.1007/978-981-15-8014-7_2
- Mwalongo, S., Akpo, E., Lukurugu, G. A., Muricho, G., Vernooy, R., Minja, A., Ojiewo, C., Njuguna, E., Otieno, G., & Varshney, R. (2020). Factors influencing preferences and adoption of improved groundnut varieties among farmers in Tanzania. *Agronomy*, *10*(9), 1271. https://doi.org/10.3390/agronomy10091271
- Daudi H.; Mashamba P.; Mfaume J.; Monyo E.; Mponda O (2012). Groundnut breeding status. Presented at Annual meeting –Tropical Legume 1 phase 2 of generation challenge programme, Addis Ababa, Ethiopia, 7th 11th, May 2012
- Ndabila, A (2018). Adoption of a system of rice intensification and effect on yield in Mbarali district Mbeya, Tanzania. Dissertation for Award of MSc Degree in the Sokoine University of Agriculture.
- Zurich, E (2014). Historical drought trends revisited. Journal of climate science, 491, 338 -339

Mwakimata, R (2017). Analysis of Gender yield gape among groundnut farmers in Tanzania.

Dissertation for Award of MSc Degree in the Sokoine University of Agriculture.

FAOSTAT (2022). Statistical data on crops, groundnuts, area, production quantity of Tanzania,
Africa and the world. http://Faostat.fao.org visited on 20 October 2022.

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