

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 guide 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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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 released between 1960s and 1990s (Daudi et al., 2012). The description of the varieties have been provided in the document.


Nyota 1983

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	
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	
Original Code	Robut - 33
Kiswahili name	Johari
Local Name	Johari
Year of Release	1985
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	
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
Agromomic 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

Variety Name	Sawia 1998
Variety Identifications	
Original Code	ICGMS 46
Kiswahili name	Sawia
Local Name	Sawia
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	0-1500masl
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
Grain Yield of station (t/ha)	1.0-1.2
Grain Yield on farm (t/ha)	0.95
Soils	Fertile and well drained
Other	
Reaction to Pest and diseases	
Early leaf spot	Tolerant
Late leaf spot	Tolerant
Rosette	Susceptible
Leaf rust	Susceptible


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		
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		
Early leaf spot	Tolerant	
Late leaf spot	Tolerant	
Rosette	Susceptible	
Leaf rust	Tolerant	


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	

Mangaka 2009

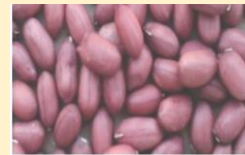
Variety Name		Mangaka 2009
Variety Identifications		
Original Code	ICGV-SM-99557	
Kiswahili name	Mangaka 2009	
Local Name	Mangaka 2009	
Year of Release	2009	
Responsible Research Institute	TARI Naliendele Centre	
Growing Area of Recommendation		
Regions/Areas	All major groundnut growing areas in Tanzania	
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	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	Susceptible	
Leaf rust	Susceptible	

Nachingea 2009

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 (%)	31.3	
Iron (Fe) content (ppm, mg/kg)	23.1	
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

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 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

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	
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	
Agromomic 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

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 Recommendation		
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		
Early leaf spot	Tolerant	
Late leaf spot	Tolerant	
Rosette	Tolerant	
Leaf rust	Tolerant	



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