# Collecting Groundnut Germplasm in Tanzania

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## Introduction

Groundnut is an important crop in Tanzania, which is grown from sea level to almost 1,700 m. The total area under groundnut was about 100,000 ha in 1982 (Mwenda et al., 1985). Very little of the production enters commercial markets (except in the southeastern provinces), and farmers often plant mixtures of many different types. Yield levels are low, due to low inputs, poor soils and the lack of improved cultivars. The average yield is about 600 kg/ha of dry pods. Diseases and insect pests are major constraints, and leaf spots and rust are estimated to cause yield losses of over 35% (Mwenda, 1985).

There are two main groundnut-growing zones in Tanzania: Zone I, where rainfall is unimodal and occurs from October-November to May-June, with a spell of drought ranging from a few days to a few weeks during January and/or February, includes Mtwara, Lindi, Ruvuma, Mbeya, Kigoma, Shinyanga, Tabora, Mwanza and Mara; and Zone II, which has a distinct bimodal pattern of rainfall, with short periods of rain in November-December and a longer period from February-March to May-June, includes Morogoro, central and northeastern Tanzania.

This zone is suitable for the cultivation of most crops including groundnut. Groundnut is generally intercropped with cereals or cassava and often with several other crops, when it is of secondary importance. The types of groundnut grown in Tanzania are listed in Table 1.

This paper describes the work of a groundnut collecting mission during April-May 1985 which was organized jointly by International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Tanzanian Agricultural Research Organization (TARO).

## Groundnut variation and collecting

The numbers of groundnut accessions collected are listed in Table 2. All three different botanical groups belonging to Arachis hypogaea L. subsp. hypogaea Krap. et Rig. nom. nud. var. hypogaea Krap. et Greg. nom. nud. and subsp. fastigiata Waldron var. vulgaris Harz and var. fastigiata Krap. et Greg. nom. nud. were collected. Considerable variation was observed in pod type, seed size and seed colour although most of the samples collected were Spanish types with either tan or red seeds.

The maturity period of the samples ranged from 3 to 6 months, but most of them matured in about 120 days. A few of the samples (RM 35-1, RM 35-2, RM 79 and RM 84), known locally as "Mwejimoja", were said to mature in about 2 months, but this may have been an exaggeration. The groundnut crop may not be planted at a fixed time, so some areas were not visited at the correct time for harvest. Certain types appeared to be specific to particular ethnic groups or tribes: RM 74, a bold, 2-3 seeded type called "Jakinyamwezi" to the "Nyamwezi" tribe; and RM 78 to the "Sukuma" tribe.

Practically all of the groundnuts in Tanzania are grown by small farmers and

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Table 1. Groundnut types grown in different regions of Tanzania

| Local name | Province | Type |
|---|---|---|
| Red Mwitunde | Mtwara, Lindi | Mixture of spreading bunch and runner |
| Dodoma Bold | Ruvuma | Mainly runner |
| Amani | Ruvuma | Mainly runner |
| Mongo Mongo | Mtwara | Mixture of spreading bunch and runner |
| Kasalagara | Mwanza | Mainly upright bunch |
| Bwanga | Mwanza | Mixture of spreading bunch and runner |
| Mwanjelwa | Mbeya | Mainly runner |
| Malawi | Ruvuma, Dodoma | Upright bunch |

most are used for home consumption. The farmers usually retain some of the crop as seed for the next planting, or obtain seed from neighbours, a practice which has continued for many generations, so most of the samples collected were probably true landraces.

This assumption was supported by historical information gathered from the farmers. There may be exceptions, such as the "Mericani" (American) and "Ya ki china" (Chinese) types, which came from seed material distributed by local organizations about 10-12 years ago.

Termites were the main insect pests observed in many fields and their damage was particularly severe near Kiegea (Morogoro), Sagara, Kisokwe, Chunyu, Igunugo, Mlowa and Seruka (Dodoma) and Mtwara. Hilda petruelis was also seen at a number of sites, and in a few fields near Sagara, Chakoroma and Kisokwe

Table 2. Summary of groundnut germplasm collected in Tanzania April-May 1985

| Province | District | Number of samples collected |
|---|---|---|
| Morogoro | Kilosa | 2 |
| Dodoma | Kongwa | 2 |
| | Mpwapwa | 13 |
| | Dodoma | 28 |
| | Kondoa | 8 |
| Arusha | Hanang | 3 |
| Singida | Manyoni | 2 |
| | Kiomboi | 5 |
| | Singida | 2 |
| Tabora | Igunga | 1 |
| | Nzega | 11 |
| | Tabora | 8 |
| | Urambo | 1 |
| Shinyanga | Shinyanga | 2 |
| Iringa | Iringa | 1 |
| | Mufundi | 1 |
| | Njombe | 3 |
| Mbeya | Mbeya | 3 |
| Total | | 96 |

(Dodoma) and Mtwara caused serious damage. Jassids were found in almost every field, and near Matufa (Arusha), Chamalenti (Singida), Nzega and Itilo (Tabora) caused quite severe damage.

Leaf spots (early and late) were observed in many of the groundnut fields sampled. Infestations were particularly severe near Kiegea (Morogoro), Sagara, Chakoroma, Kisokwe, Mbalabala, Bakulu (Dodoma), Chamalenti and Choda (Singida), Nzega and Sipungu (Tabora). Groundnut rosette virus disease symptoms were noticed on plants in a field near Sipungu (Tabora) and symptoms caused by peanut mottle virus and/or tomato spotted wilt virus were observed on groundnuts near Sagara and Chakoroma (Dodoma).

There seems to be no immediate threat to groundnut genetic resources in Tanzania, but the provinces of Lindi, Mtwara, Ruvuma, Kigoma, West Lake, Mwanza, Mara, Arusha, Morogoro and Tanga have still not been explored.

## References

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## RESUME

96 accessions, principalement des variétés de pays, d'arachide furent collectées au centre et au sud de la Tanzanie en 1985. La collecte n'a pas encore eu lieu dans le nord et l'ouest.

## RESUMEN

En 1985 se recogieron 96 accesiones de maní, casi todos ellos variedades locales, en las zonas central y meridional de Tanzanía; todavía no se han efectuado recolecciones en las zonas septentrional y occidental.