

## Field Assessment of Cassava Diseases at Wolaita Zone Southern Ethiopia

Zerhun Tomas Lera\*

Department of Plant Pathology, Southern Agricultural Research Institute, Areka Agricultural Research Center, Areka, Ethiopia

### Abstract

Cassava mosaic disease (CMD) is a serious threat to cassava production in sub-Saharan Africa. Cassava field assessments were made on 2023, to know the presence of the diseases on cassava plantation located at Offa and Sodo Zuria district Southern Ethiopia. During assessment cassava leaf showed symptoms like leaf chlorosis (discoloration), distortion and reduction in leaf size and stunting of the whole plant but no symptoms were observed by external parts of the stem and root even in the internal part of the root (by dissecting tuberous root of the cassava). Based on visual inspection/observation and by comparing literature descriptions made on cassava diseases symptoms produced, the diseases was identified as Cassava mosaic disease.

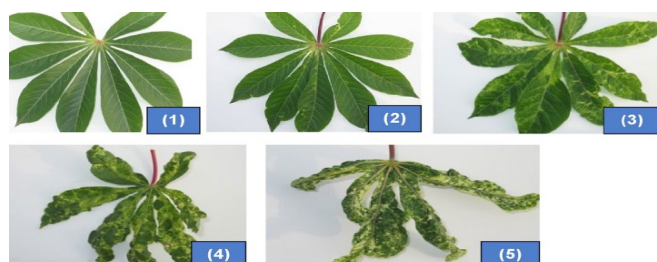
**Keywords:** Cassava; Cassava mosaic virus disease; Cassava mosaic streak virus disease; Assessment

### Introduction

Based on the invitation made by Tarpeza Development Association (TDA) on 12/1/2023, survey was carried out at cassava field and diseased leaf samples were collected for identification of diseases that attacks cassava plant [1]. Totally four farmers' fields were surveyed at 3 km interval alongside the main roads and diseased leaf samples were collected for further reference [2]. Diseases identification was made based on visual inspection/observation made on symptoms produced on the external parts of the leaf, stem and by dissecting tuberous root part of the cassava [3]. Incidence of cassava mosaic disease was calculated as the percentage of plants with symptoms. Severity was assessed using the 1 to 5 severity scale of the International Institute of Tropical of Agriculture (IITA) (1990), where 1 = no visible symptoms, 2 = mild chlorotic patterns, 3 = mosaic patterns on all leaves and leaf distortion, 4 = mosaic pattern on all leaves, leaf distortion, and a general reduction in leaf size and 5 = misshapen and twisted leaves and stunting of the whole plant (Figure 1) [4,5].

### Conclusion and Recommendation

Cassava mosaic virus disease (CMD) and Cassava mosaic streak virus disease (CMSD) are the most severe and widespread, limiting production of the crop in sub-Saharan Africa. During field scouting cassava leaf showed symptoms like leaf chlorosis (discoloration), distortion and reduction in leaf size and stunting of the whole plant but no symptoms were observed by external parts of the stem and root even in the internal part of the root (by dissecting tuberous root of the cassava). Based on visual inspection/observation and by comparing



1=No visible symptoms, 2=mild chlorotic patterns, 3=mosaic patterns on all leaves and leaf distortion, 4=mosaic pattern on all leaves, leaf distortion, and a general reduction in leaf size and 5=misshapen and twisted leaves and stunting of the whole plant

**Figure 1:** Scale used in scoring for cassava mosaic disease.

**Table 1:** Description of survey sites and Cassava Mosaic Diseases pressure.

Zone	Woreda	Kebele	Location		Altitude	Diseases	
			Latitude	Longitude		Incidence	Severity
Wolaita	Offa	Busha	6°46'10"N	37°35'55"E	1653.7	100	4
	Offa	Busha	6°45'23"N	37°37'7"E	1727.98	100	4
	Offa	Busha	6°44'36"N	37°35'53"E	1588.09	100	3
	Sodo Zuria	Waraza Gerera	6°49'45"N	37°42'55"E	1850	70	2

literature descriptions made on cassava diseases symptoms produced, the diseases was identified as Cassava mosaic disease. This is because Cassava mosaic disease symptoms were mostly observed on leaf parts of the cassava but that of the Cassava mosaic streak virus diseases symptoms were observed in leaf, stem and internal part of the root (tuberous root necrosis). So the disease observed during survey was identified as Cassava mosaic viral disease. Future research is needed for the assessment of more agro-ecologies and molecular identification of the pathogen in addition to morphological identification.

### Acknowledgements

The Authors acknowledge Areka Agricultural Research Center and Tarpeza Development Association (TDA) for their material support.

### Competing Interests

The authors declare that they have no competing interests.

### References

- International Institute of Tropical Agriculture (IITA). Starting a Cassava Farm: IPM Field Guide for Extension Agents 4-10.
- Mesfin AH, Girma F (2022) Understanding sorghum farming system and its implication for future research strategies in humid agro-ecologies in Western Ethiopia. *Journal of Agriculture and Food Research* 10:100456.

\*Corresponding author: Zerhun Tomas Lera, Department of Plant Pathology, Southern Agricultural Research Institute, Areka Agricultural Research Center, Areka, Ethiopia, E-mail: zerhuntoomas1977@gmail.com

**Received:** 01-Apr-2024, Manuscript No: acst-24-134694, **Editor Assigned:** 04-Apr-2024, pre QC No: acst-24-134694 (PQ), **Reviewed:** 18-Apr-2024, QC No: acst-24-134694, **Revised:** 22-Apr-2024, Manuscript No: acst-24-134694 (R), **Published:** 29-Apr-2024, DOI: 10.4172/2329-8863.1000692

**Citation:** Lera ZT (2024) Field Assessment of Cassava Diseases at Wolaita Zone Southern Ethiopia. *Adv Crop Sci Tech* 12: 692.

**Copyright:** © 2024 Lera ZT. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

3. Atera EA, Itoh K, Onyango JC (2011) Evaluation of ecologies and severity of Striga weed on rice in sub-Saharan Africa.
4. Atera EA, Itoh K, Azuma T, Ishii T (2012) Farmers' perspectives on the biotic constraint of *Striga hermonthica* and its control in western Kenya. *Weed biology and management* 12: 53-62.
5. Gebreslasie A, Tessema T, Hamza I, Nigussie D (2016) Abundance and distribution of *Striga* (*Striga hermonthica* (Del.) Benth.) infestation in selected sorghum (*Sorghum bicolor* L. Moench) growing areas of Tigray Region, Ethiopia. *African Journal of Agricultural Research* 11:4674-4682.