**AGRONOMIC PRACTICES FOLLOWED BY TOMATO FARMERS IN LILONGWE.**

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**LOCATION**

The study was conducted at Mitundu EPA in Lilongwe district as part of investigating farmers’ knowledge of insect pets, pest outbreaks, factors that make them vulnerable to pest outbreaks and management in tomato farming systems. The study was conducted at 4 sections of Mitundu EPA during the 2020/2021 growing season. These sections included Chiwiri section, Chiweta section, Chikonde section and Umodzi section. Mitundu EPA is located at western part of Lilongwe. The EPA lies within the areas of traditional authorities Chiseka and Chadza. The number of villages in Mitundu are 819. Mitundu is at a latitude of 033o46.809, east and 14o14.494, south with an elevation of 1186m above sea level. It receives total annual rainfall of 1068mm. The total land area is 22204.9ha with approximately 15649.5 ha of arable land and 6555.4ha of non-arable land. The area under smallholder is 21230ha and the area under estate is 974.5ha. The number of households occupying the area is 21293 with each family having a land holding size of 0.8 ha. The EPA has a total of 14 sections. The area under tomato production in Mitundu EPA is 66 hectares with an estimate of 26942 kg per hectare. Horticulture estimates in 2017/2018 for Mitundu EPA shows that most farmers practice tomato farming in most sections of the EPA and is one of the most grown vegetables in the area with an estimated production of 1778.172tons.

The study was conducted at Mkwinda EPA under Lilongwe ADD. The study was conducted at 4 sections namely Ntayasengwa, Machentche, Nsinja and Mchokela during the 2020/2021 growing season. It is on latitude of 14ᵒ10’0’’ south and 33ᵒ45’0’’ east with an elevation of 1100m above sea level. It has mean annual temperature of 18ᵒc - 28ᵒc and annually it receives total rainfall of 800-1031mm. Mkwinda EPA consists of three Tradition Authorities Namely T/A Chadza, T/A Chiseka and T/A Masula in which only 2 Traditional Authorities that grow tomatoes, namely Masula and Chiseka. The total land area is 22969ha with approximately 18606 ha of arable land and 4363 ha of non-arable land. Mkwinda EPA has a total of 14 section with approximately 1900 household average per section. The number of households occupying the area is 26328 with each family having a land holding size of 1.4 ha. The total of male headed households at Mkwinda EPA is 18786 and total of female headed households is 7543.

**RESULTS**

Table 1: Varieties of tomatoes grown by smallholder farmers

|  |  |  |
| --- | --- | --- |
| Variety | No of respondents | % respondents \* |
| Tengeru 97 | 100 | 100 |
| Rodade | 20 | 20 |
| Kalizoto | 20 | 20 |
| Money maker | 20 | 20 |
| Tanya | 80 | 80 |
| Nyanya | 60 | 60 |
| Kibo | 20 | 20 |

\*multiple responses allowed

Table 2: Months tomato is grown

|  |  |  |
| --- | --- | --- |
| Months | Frequency | Percent |
| Mar-Jun, Jun-Oct | 38 | 38.0 |
| Feb-Jun, Jun-Oct | 20 | 20.0 |
| Mar-Jun, Sep-Jan | 40 | 40.0 |
| Jan-May, Jun-Oct, Oct-Jan | 2 | 2.0 |

Table 3: Months vulnerable to pest outbreaks (n=50)

|  |  |  |
| --- | --- | --- |
| Month | Frequency | Percent |
| August | 30 | 60.0 |
| October | 10 | 20.0 |
| December | 10 | 20.0 |
| Total | 50 | 100.0 |

Table 4: Common pests mentioned by respondents

|  |  |  |
| --- | --- | --- |
| Pests | No of respondents | Percent \* |
| Grasshoppers | 30 | 22.0% |
| Leaf miner  | 59 | 40.0% |
| Tomato fruit worm | 51 | 24.0% |
| Cutworms  | 22 | 44.0% |
| Red spider mites | 89 | 100.0% |
| Aphids | 43 | 58.0% |

**\***multiple responses allowed.

Table 5: Synthetic pesticides used by respondents

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trade Name | Active Ingredient  | No. of respondents | % of cases \* | WHO classification |
| Karate | Lambda-cyhalothrin 50g/L (pyrethroid) | 18 | 20 | II |
| Novacor | Cypermethrin 200g/L  | 69 | 60 | II |
| Snowcron  | Profenofos 500g/L EC (organophosphorous) | 72 | 80 | II |

(\*multiple responses allowed ) WHO classification key (I=extremely or highly hazardous; II= moderately hazardous, III= slightly hazardous U=unlikely to present acute hazard; 0= basic)

Table 6: Practices done in tomato production by smallholder farmers

|  |  |  |
| --- | --- | --- |
| PRACTICES | No. respondents | % Respondents |
| Land preparation | 39 | 100 |
| Burning residues | 26 | 66.7 |
| Removing residues | 7 | 17.9 |
| Soil solarization | 6 | 15.4 |
| Making beds | 39 | 100 |
| Applying manure | 39 | 100 |
| Applying fertilizer | 39 | 100 |
| Sowing in nurseries | 39 | 100 |