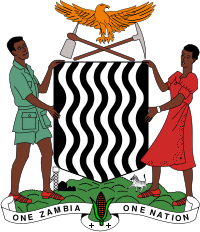
**IDEOs**



**Integrated Diary**

**for**

**Extension Officers**

**January to March, 2011**





**Ministry of Agriculture and Co-operatives**

**Department of Agriculture**

Contents

1. Mission and TORs ForCamp Extension Officer
2. District’s Objectives and Performance Indicators
3. Camp-level Performance Indicators
4. Camp Profile (No. of zones, villages, farmers, main crops and potential crops, etc.)
5. C:\Users\miyoshi\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\7CPS27FI\MC900312466[1].wmfMonthly Calendar
6. Bi-weekly Calendar (Plan and Achievement)
7. Forms of Various Reports and Schedules
8. Knowledge & Information Base (Crops/ techniques /PEA/ FFS/ PaViDIA etc.)
9. Address Book of Clients (Farmers and Farmer Groups)
10. C:\Users\miyoshi\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\IKUILDDD\MC900079061[1].wmfFAQ report sheet
11. Memo

|  |
| --- |
| Guide:  Plan your work schedule with this diary and keep record your work.  Carry this diary everywhere you go.  Report your work plan and achievement to your supervisor with this diary. |

# *JOB PURPOSE of Camp Extension Officers*

Mission: **To undertake the provision of extension services in order to facilitate dissemination of information and technologies for improved agriculture at camp level**

|  |  |
| --- | --- |
| KEY RESULT AREA | PRINCIPAL ACCOUNTABILITIES |
| Training | Conducts timely demonstrations and training of farmers in order to ensure effective delivery of appropriate information on technology |
| Technical Support | Conducts timely demonstrations and agronomic practices for the farmers in order to ensure effective delivery of appropriate technologies. |
| Performance management | Ensures timely development of individual and camp work plans in order to monitor and evaluate performance |

## REPORTING RELATIONSHIPS

### a) Reports to:

Block Extension Officer (District)

### b) Other Jobs Reporting to above:

Other camp extension officers

### c) Number and Level of Immediate Subordinates:

None

**d)** **Contacts**

#### i) Internal Contacts:

Agricultural Officers

Other District Staff

#### ii) External Contacts:

NGOs, Farmers and Other stakeholders

**District Objectives for Extension Services**

District Mission Statement

|  |
| --- |
|  |

District Objectives for 3 months

|  |
| --- |
|  |

District Key Indicators

|  |  |  |
| --- | --- | --- |
| Key Indicator | Period/Unit | Target |
|  |  |  |
|  |  |  |
|  |  |  |

**Objectives for Extension Services in My Agricultural Camp**

Mission Statement

|  |
| --- |
|  |

Objectives for 3 month

|  |
| --- |
|  |

) Key Indicators

|  |  |  |
| --- | --- | --- |
| Key Indicators | Period/Unit | Target |
|  |  |  |
|  |  |  |
|  |  |  |

Camp Profile

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Client | Zones | Villages | Study Groups | Households | Population |
| 1. Total number in your camp |  |  |  |  |  |
| 2. Number of current serviced |  |  |  |  |  |

Map of Camp

|  |
| --- |
|  |

List of Popular Crops and Potential Crops

|  |  |
| --- | --- |
| Popular Crops  1  2  3  4  5  6  7  8  9 | Potential Crops  1  2  3  4  5  6  7  8  9 |

**3 Months Calendar**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **January** |  |  | **February** |  |  | **March** |
| 1 | Sat |  | 1 | Tue |  | 1 | Tue |  |
| 2 | Sun |  | 2 | Wed |  | 2 | Wed |  |
| 3 | Mon |  | 3 | Thu |  | 3 | Thu |  |
| 4 | Tue |  | 4 | Fri |  | 4 | Fri |  |
| 5 | Wed |  | 5 | Sat |  | 5 | Sat |  |
| 6 | Thu |  | 6 | Sun |  | 6 | Sun |  |
| 7 | Fri |  | 7 | Mon |  | 7 | Mon |  |
| 8 | Sat |  | 8 | Tue |  | 8 | Tue |  |
| 9 | Sun |  | 9 | Wed |  | 9 | Wed |  |
| 10 | Mon |  | 10 | Thu |  | 10 | Thu |  |
| 11 | Tue |  | 11 | Fri |  | 11 | Fri |  |
| 12 | Wed |  | 12 | Sat |  | 12 | Sat |  |
| 13 | Thu |  | 13 | Sun |  | 13 | Sun |  |
| 14 | Fri |  | 14 | Mon |  | 14 | Mon |  |
| 15 | Sat |  | 15 | Tue |  | 15 | Tue |  |
| 16 | Sun |  | 16 | Wed |  | 16 | Wed |  |
| 17 | Mon |  | 17 | Thu |  | 17 | Thu |  |
| 18 | Tue |  | 18 | Fri |  | 18 | Fri |  |
| 19 | Wed |  | 19 | Sat |  | 19 | Sat |  |
| 20 | Thu |  | 20 | Sun |  | 20 | Sun |  |
| 21 | Fri |  | 21 | Mon |  | 21 | Mon |  |
| 22 | Sat |  | 22 | Tue |  | 22 | Tue |  |
| 23 | Sun |  | 23 | Wed |  | 23 | Wed |  |
| 24 | Mon |  | 24 | Thu |  | 24 | Thu |  |
| 25 | Tue |  | 25 | Fri |  | 25 | Fri |  |
| 26 | Wed |  | 26 | Sat |  | 26 | Sat |  |
| 27 | Thu |  | 27 | Sun |  | 27 | Sun |  |
| 28 | Fri |  | 28 | Mon |  | 28 | Mon |  |
| 29 | Sat |  |  |  |  | 29 | Tue |  |
| 30 | Sun |  |  |  |  | 30 | Wed |  |
| 31 | Mon |  |  |  |  | 31 | Thu |  |

|  |
| --- |
| **PLANNED ACTIVITIES** |

**January**

|  |  |  |
| --- | --- | --- |
| 1 | Sat |  |
| 2 | Sun |  |
| 3 | Mon |  |
| 4 | Tue |  |
| 5 | Wed |  |
| 6 | Thu |  |
| 7 | Fri |  |
| 8 | Sat |  |
| 9 | Sun |  |
| 10 | Mon |  |
| 11 | Tue |  |
| 12 | Wed |  |
| 13 | Thu |  |
| 14 | Fri |  |
| 15 | Sat |  |
| 16 | Sun |  |

|  |
| --- |
| **ACTUAL** |

**January**

|  |  |  |
| --- | --- | --- |
| 1 | Sat |  |
| 2 | Sun |  |
| 3 | Mon |  |
| 4 | Tue |  |
| 5 | Wed |  |
| 6 | Thu |  |
| 7 | Fri |  |
| 8 | Sat |  |
| 9 | Sun |  |
| 10 | Mon |  |
| 11 | Tue |  |
| 12 | Wed |  |
| 13 | Thu |  |
| 14 | Fri |  |
| 15 | Sat |  |
| 16 | Sun |  |

|  |
| --- |
| **PLANNED ACTIVITIES** |

**January**

|  |  |  |
| --- | --- | --- |
| 17 | Mon |  |
| 18 | Tue |  |
| 19 | Wed |  |
| 20 | Thu |  |
| 21 | Fri |  |
| 22 | Sat |  |
| 23 | Sun |  |
| 24 | Mon |  |
| 25 | Tue |  |
| 26 | Wed |  |
| 27 | Thu |  |
| 28 | Fri |  |
| 29 | Sat |  |
| 30 | Sun |  |
| 31 | Mon |  |

|  |
| --- |
| **ACTUAL** |

**January**

|  |  |  |
| --- | --- | --- |
| 17 | Mon |  |
| 18 | Tue |  |
| 19 | Wed |  |
| 20 | Thu |  |
| 21 | Fri |  |
| 22 | Sat |  |
| 23 | Sun |  |
| 24 | Mon |  |
| 25 | Tue |  |
| 26 | Wed |  |
| 27 | Thu |  |
| 28 | Fri |  |
| 29 | Sat |  |
| 30 | Sun |  |
| 31 | Mon |  |

**SUMMARY FOR THIS MONTH’S ACTIVITIES**

**1. Utilization of Days**

|  |  |
| --- | --- |
| Number of Total Days for This Month | 31/ 30/ ( ) |
| Number of Days in the Field |  |
| Number of Days in the office (home) to work |  |
| Number of Days for resting |  |
| Number of Days for other purposes |  |

**2. Group and Individual Farmers Met**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ZONE** | **Dates Visited (e.g.3,6,13,29)** | **Farmers met** | | **Major Issues / Comments** |
| . |  | M | F |  |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
|  | TOTAL |  |  |  |

**3. Major Indicators of Your Performance**

|  |  |  |
| --- | --- | --- |
| **INDICATOR** | **Number** | **No. of Attendance/ Comments/ Remarks** |
| No. of Meetings held |  |  |
| No. of Trainings held |  |  |
| No. of Field Days conducted |  |  |
| No. of Demonstrations conducted |  |  |
| No of Reports prepared |  |  |
| No of Leaflets distributed |  |  |
| (you can add any other indicators) |  |  |

Self-Assessment of Your Performance for this month. (Choose one)

(1) Very Satisfactory, (2) About Average, (3) Not Satisfactory

Reason: ……………………………………………………………………………………………………………………………………………………………………………………………………

**4. Major Indicators of Your Capacity Building**

|  |  |  |
| --- | --- | --- |
| **INDICATOR** | **Number** | **Contents/ Comments/ Remarks** |
| No. of Trainings attended |  |  |
| No. of Books / Materials read |  |  |
| No. of Visits to Lead Farmers |  |  |
| No. of Sessions with SMSs |  |  |
| No of Studies with colleagues |  |  |
| (you can add any other indicators) |  |  |

Self-Assessment of Your Capacity Building of this month. (Choose one)

(1) Very Improved/increased, (2) Fairly Improved (3) Not very much Changed

Reason: ……………………………………………………………………………………………………………………………………………………………………………………………………

|  |
| --- |
| **PLANNED ACTIVITIES** |

**February**

|  |  |  |
| --- | --- | --- |
| 1 | Tue |  |
| 2 | Wed |  |
| 3 | Thu |  |
| 4 | Fri |  |
| 5 | Sat |  |
| 6 | Sun |  |
| 7 | Mon |  |
| 8 | Tue |  |
| 9 | Wed |  |
| 10 | Thu |  |
| 11 | Fri |  |
| 12 | Sat |  |
| 13 | Sun |  |
| 14 | Mon |  |

|  |
| --- |
| **ACTUAL** |

**February**

|  |  |  |
| --- | --- | --- |
| 1 | Tue |  |
| 2 | Wed |  |
| 3 | Thu |  |
| 4 | Fri |  |
| 5 | Sat |  |
| 6 | Sun |  |
| 7 | Mon |  |
| 8 | Tue |  |
| 9 | Wed |  |
| 10 | Thu |  |
| 11 | Fri |  |
| 12 | Sat |  |
| 13 | Sun |  |
| 14 | Mon |  |

|  |
| --- |
| **PLAN** |

**February**

|  |  |  |
| --- | --- | --- |
| 15 | Tue |  |
| 16 | Wed |  |
| 17 | Thu |  |
| 18 | Fri |  |
| 19 | Sat |  |
| 20 | Sun |  |
| 21 | Mon |  |
| 22 | Tue |  |
| 23 | Wed |  |
| 24 | Thu |  |
| 25 | Fri |  |
| 26 | Sat |  |
| 27 | Sun |  |
| 28 | Mon |  |

|  |
| --- |
| **ACTUAL** |

**February**

|  |  |  |
| --- | --- | --- |
| 15 | Tue |  |
| 16 | Wed |  |
| 17 | Thu |  |
| 18 | Fri |  |
| 19 | Sat |  |
| 20 | Sun |  |
| 21 | Mon |  |
| 22 | Tue |  |
| 23 | Wed |  |
| 24 | Thu |  |
| 25 | Fri |  |
| 26 | Sat |  |
| 27 | Sun |  |
| 28 | Mon |  |

**SUMMARY FOR THIS MONTH’S ACTIVITIES**

**1. Utilization of Days**

|  |  |
| --- | --- |
| Number of Total Days for This Month | 31/ 30/ ( ) |
| Number of Days in the Field |  |
| Number of Days in the office (home) to work |  |
| Number of Days for resting |  |
| Number of Days for other purposes |  |

**2. Group and Individual Farmers Met**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ZONE** | **Dates Visited (e.g.3,6,13,29)** | **Farmers met** | | **Major Issues / Comments** |
| . |  | M | F |  |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
|  | TOTAL |  |  |  |

**3. Major Indicators of Your Performance**

|  |  |  |
| --- | --- | --- |
| **INDICATOR** | **Number** | **No. of Attendance/ Comments/ Remarks** |
| No. of Meetings held |  |  |
| No. of Trainings held |  |  |
| No. of Field Days conducted |  |  |
| No. of Demonstrations conducted |  |  |
| No of Reports prepared |  |  |
| No of Leaflets distributed |  |  |
| (you can add any other indicators) |  |  |

Self-Assessment of Your Performance for this month. (Choose one)

(1) Very Satisfactory, (2) About Average, (3) Not Satisfactory

Reason: ……………………………………………………………………………………………………………………………………………………………………………………………………

**4. Major Indicators of Your Capacity Building**

|  |  |  |
| --- | --- | --- |
| **INDICATOR** | **Number** | **Contents/ Comments/ Remarks** |
| No. of Trainings attended |  |  |
| No. of Books / Materials read |  |  |
| No. of Visits to Lead Farmers |  |  |
| No. of Sessions with SMSs |  |  |
| No of Studies with colleagues |  |  |
| (you can add any other indicators) |  |  |

Self-Assessment of Your Capacity Building of this month. (Choose one)

(1) Very Improved/increased, (2) Fairly Improved (3) Not very much Changed

Reason: ……………………………………………………………………………………………………………………………………………………………………………………………………

|  |
| --- |
| **PLANNED ACTIVITIES** |

**March**

|  |  |  |
| --- | --- | --- |
| 1 | Tue |  |
| 2 | Wed |  |
| 3 | Thu |  |
| 4 | Fri |  |
| 5 | Sat |  |
| 6 | Sun |  |
| 7 | Mon |  |
| 8 | Tue |  |
| 9 | Wed |  |
| 10 | Thu |  |
| 11 | Fri |  |
| 12 | Sat |  |
| 13 | Sun |  |
| 14 | Mon |  |
| 15 | Tue |  |
| 16 | Wed |  |

|  |
| --- |
| **ACTUAL** |

**March**

|  |  |  |
| --- | --- | --- |
| 1 | Tue |  |
| 2 | Wed |  |
| 3 | Thu |  |
| 4 | Fri |  |
| 5 | Sat |  |
| 6 | Sun |  |
| 7 | Mon |  |
| 8 | Tue |  |
| 9 | Wed |  |
| 10 | Thu |  |
| 11 | Fri |  |
| 12 | Sat |  |
| 13 | Sun |  |
| 14 | Mon |  |
| 15 | Tue |  |
| 16 | Wed |  |

|  |
| --- |
| **PLANNED ACTIVITIES** |

**March**

|  |  |  |
| --- | --- | --- |
| 17 | Thu |  |
| 18 | Fri |  |
| 19 | Sat |  |
| 20 | Sun |  |
| 21 | Mon |  |
| 22 | Tue |  |
| 23 | Wed |  |
| 24 | Thu |  |
| 25 | Fri |  |
| 26 | Sat |  |
| 27 | Sun |  |
| 28 | Mon |  |
| 29 | Tue |  |
| 30 | Wed |  |
| 31 | Thu |  |

|  |
| --- |
| **ACTUAL** |

**March**

|  |  |  |
| --- | --- | --- |
| 17 | Thu |  |
| 18 | Fri |  |
| 19 | Sat |  |
| 20 | Sun |  |
| 21 | Mon |  |
| 22 | Tue |  |
| 23 | Wed |  |
| 24 | Thu |  |
| 25 | Fri |  |
| 26 | Sat |  |
| 27 | Sun |  |
| 28 | Mon |  |
| 29 | Tue |  |
| 30 | Wed |  |
| 31 | Thu |  |

**SUMMARY FOR THIS MONTH’S ACTIVITIES**

**1. Utilization of Days**

|  |  |
| --- | --- |
| Number of Total Days for This Month | 31/ 30/ ( ) |
| Number of Days in the Field |  |
| Number of Days in the office (home) to work |  |
| Number of Days for resting |  |
| Number of Days for other purposes |  |

**2. Group and Individual Farmers Met**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ZONE** | **Dates Visited (e.g.3,6,13,29)** | **Farmers met** | | **Major Issues / Comments** |
| . |  | M | F |  |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
|  | TOTAL |  |  |  |

**3. Major Indicators of Your Performance**

|  |  |  |
| --- | --- | --- |
| **INDICATOR** | **Number** | **No. of Attendance/ Comments/ Remarks** |
| No. of Meetings held |  |  |
| No. of Trainings held |  |  |
| No. of Field Days conducted |  |  |
| No. of Demonstrations conducted |  |  |
| No of Reports prepared |  |  |
| No of Leaflets distributed |  |  |
| (you can add any other indicators) |  |  |

Self-Assessment of Your Performance for this month. (Choose one)

(1) Very Satisfactory, (2) About Average, (3) Not Satisfactory

Reason: ……………………………………………………………………………………………………………………………………………………………………………………………………

**4. Major Indicators of Your Capacity Building**

|  |  |  |
| --- | --- | --- |
| **INDICATOR** | **Number** | **Contents/ Comments/ Remarks** |
| No. of Trainings attended |  |  |
| No. of Books / Materials read |  |  |
| No. of Visits to Lead Farmers |  |  |
| No. of Sessions with SMSs |  |  |
| No of Studies with colleagues |  |  |
| (you can add any other indicators) |  |  |

Self-Assessment of Your Capacity Building of this month. (Choose one)

(1) Very Improved/increased, (2) Fairly Improved (3) Not very much Changed

Reason: ……………………………………………………………………………………………………………………………………………………………………………………………………

**Ministry of Agriculture and Cooperatives**

**Department of Agriculture**

**MONTHLY CAMP REPORT**

**Name of Camp:**

**Name of Reporting Officer:**

**Reporting Period:**

**CAMP PROFILE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Zone** | **Number of Villages** | **Number of Households** | **Total Population** | **Number of**  **farmers** | | | **Number of study groups** | **Commodities Studied** |
| 1 |  |  |  | **M** | **F** | **Total** |  |  |
| 2 |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |
| **Camp Total** |  |  |  |  |  |  |  |  |

**ACTIVITIES AND OUTPUTS**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity | Objective | Location | Activity  Target | Beneficiary  Target | | | Activity  Actual | Beneficiary  Actual | | | | Remarks |
| M | F | Total | M | F | Total |  | |
|  |  |  |  |  |  |  |  |  |  |  |  | |
|  |  |  |  |  |  |  |  |  |  |  |  | |
|  |  |  |  |  |  |  |  |  |  |  |  | |
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|  |  |  |  |  |  |  |  |  |  |  |  | |
|  |  |  |  |  |  |  |  |  |  |  |  | |
|  |  |  |  |  |  |  |  |  |  |  |  | |

**Technology Adoption**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Zone | TECHNOLOGIES/INNOVATION PRACTICED | | | | | | | | | | | | | | | | | | | | | | | | |
| **Production Practices** | | | | | | | | | **Post Harvest Practices** | | | | | | | | | **Framing As A Business Practices** | | | | | | |
| *Name of Practice(eg Herbicide use)* | | | *Name of Practice* | | | *Name of Practice* | | | *Name of Practice(eg improved storage bin* | | | *Name of Practice* | | | *Name of Practice* | | | *Name of Practice(eg contract farming)* | | | *Name of Practice* | | | |
| ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | |
| **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | | **M** | **F** | **Total** |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |

**Pests and Diseases Observed**

|  |  |  |
| --- | --- | --- |
| **Pest/Diseases Observed** | **Action Taken** | **Comment** |
|  |  |  |
|  |  |  |

**Funding**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Budget Line** | **Actual Budget** | **Yellow Book Budget** | **Amount received** | **Amount Spent** | **Comment** |
| e.g Support to Camp and Block |  |  |  |  |  |
| Other (describe) |  |  |  |  |  |

**Individual Capacity Building**

|  |  |  |  |
| --- | --- | --- | --- |
| **INDICATOR** | **NUMBER PLANNED** | **NUMBER ACHIEVED** | **Contents** |
| Trainings Attended |  |  |  |
| Booklets/Materials Read |  |  |  |
| Sessions with SMSs |  |  |  |
| Peer Learning Sessions Attended |  |  |  |

Self-Assessment of Your Capacity Building this Month (Please tick correct grading)

1. Very Improved/Increased (2) Fairly Improved (3) Same as Last Month

**General comments:**

**Ministry of Agriculture and Cooperatives**

**Department of Agriculture**

**MONTHLY BLOCK REPORT**

**Name of Block:**

**Name of Reporting Officer:**

**Reporting Period:**

**BLOCK PROFILE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Camp Name** | **Number of Villages** | **Number of Households** | **Total Population** | **Number of farmers** | | | **Number of**  **study groups** | **Commodities Studied** |
|  |  |  |  | **M** | **F** | **Total** |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |
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| **Camp Total** |  |  |  |  |  |  |  |  |

**ACTIVITIES AND OUTPUTS**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Objective** | **Location** | **Activity**  **Target** | **Beneficiary**  **Target** | | | **Activity**  **Actual** | **Beneficiary**  **Actual** | | | **Remarks** |
| M | F | T | M | F | T |  |
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**Technology Adoption**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Camp Name | TECHNOLOGIES/INNOVATION PRACTICED | | | | | | | | | | | | | | | | | | | | | | | | |
| **Production Practices** | | | | | | | | | **Post Harvest Practices** | | | | | | | | | **Framing As A Business Practices** | | | | | | |
| *Name of Practice(eg Herbicide use)* | | | *Name of Practice* | | | *Name of Practice* | | | *Name of Practice(eg improved storage bin* | | | *Name of Practice* | | | *Name of Practice* | | | *Name of Practice(eg contract farming)* | | | *Name of Practice* | | | |
| ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | ***Farmers Practicing*** | | | |
| **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | **M** | **F** | **Total** | | **M** | **F** | **Total** |
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**Pests and Diseases Observed**

|  |  |  |
| --- | --- | --- |
| **Pest/Diseases Observed** | **Action Taken** | **Comment** |
|  |  |  |
|  |  |  |

**Funding**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Budget Line** | **Actual Budget** | **Yellow Book Budget** | **Amount received** | **Amount Spent** | **Comment** |
| e.g Support to Camp and Block |  |  |  |  |  |
| Other (describe) |  |  |  |  |  |

**Individual Capacity Building**

|  |  |  |  |
| --- | --- | --- | --- |
| **INDICATOR** | **NUMBER PLANNED** | **NUMBER ACHIEVED** | **Contents** |
| Trainings Attended |  |  |  |
| Booklets/Materials Read |  |  |  |
| Sessions with SMSs |  |  |  |
| Peer Learning Sessions Attended |  |  |  |
|  |  |  |  |

Self-Assessment of Your Capacity Building this Month (Please tick correct grading)

1. Very Improved/Increased (2) Fairly Improved (3) Same as Last Month

**General comments:**

****

**FIELD REFERENCES FOR EXTENSION OFFICER**

**MAIZE**

**Varieties:** *See seed variety codes under the annex. High rainfall area receiving more than with 1000mm per annum, plant medium to late maturing varieties.*

**Climate and soil requirements:** Frost free conditions, wide range of soils from loamy sands to clays and pH of 4.7- 6.5.

**Seed Rate:** 20 to 25 kg/ ha depending on the seed size.

**Spacing:** Rows 80 -100 cm with intra row spacing of 20 - 30 cm will achieve the desired population.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Row space cm** | **Plants/ha ‘000** | **Row space cm** | **Plants/ha ‘000** | **Row Space cm** |
| 75 x 25 | 53,3 | 80 x25 | 50,0 | 90 x 25 |
| 75 x 30 | 44,4 | 80 x 30 | 42,6 | 90 x 30 |

(Surviving stands are usually up to 10 per cent lower)

**Planting :** Plant 5 cm deep, into moist soil, with first planting rains. End October - early December.

**Weed Control:** Weeds can be controlled by the use of hoes

**Fertilizer Requirement in kg/ha :** This is a guide only subject to soil test.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing** | | **Top Dressing** | |
| Small Scale | D | 200-300kg | D | 200-250kg |
| Medium Scale | D | 200-300kg | D | 200-250kg |

Alley cropping, green manure application from Agroforestry shrubs, intercropping with legumes, and improved fallows are good practices for soil fertility improvement for maize.

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pest** | **Chemical** | **Rate/ha** |
| Larger grain borer | Actellic Super( This is a dust) | 50 g/90 kg shelled maize |

*Chemicals are available from various agro chemicals companies, assistance can be sought from them in their various products*.

**Diseases**

|  |  |  |
| --- | --- | --- |
| **Disease** | **Symptom** | **Treatment** |
| Maize Streak Virus | Broken narrow yellow lines along leaf veins | Avoid late planting in the high rainfall areas. Choose resistant varieties. |
| Rust (Puccinia sorghi) | Small rusty raised spots on leaves in periods of high humidity | Varietal resistance is adequate |
| Grey Leaf Spot | Elongated lesions appearing as streaks at first, then develop into dark grayish brown rectangular shapes | Varietal resistance  Crop rotation  Burn crop residues |

*Guide only. Refer to label Instructions.* Mono cropping is not recommended because it causes building up of same pest and diseases and crop rotation is strongly recommended.

**Harvest:** Physiological maturity occurs at approximately 30 percent moisture.

**Yield:** Average commercial yield is 5.0 – 7.5 tonnes per hectare (Experimental yields have exceeded 12 tonnes).

**FINGER MILLET**

**Varieties:** Lima

**Planting:** Drill seeds 1 - 2 cm deep in the rows at 25 - 30 cm row to row spacing.

**Planting time:** Plant any time in the second fortnight of December

**Seed rate:** 8 - 10 Kg/ha.

**Planting:** 25 - 30 cm

**Weed Control:** Weed free to achieve good yields. Drilling method is one of ways to ease weeding labour.

**Fertilizer Requirement in kg**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing** | | **Top Dressing** | |
| Small Scale | D | 100 | Small Scale | D |

100 Kg/ha ‘D’ Compound as basal 80 Kg/ha Urea as top dressing

**Crop protection**

Variety LIMA has fairly good tolerance to major diseases like blast and blight and needs no chemical protection measures against diseases.

**Harvesting :** Harvesting with sickles is suggested.

**Yield:** 1 - 2 tonnes/ha

**RICE**

**Varieties:** Malawi faya, Angola crystal, Kalembwe, 1632, Supa, Zian Xhou, Sumbuwangu

**Seed Rate:** Approx. 60 Kg/ha seed.

**Spacing:** Drill in rows 20-25 cm apart. (40-50 seeds per metre length of row). Broad casting method requires more labour for weeding.

**Planting:** Sow 3 cm deep into moist soil, mid-late November.

**Fertilizer**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Fertility Status** | **N** | **P2O5** | **K2O** | **S** |
| **Kilogram per hectare** | | | |
| Low | 70 – 90 | 100 – 120 | 30 - 40 | 15 min. |
| Medium | 50 – 60 | 70 – 90 | 10 - 20 | 15 min |
| High | 30 – 40 | 40 – 60 | 0 | 10 min |

Average fertilizer application, dambo rice. Basal: 200 – 300 Kg/ha ‘D’ plus 100 Urea top dressed (at 6-8 weeks).

**Crop Protection**

|  |  |
| --- | --- |
| **Pests** | **Control** |
| Stem Borer *(Sesamia sp.)* | Prophylactic Fastac/Karate spray |
| Both birds and rats can prove troublesome | Management practices (Mechanical control) |

Guide only. Manufacturer’s formulations are subject to change. Some local methods can be applied against birds and rats, e.g. use of cat.

**Diseases**

|  |  |
| --- | --- |
| **Disease** | **Control** |
| Blast *(Pyricularia oryza)* | Varietal resistance |

Excess application of N fertilizer causes high blast infestation.

Harvest : Cut straw at ground level when three quarters of the particle has reached the mature yellow ripe colour.

**Yields:** 3 – 4 tonnes/ha.

**BEANS**

**Varieties:** Carioca, Bat 331, Nep 2, Solwezi rose, Kabulanketi etc.

**Climate and Soil Requirements:** Adapted to a wide range of climatic conditions. Beans will grow best on well drained soils with pH 4.6 – 5.0.

**Seed Rate:** 30 – 35 kg per ha depending on the seed size

**Spacing/Plants/hectare:** Rows 50 – 75 cm x 8 - 10 cm intra-row.

**Fertilizer Requirement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing** | | **Top Dressing** | |
| Rotated lands | D | 200 – 300kg | A/N | 100kg |

**Crop Protection**

|  |  |
| --- | --- |
| **Pests** | **Control** |
| Bean Stem Maggot *(Melanagromyza spp.)* | Endosulfan 50 w.p. (500gram/50 Kg.) |
| Anthracnose *(Collectotrichum indemuthianum)* | Varietal resistance |
| Angular Leaf Spot *(Phaseoisariopsis)* | Varietal resistance |

**Weed Control:** Weed free to achieve good yields.

**Yields:** Some can yield up to 2 tonnes/ha.

**SOYABEANS**

**Varieties**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variety** | **Maturity**  **(Days)** | **Days to shattering** | **Yield potential (kg/ha)** | **Remarks** |
| Hernon 147\* | 120 | 10 | 1500 | Promiscuous |

**Climate and Soil Requirements:** Temperature is 20 – 250C, soil pH 5.0 – 5.5. Moisture, is critical at pod-fill stage (March).

**Seed Rate:** Seed rate of 80 to 100kg/ha

**Spacing:** 50cm between rows – 30 seeds/m , 75cm between rows - 40 seeds/m. Row widths above 75cm and below 30cm tend to decrease yields with present varieties.

**Planting:** Middle to end of December

**Weed Control:** Keep weed free during the first seven weeks. 2 – 3 weedings is sufficient

**Fertilizer Requirement:** In acidic soils apply Lime.

**Crop Protection**

|  |  |
| --- | --- |
| **Pests** | **Control** |
| Stink Bug *(Nezara sp)* |  |

|  |  |
| --- | --- |
| **Disease** | **Control** |
| Bacterial Pastule *(Xanthomonas phaseoli)* | Varietal resistance is adequate |
| Bacterial Blight | Varietal resistance is adequate |

**Harvest:** Immediately the crop is mature to curb shattering losses.

**Yield:** 1.8 – 3.0 tonnes/ha. Rain-fed

**PEAS**

**Varieties:** Dark skin perfection, Green Feast

**Climate & Soil Requirements:** Temperature for optimum growth 10o to 18 oc. Light soils with good drainage

**Planting:** Plant 5cm deep from March to June in stations

**Spacing:** 90 x 5 cm

**Seed Rate:** 200 – 250 kg/ha – close spacing, 50 – 150 kg/ha – wider spacing

**Fertilizer:** Basal – 400 kg/ha, Top Dressing – 100 kg/ha (Amonium Nitrate) or 80kg/ha Urea

**Crop Protection**

|  |  |
| --- | --- |
| **Pest** | **Chemical** |
| Powdery Mildew | Follow nutrition, Destroy old crop residues |
| Weekniks, Aphids, Thrips | Destroy crop residue after harvest, Rotation |

**Harvest:** Harvest the green peas before the grains harden to avoid reduction in sweetness and flavour.

**Maturity**

|  |  |
| --- | --- |
| **Variety** | **Days to Maturity** |
| Dark Skin Perfection | 60 – 70 days |
| Green Feast | 65 – 70 days |

**Yields:** 6 – 9 tonnes/ha.

**Groundnuts**

**Varieties:** Natal Common, Chalimbana, Comet, MGV 4, Chipego, Champion, Luena etc

**Planting time:** November to December

**Seed Rate:** 80kg/ha

**Spacing:** 75cm x 10cm

**Weeds:** Done by hand or hoe

**Harvest:** Maturity is indicated by the formation of brownish-black markings on the inside of the pod

**Yields**

|  |  |  |
| --- | --- | --- |
| **Variety** | **Rainfed** | **Irrigated** |
| Chalimbana | 1 500kg/ha | 2 500 Kg/ha |
| Comet | 1 500kg/ha | 3 000 Kg/ha |
| Natal Common | 1 500 kg/ha | 3 000 Kg/ha |
| Makulu Red | 2 000 kg/ha | 5 000 Kg/ha |

Market in 50 Kg bags (shelled) at 6.5% moisture.

**Composition**

|  |  |  |
| --- | --- | --- |
|  | **Oil%** | **Protein%** |
| Whole nut (shelled) | 45-48 | 25-30 |
| Meal | 6 | 45 |

**CASSAVA**

**Varieties**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variety** | **Maturity Months** | **Yield Potential Tons/Ha** | **Disease and Pest** | **Characteristics** |
| Kapumba | 16 | 22 | Moderately Resistant to CMV and CM | Semi-branched, Good cooking quality, Average plant height 2 metres |
| Nalumino | 16 | 29 | Resistant to CMV and moderately reistant to CM and BLS | Average plant height 2 metres |
| Bangweulu | 24 | 31 | Resistant to CMV |  |
| Mweru |  |  |  | Long root, sweet taste and low cyanide content |
| Chila |  |  | Tolerant to pests | Light green stem. Slightly bitter with cyanide content |
| Tanganyika |  |  |  | Grey stem and conical root shape. Consumed without processing |
| Kampolombo |  | High yielding |  | Light green stem, highly branched with sweet taste |

Key: CMV = Cassava Mosaic Virus BLF = Brown Leaf Spot CM = Cassava Mealy bug

**Climatic and Soil Requirements :** Temp > 20oC. Light textured soils.

**Land Preparation**

- ***Mounds:*** 0.75 m to 2 m in radius and the height may vary from 15cm to 50 cm. 8 000 plants/ha.

- ***Ridges:*** Height of about 30 cm. Between ridges 80cm to100cm apart. Width 40 cm.

- ***Flat:*** Rows 80 cm to100 cm. Ridges and flat systems, plant population is (12 500 plants/ha).

**Planting Material:** Cuttings 20 to 45 cm long

**Spacing :** Branching type: 1m x 1m or 1m x 0.8m. Non-branching type: 1m x 0.8 or 1m x 0.7m.

**Weeding:** Three weeding times at 45 days interval from planting date

**Crop Protection:** Cassava mealy bugs, cassava green mites, cassava red mites, African cassava mosaic virus and cassava bacterial blight.

**Control:** The two control strategies used are:

Cultural control: This involves the planting of clean material that can be obtained from clean crop.

Use tolerant clones such as Nalumino, Kapumba and Mwansamfungo.

**Harvest:** From 12- 36 months depending upon the clones.

**Yields:** 15 to 20 tonnes/ha fresh weight

**SWEET POTATO**

**Varieties:** Chingovwa, Luapula, Zambezi and many local varieties grown throughout the country.

**Climatic and Soil Requirements:** Sweet potato grows well under warm conditions and low temperature retard growth.

**Planting and Spacing:** One vine should be planted every 25cm, along the middle of the ridge.

**Fertilizer Requirement:** Use organic matter as source of nutrients when making ridges or mounds

**Crop Protection**

|  |  |
| --- | --- |
| **Pest and Diseases** | **Control** |
| Sweet Potato Weevil | Cultural practices such as earthling up and weevil-free planting materials. |
| Sweet Potato Virus | Use of resistant varieties such as Chingovwa and the selection of vines from clean plants |

**Harvest :** Harvesting can be done within 3 to 4 months

**Yield:** 12 – 20 tonnes/ha

**CABBAGE**

**Varieties:** Main crop, Copenhagen Market, Brunswick ladu and Sugar loaf for cool dry season. RianaF1, Gloria F1, Constant F1 and KK cross for hot rainy season.

**Climatic and Soil Requirements:** All year round, preferably April to July.

**Planting and Seed Rate:** Sow seed in nursery.

**Spacing:** 40 – 60cm between rows; 30 - 50cm within rows.

**Fertilizer Requirements in kg/ha**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing** | | **Top Dressing** | |
| Small Scale | D | 200 | A/N | Small Scale |
| Medium Scale | D | 400 | A/N | Medium Scale |

**Crop Protection**

|  |  |  |  |
| --- | --- | --- | --- |
| **Management level** | **Problem** | **Control** | **Dosage** |
| Small Scale | Diamond Back moth, aphids, serpentine Leaf Minor, Bagrada bugs | Fastac or Karate | 1ml/lt water |
| Medium Scale | Same as above | Same as above | Same as above |

Bacterial Blackrot and soft rot : Plant resistant cultivars e.g., Riana, Improve drainage in field & Remove infected plants

**Harvesting:** The crop is ready for harvest after 3 to 4 months after transplanting

**Yield** 28 - 40 tonnes/ha.

**RAPE**

**Varieties:** CRRS V Prior, Giant Essex, NIRS 1, Samo,

**Seed rate:** 5.2 kg/ha

**Planting:** Drilling in furrows 1-2cm deep

**Spacing:** 45-60cm between rows and 50cm between plants

**Fertilizer Requirements in kg/ha**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing and Borate** | | **Top Dressing** | |
| Small Scale | D or equivalent | 200 | Small Scale | D or equivalent |
| Medium Scale | D or equivalent | 400 | Medium Scale | D or equivalent |

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pest and Diseases** | **Control** | **Dosage** |
| Diamond Black moth, aphids, serpentine Leaf Minor, Bagrada bugs | Fastac or Karate | 1ml/lt water |
| Downy Mildew | Diconil or other fungicides | 2 – 5gms/lt water |
| Bacterial Blackrot and soft rot | - Use Plant resistant cultivars e.g., CRRS V, Prior, NRRS 1 and local rape  - Improve drainage in field and remove infected plants |  |
| Turnip Mosaic Virus | - Control aphids – carriers  - Resistant cultivars |  |

**Yield:** 20 tonnes/ha

**TOMATO**

**Varieties:** Roforto VFN, Red Khaki and Rossol VFN for hot dry season, Herald, Roma VF, Red Khaki for cool dry season, Roma VF, Herald, Monoprecos during rainy season.

**Planting:** Sow seed in nursery. Germination expected 5-8 days. Apply copperoxychloride or Dithane M45 to avoid diseases in rainy season

**Seed Rate:** 100g/ha when transplanted

**Spacing :** 90 - 120 cm x 30 - 50 cm

**Fertilizers:** 12 x 50 kg D / ha basal, 2 x 50 kg AN / ha top dress

All top dress applied as split dose i.e., at 2 weeks after transplanting and then 4 weeks after flowering

**Rotation:** Do not plant tomato on land that had eggplant, peppers, potatoes, tomato in last 2 years

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pests and Diseases** | **Chemical** | **Rate/ha** |
| Fruit borers | Fastac, Karate, or Cyrux | 1 ml / litre |
| Foliar diseases (Early and late blight) | Dithane M 45  spray(preventative measure) | 25 g / 10litre |
| Redspider mites | Use acaricides e.g., Morocide or Tik tok  Isolate crop from other crops infested with mites |  |

**Yield :** 24 - 48 tonnes / ha

**EGG PLANT**

**Varieties:** African Egg Plant White; African Egg Plant long; Aubergihe Black Beauty

**Climate and Soil requirements:** Optimum temperature 18 o to 21o C

**Planting :** August to November and February to April

**Seed Rate:** 500g seed/ha.

**Spacing :** 90 cm x 75 cm

**Fertilizer Application:** Basal: 100kg/ha , Top Dressing: 100 kg (AN)

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pests and Diseases** | **Chemical** | **Rate/ha** |
| Aphids | - Spray with Pirimicarb(pirimor) |  |
| Fruit Borers | - Spray with Fastac  - Thiodan  - Sevin Carbaryl | 1 ml/lt  15 ml/10lts  25g/10lts |
| Red Spidernites | -isolate from other crops with infestation  -Spray with recommended Acaricides ie (Dicofol) Tiktok |  |

**Harvesting:** Days to maturity African egg plant 110 days and Aubergine Black Beauty 70 days.

**Yields:** Vegetables yield up to 4,000 kg/ha

**POTATOES**

**Varieties:** Baraka, Pentland dell, uptodate, Primpernel

**Climate and soils:** Light soils well drained soils. pH5.5 – 6.5.

**Seed Rate ad Spacing:** 20kgs of seed potato is required for 100m2.

**Planting and Fertiliser application:** Ridges spaced at 60cms. 6 - 10cm deep depending on the soil moisture. Well sprouted materials are used.

Apply 12.5 to 25t of compost or manure (20liters tins for every 8m). Apply basal dressing as a side landing without contact the tuber (30gms/m2 compound D) and cover the tubers and irrigate to facilitate sprouting the tubers. Top dressing of Ammonium nitrate at 10kg/m2 to be applied when plants are 20cm high.

**Earthing Up:** To keep the tubers covered by 25cm of soil is an important operation all the time.

**Crop Protection**

|  |  |
| --- | --- |
| **Pests and Diseases** | **Chemical** |
| Early and Late Blight | Dithane M45 and copper oxycloride |
| Tuber moth | Azodrin |
| Nematode | Fusaban |

Hoe weeding in the later growing season is not economical and moving in the field when the crop is very dense assists in spreading viruses. Use of resistant or tolerant varieties is recommended.

**Harvesting:** 90 to 120 days to reach maturity.

**Storage:** Short- term storage is possible by keeping the potato in a darkened room with cool light air.

**Yields :**20 to 40 tonnes/ha

**PUMPKINS**

**Varieties :** Green Boer; Big Max; Flat Boer

**Climate and soil requirements :** Rainy season crop. Good drainage soils with near neutral pH.

**Seed Rate:** 1.5 kg – 5 kg/ha

**Planting Time:** September – December

**Spacing:** Range from 90 x 90cm (bushy types)

2 – 2.5m x 50 cm – 1.5m (vine types)

**Fertilizer:** Basal :- 5 x 50 kg bags/ha (or 40g per station), Top Dressing:- 2 x 50 kg bags/ha (or 10g per station),Manure/Composite:- 2-3kg per m2

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pests and Diseases** | **Chemical** | **Rate/ha** |
| Leaf Easting Beetles | - Spray with Malathion | 30g/10lts. |
| Melon Fly | -Spray with Ferthion (lebagrid) | 1ml/lt. |
| Aphids | - Isolate new crops from old crop  -- Sprinkle plants with Ash. | 1g/lt. |

**Yields:**

Pumpkins = 18 – 22 tonnes/ha.

**CUCUMBER**

**Varieties:** Palomar DMR and African Horned Cucumber

**Climate & Soils Requirements:** Sandy loam soil with neutral pH, plant August to December

**Seed Rate:** 3kg/ha.

**Spacing:** 1m x 1m

**Fertilizer:** Basal:- 400kg of ‘D’ Compound/ha, Top Dressing:-100kg of AN/ha, 2kg/basin of manure

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pests and Diseases** | **Chemical** | **Rate/ha** |
| Bacterial Wilt | Malathion which controls Beetles that spread bacterial wilt | - |
| Downy Mildew | Dithane M45 | 45g/10lts |
| Anthranose | Karathene(dinocap) | 10g/10lts. |
| Root Knot | Crop Rotation | - |

**Harvesting:** 5 weeks harvesting period

**Yields:** 8 tonnes/ha

**CARROTS**

**Varieties :** Cape market, Chantenay, Nantes, Fancy and Kuroda.

**Climatic and Soil requirements:** Cool season and performs best from March to July in well drained sandy loams.

**Seed Rate :** Carrot is directly sown into the field in not deeper than 0.5cm.

**Spacing :** Space at 30-45cm between rows and use 2 - 4 kg/ha of seed. Thin seedlings when 6-7cm high to allow for optimum growth.

**Fertilizer Requirement in kg/ha**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing** | | **Top Dressing** | |
| Small Scale | D | 200 | A/N | - |
| Medium Scale | D | 400 | A/N | - |

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Management level** | **Problem** | **Control** |
| Small | Nematodes | Cultural practices |
| Medium | Leaf blight and Cercospora | Bravo and other fungicides |

**Harvesting:** Harvest after 100 days

**Yield:** The average yield is 28 - 40 tonnes/ha

**ONION**

**Varieties:** Texas Early Grano, Red Creole, Yellow Granex F1, Tropic Ace, Dessex F1, Pusa Red.

**Climatic and Soil Requirements:** March to October. (Cool season), in well drained fertile soils.

**Seed Rate:** Sow seed in nursery 500g / ha and transplant after 6-8 weeks.

**Spacing:** 25-50 cm x 5-7 cm

**Weed Control:** Keep field weed free at all times.

**Fertilizer Requirement in kg/ha**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Management level** | **Basal Dressing** | | **Top Dressing** | |
| Small Scale | D | 200 | A/N | 50-100 |
| Medium Scale | D | 400 | A/N | 100-150 |

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Problem** | **Control** | **Dosage** |
| Thrips | Endosulfan 50% WP  Malathion 50% CE | 100 g/100 lts water |
| Purple Blotch | Bravo and other fungicides  Use resistant varieties, reduce plant density |  |

*Consult Product label*

**Harvesting:** Harvest when fully mature i.e., 75% leaf fall.

**Yield:** The average yield is 24 - 32 tonnes/ha

**OKRA**

**Varieties:** Clemson spineless, Green velvet, Perkin spinless and Pusa sawami.

**Climatic and Soil requirements:** Frost free conditions. Well drained soil types.

**Planting and Seed Rate** : 5kg/ha. Depth of 2- 3cm.

**Spacing:** 90cm X 45cm

**Fertilization:** ‘D’ compound at 400/ha. Ammonium Nitrate 200kg/ha. Split application

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Pests and Diseases** | **Chemical** | **Rate/ha** |
| Aphids | Pirimicarb |  |
| Powdery mildew | Benomyl (Benlate)  Chlorothaloni (Bravo)  Hexaconazole (Anvil) | 500 to 1000 g/ha or at 1 g/lt  2 to 3 kg/ha or 2.5 m/lt  2ml/lt |

**Harvest:** 6-9 weeks after sowing depending on the variety.

**Yield :** 15 to 20 tonnes/ha

**MANGO**

**Varieties**

|  |  |
| --- | --- |
| **Fibreless type** | **Fibre type** |
| Kent, Zill, Tommy Aitkin | Peach, Nolea, Sober |

**Soil Requirement:** Deep well drained light sandy soils.

**Planting Material:** Seeds and grafted seedlings

**Spacing:** 6m x 4m (416 plants/ha)

**Fertilizer Requirement per tree/year**

|  |  |
| --- | --- |
| **Mature plants** | **Newly planted** |
| 700g N, 400g P2O5, 750g K2O | 70g N, 100g P2O5, 250g K2O |

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Insect Pest** | **Infected part** | **Control** |
| Mango weevil | Fruit | Spray with Carbaryl |
| Mealy bugs | Inflorescence | Spray with Malathion |
| Fruitflies | Fruit | Spray with Malathion |

**Diseases**

|  |  |  |
| --- | --- | --- |
| **Disease** | **Symptoms** | **Control** |
| Powdery mildew (Oidium mangiferae) | Whitish powder on plant parts | Spray with copperoxychloride |
| Anthracnose | Rotten ripe fruits | Spray with copperoxychloride |

**Harvesting:** Fruits are picked when they begin to change colour or a few ripe fruits have dropped from the tree.

**Yield:** 80 -120 tonnes/ha

**BANANA**

**Varieties:** Dwarf Cavendish; Williams

**Soil Requirements:** Well drained with high organic matter. Soil pH of 5.5 to 6.5

**Climate Requirement:** Optimum temperature is 25-30℃, below 10 causes chilling.

**Planting Material :** Propagated vegetatively (suckers)

**Spacing:** 3m x 3m giving 1,300 plants/ha.

**Fertilizer Requirements:** Large quantities of compost or manure are needed per year (10 -15t per year). At planting apply 50g D-compound /per hole

**Yearly applications:** 120g ammonium nitrate per stool every month except June and July to avoid frost damage. 7-10Kg manure per year.

**Desuckering:** Only three plants per station should be allowed to grow.

**Irrigation:** 102 litres /week/stool.

**Crop Protection**

|  |  |  |
| --- | --- | --- |
| **Insect Pest** | **Infected parts** | **Control** |
| Banana weevil | Stem | Spray dieldrin on soil surface around stems. Dilution rate 60ml EC/10 litres water. |
| Nematode | Roots | Rotation, by treatment of planting material by placing the bases in hot (62-65 oC) water for 10 minutes. Extract from Neem tree leaves are effective to control it. Rotation and by treating propagating materials by placing the bases in hot water(62-65℃) in 1o minutes. |

**Diseases**

|  |  |  |
| --- | --- | --- |
| **Disease** | **Symptoms** | **Control** |
| Bunch Top | Presence of aphids at leaf base | Spray with Rogor, Malathion. Destroy diseased plants |
| Anthracnose (Crown rot) | Stem end of bananas become black | Dip or spray fruits with benzimidazole compounds. |

**Harvesting:** Ready for harvest 5 to 18 months after planting.

**Yield :** 23 – 43 tonnes/ha (12t per ha is average yield for small scale farmers)

**OTHER USEFULL INFORMATION**

Fertilizers – The contents of NPKS and trace elements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Nutrients**  **Commodity** | **N**  **%** | **P2 O5**  **%** | **K2 O**  **%** | **Boron**  **%** | **Sulphur (Approx) %** |
| Mixture |  |  |  |  |  |
| A | 2 | 18 | 15 | 0.1 | 10 |
| C | 6 | 18 | 12 | 0.1 | 10 |
| V | 4 | 18 | 15 | 0.1 | 10 |
| R | 20 | 20 | - | - | 10 |
| X | 20 | 10 | 5 | - | 10 |
| D | 10 | 20 | 10 | - | 10 |
| Nitrogenous Fertilizer: | - | - | - | - | - |
| Ammonia Nitrate (A/N) | 34 | - | - | - | - |
| Sulphate of Ammonia (S/A) | 21 | - | - | - | - |
| Urea | 46 | - | - | - | 24 |
| Nitrate of Soda | 16 | - | - | - | - |
| Phosphate Fertilizer: | - | - | - | - | - |
| Single Super | - | - | - | - | - |
| Phosphate (S.S/P.) | - | 19 | - | - | - |
| Triple Super | - | - | - | - | - |
| Phosphate (T.S/P.) | - | 44 | - | - | - |
| Potash Fertilizer: | - | - | - | - | - |
| Potassium Chloride | - | - | 60 | - | -- |
| Potassium Sulphate | - | - | 50 | - | - |

Fertilizer is sold in 50kg pockets and Repacks. Liming is very necessary for highly acidic soils. Lime is sold in bulk or in 50kg bags.

**Equivalent rates of fertilizer application for hectares and m2**

The following Table is just a help when converting rates in Kg per hectares into grams or tablespoons per m2. All recommendations of fertilizer are given in kg per hectare, though some farmers only grow a very small area of some crops, vegetables for example.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Application per Hectare** | | **Application per m2** | | |
| **Kg** | **Pockets**  **(50kg each)** | **Grams** | **Tablespoons** | |
| **Level (15 grams each)** | **Level (15 grams each)** |
| 50 | 1 | 5 | 0.3 (1/3) | N/A |
| 100 | 2 | 10 | 0.7 (2/3) | N/A |
| 150 | 3 | 15 | 1.0 | N/A |
| 200 | 4 | 20 | 1.3 | N/A |
| 250 | 5 | 25 | 1.7 | N/A |
| 300 | 6 | 30 | 2.0 | 1.0 |
| 350 | 7 | 35 | 2.3 | 1.2 |
| 400 | 8 | 40 | 2.7 | 1.3 |
| 450 | 9 | 45 | 3.0 | 1.5 |
| 500 | 10 | 50 | 3.3 | 1.7 |
| 600 | 12 | 60 | 4.0 | 2.0 |
| 700 | 14 | 70 | 4.7 | 2.1 |
| 800 | 16 | 80 | 5.3 | 2.7 |
| 900 | 18 | 90 | 6.0 | 3.0 |
| 1000 | 20 | 100 | 6.7 | 3.3 |

**Nutrient Content for Manure**

The following figures can be used when manure is compared to fertilizer.

The nutrient content for manure varies much depending on age, litter contents etc, and loss of nitrogen may be substantial during storage.

|  |  |  |  |
| --- | --- | --- | --- |
| **Manure** | **Nutrient in Kilograms per tonne** | | |
| N | P2O5 | K2O |
| Poultry in Cages |  |  |  |
| Wet. 75% Water | 10 | 8 | 5 |
| Dry. 15% Water | 40 | 30 | 20 |
| Pigs |  |  |  |
| Solid | 6 | 4.6 | 4.4 |
| Cattle |  |  |  |
| Solid | 3 | 2 | 1.6 |

**Seed Variety**

|  |  |  |  |
| --- | --- | --- | --- |
| **MAIZE** | **MAIZE** | **MAIZE** | **MAIZE** |
| ZAMSEED  Pool 16  MMV 400  GV 412  MM 441  GV 470  GV 408  MM 501  MM 502  MM 601  MM 603  MM 604  GV 512  GV 607  GV 702  GV 703  GV 722  MM 752  GV 704  GV 61 Yellow | PANNAR  PAN 6363 - Chipolopolo  PAN 6549 - Mr. Reliable  PAN 67 - African Queen  PAN 6243 - in a class of its own  PAN 64  PAN 6479  PAN 87  PAN 6573  PAN 6777  PAN 61  PAN 6823  PAN 14 - Yellow | SEEDCO  SC 709  SC 713  SC 715  SC 711  SC 701  SC 707  SC 627  SC 625  SC 601  SC 621  SC 501  SC 515  SC 513  SC 517  SC 521  SC 401  SC 403  SC 405  SC 407  SC 704 - Yellow  SC 706 - Yellow  SC 702 - Yellow  SC 704 - Yellow  SC 506 - Yellow  SC 206 - Yellow | MRI  MRI 724  MRI 744  MRI 734  MRI 651  MRI 634  MRI 624  MRI 611  MRI 614  MRI 594  MRI 514  MRI 455  Local Maize  Hybrid  Recycled Hybrid Maize  OPV Maize |
| SORGHUM | SORGHUM | SUNFLOWER | SUNFLOWER |
| ZAMSEED  KUYUMA  SIMA  ZSV 15  WP 13 | SEEDCO  MACIA (OPV- White)  NS5511 (Hybrid -Brown)  Local Sorghum  Hybrid Sorghum  Recycled Hybrid Sorghum  OPV Sorghum | ZAMSEED  MILIKA  RECORD | PANNAR  PAN 7369  PAN 7353  PAN 7351  Local Sunflower  Hybrid Sunflower  Recycled Hybrid Sunflower  OPV Sunflower |
| GROUNDNUTS | GROUNDNUTS | SOYABEANS | SOYABEAN |
| ZAMSEED  CHIPEGO  MGV - 4  CHALIMBANA | SEEDCO  FLAMINGO  NYANDA  Local Groundnuts  Hybrid Groundnuts  Recycled Hybrid G/Nuts  OPV Groundnuts | ZAMSEED  KELEYA  MAGOYE | SEEDCO  STORM  SOLITAIRE  SOPRANO  SAFARI  Local Soyabean  Hybrid Soyabean  Recycled Hybrid Soyabean  OPV Soyabean |
| COWPEAS | TOBACCO | TOBACCO | COTTON |
| ZAMSEED  LUTEMBWE  BUBEBE  Local Cowpeas  Hybrid Cowpeas  Recycled Hybrid C/peas  OPV Cowpeas | BARLEY  Bunckett  BO 1  BO 2  BO 3  A 1  A 2  A 3 | VIRGINIA  HG  T26  RK326  T29 | F135  Chureza  Ngwezi  CDT 1 |
| ALL OTHER CROPS | SEED COMPANIES |  |  |
| Local  Improved | ZAMSEED  PANNAR  SEEDCO  MRI |  |  |





**Address Book of Farmers/Leas Farmer and Farmer Groups**

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| **Name** | **Place** | **Contact Number** | **Area / Issues** |
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**Address Book of Farmers/Lead Farmer and Farmer Groups**

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| **Name** | **Place** | **Contact Number** | **Area / Issues** |
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**FAQ (Frequently Asked Questions)**

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| **What is asked?** | **When / by who** | **Your Response** |
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**FAQ (Frequently Asked Questions)**

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| **What is asked?** | **When /by who** | **Your Response** | |
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| **Extension Help Lines to answer for Your Queries… Yes, kindly and quickly!!**   * Clarification of Extension methods * Technical Questions * Any concern about Extension Service * Any other questions of Extension Service   Send SMS (Short Message) to your Senior Agricultural Officers or Provincial Agricultural Officers whose names and contact numbers are shown below.  It is almost FREE service (After receiving your call or SMS, He/She will call you back quickly, or he/she will relay your question to other relevant officers who can help effectively)  *\* please state your name and camp/block/district for the first time.* | | |

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| **List of Principal Agricultural Officers**   |  |  |  |  | | --- | --- | --- | --- | | **No** | **PROVINCE** | **NAME** | **CONTACT NO** | | 1 | NORTH WESTERN | Mr. A. Malumo | 0977886062 | | 2 | CENTRAL | Ms. E.M.C Chuma | 0977764097 | | 3 | LUSAKA | Mr. B.P Chulu | 0977406676 | | 4 | NORTHERN | Mr. C.Kapalasha | 0979650515 | | 5 | LUAPULA | Mr. E. Shingalili | 0977780749 | | 6 | WESTERN | Mr. M.Mukungu | 0979403803 | | 7 | SOUTHERN | Mr. S. Mukelebai | 0977478066 | | 8 | EASTERN | Mr. P. Daka | 0977729755 | | 9 | COPPERBELT | Mrs. J Moonga | 0955538939 |   **List of Senior Agricultural Officers**  **District Province SAO Telephone** | | | | |  | |  |
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| 3 | Mbala | NORTHERN | Mr.J.Mwanza | 0977853753 | |
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| 7 | Isoka | NORTHERN | J.Musalo | 0977939861 | |
| 8 | Chinsali | NORTHERN | Mr Mulenga | 0977582208 | |
| 9 | Kasama | NORTHERN | L.Bwembya | 0977110865 | |
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| 16 | Mwense | LUAPULA | P.Bwalya | 0977199908 | |
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| 27 | Lukulu | WESTERN | S.Masenga | 0977305302 | |
| 28 | Kaoma | WESTERN | Mr. Makayi | 0964323585 | |
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| 30 | Mongu | WESTERN | K.Matauka | 0977256954 | |
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| 37 | Kafue | LUSAKA | D. Namayongo | 0977978888 | |
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| 50 | Luanshya | COPPERBELT | M.Kasunga | 0955733700 | |
| 51 | Masaiti | COPPERBELT | L.S Chewe | 0979760764 | |
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| 57 | Chipata | EASTERN | R.Masendo | 0979129205 | |
| 58 | Petauke | EASTERN | F.Sinkala | 0955998337 | |
| 59 | Katete | EASTERN | V.Siame | 0977967894 | |
| 60 | Chadiza | EASTERN | V.Zulu | 0977252252 | |
| 61 | Nyimba | EASTERN | C.Mpolomoka | 0977576500 | |
| 62 | Itezhi-tezhi | SOUTHERN | S.Chisha | 0977639804 | |
| 63 | Mazabuka | SOUTHERN | M. Mwanza | 0977321932 | |
| 64 | Namwala | SOUTHERN | S.Muka | 0978937374 | |
| 65 | Monze | SOUTHERN | P.Nyambe | 0976654445 | |
| 66 | Siavonga | SOUTHERN | A.Mutinta | 0979020683 | |
| 67 | Kazungula | SOUTHERN | T.Kanga | 0977665832 | |
| 68 | Choma | SOUTHERN | G.Chonye | 0978223898 | |
| 69 | Kalomo | SOUTHERN | VACCANT |  | |
| 70 | Gwembe | SOUTHERN | A.Sianjase | 0969861194 | |
| 71 | Sinazongwe | SOUTHERN | J.Kembo | 0977659294 | |
| 72 | Livingstone | SOUTHERN | T.Kanga | 0977665832 | |

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**MEMO**

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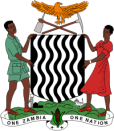
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**Your Name:**

**Address:**

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**Phone No.:**