Dissolve 40g of foliar feed in 15l of water and apply after 7 weeks of emergence. Spray once on 0.1 ha in every two weeks. For top dressing, either apply 40kg CAN or 24kg Urea per hectare using metric cup No. 5 or teaspoonful or Coca-Cola bottle top without the lining at the onset of squaring (bud formation).

Compost manure: You can apply compost manure as basal dressing at planting & top-dress with fertilizer at first flower to increase yields

PEST MANAGEMENT PRACTICES

- Insect pests are a major cause of low yield and poor quality in cotton. Farmers must first use clean treated seed.
- Farmers are advised to identify the most important pests if they are to make a sound and cost effective decision. For farmers to make such decision they have to scout their field and spray according to scouting results.
- Scouting is the process of walking through the field and inspecting given number of plants per given area to identify pests infecting the crop and determine the level of infestation.
- There are two Scouting methods; diagonal and zigzag
- Farmers should spray recommended chemicals to control leaf eating insects, semi loopers, red, spiny, and pink bollworms, cotton strainers, Elegant grasshopper, Aphids and Red spider mites.
- Bollworms are the most important pests because they damage the harvestable product; the cotton bolls. Sucking pests rank second in severity of damage. Leaf eaters are of least importance with few exceptions such as the elegant grasshopper. However, the number of pests found will determine whether a particular species is to be controlled or not.

Bt cotton varieties are not affected by Bollworms.

Farmers should check for the following on Pesticide containers and seek spraying advice from extension workers.

- Batch number from Pesticides Control Board
- If it is sealed and not leaking
- Has label by manufacturer
- Has expiry date
- Manufactured date
- Quantity
- Proper disposal of container

POST HARVEST HANDLING

Picking and grading

It is recommended that cotton should be picked when 3 – 4 bolls are open. Harvest cotton when the surroundings are dry. A two pocket picking bag made of hessian or white cotton material should be used for harvesting cotton. One for the clean and the other for stained cotton. Never use polypropylene sacks when picking cotton.

Grading

Grading should be done under the shade into two grades, white clean cotton without trash (Grade A), and slightly stained without trash (Grade B).

Storage

- Store cotton in hessian bales to avoid contamination
- Store the bales on an elevated area, in a cool dry place to avoid moisture.

Uprooting cotton stalks

Cotton stalks should never stay in the field after picking. They must be uprooted and burned as soon as picking is over to avoid carry over pests.

NOTE: Farmers must register with the Cotton Council of Malawi (CCM) every growing season as a requirement of the cotton act.

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COTTON PRODUCTION

INTRODUCTION

Cotton is one of the valuable cash crops grown in Malawi. For the past years, cotton production has faced a lot of challenges that have led to low yields and poor quality. Apart from insect pests as one of the causes, use of unrecommended cultural practices also contributes to low cotton productivity in the country. Farmers are therefore encouraged to follow recommended cultural practices to improve cotton productivity.

RECOMMENDED COTTON VARIETIES

Farmers must purchase seed from reputable agro dealers and must make sure that;

- Seed is well packaged and labelled.
  - ➢ The label should have variety name, lot number, net-weight, germination percentage, date of germination test, name and address of seller.

NOTE: *Farmers must avoid purchasing unpackaged seed*

COTTON VARIETIES

There are two categories of cotton varieties

a) Conventional cotton varieties (Open Pollinated Variety)

- **Makoka 2000:** Recommended for the lower shire. Has a yield potential of over 3,000Kg/ha. Matures in 97 days.
- **RASAM 17:** Recommended for lake shore areas. Has a yield potential of over 3,000Kg/ha and matures in 121 days.
- **IRM 81:** Recommended for medium to high altitude areas. Has a potential seed cotton yield of over 3,500Kg and matures in 122 days.
- **QM301:** Recommended for cultivation in the lakeshore areas of Malawi. It has a yield potential of over 3500 kg per hectare. Matures in 150 to 160 days. It is tolerant to jassid and red spider mites.
- **QM 201:** Recommended for cultivation in the Shire valley areas. It has a yield potential of 3000 Kg/ha. Matures in 150 to 160 days. It is tolerant to sucking pests.
- **QM 302:** Recommended for cultivation in the lakeshore areas. It has a yield potential of 3000 Kg/ha and matures in160 to 170 days. It is tolerant to sucking pests.
- **QM 303:** Recommended for cultivation in all areas. It has a yield potential of 3000 Kg/ha and matures in 160 to 170 days. It is tolerant to sucking pests.

Good quality seed ensures good crop establishment. Farmers are encouraged to use certified delinted seed. Certified and breeder seed can be obtained from Makoka Research Station.

b) Hybrid cotton varieties

- **MAHYCO C 567:** Recommended for cultivation in lakeshore areas. It has a yield potential of 4000 Kg/ha and matures in 160 to 170 days.
- **MAHYCO C 569:** Recommended for cultivation in all cotton growing areas. It has a yield potential of 4000 Kg/ha and matures in 170 to 180 days.
- **MAHYCO C570:** Yield: Recommended for cultivation in Shire valley and medium altitude areas. It has a yield potential of 4000 Kg/ha and matures in 170- 180 days.
- **MAHYCO C 571:** Recommended for cultivation in all areas. It has a yield potential of 4000 Kg/ha and matures in 170- 180 days.
- **MAHYCO C 577:** Recommended for cultivation in Shire valley. It has a yield potential of 4000 Kg/ha and matures in 160- 170 days.
- **MAHYCO C579:** Recommended for cultivation in all cotton growing areas. It has a yield potential of 4000 Kg per hectare and matures in 170 to 180 days.
- **MAHYCO C608:** Recommended for cultivation in all cotton growing areas. It has a yield potential of 4000 Kg/ha and matures in 160 to170 days.

- **Bt cotton varieties**

  These varieties are tolerant to bollworms

- **MAHYCO C 567 BG II:** Recommended for cultivation in all cotton growing areas of Malawi. It has a yield potential of 4000 Kg/ha and matures in 170 to 180 days.
- **MAHYCO C 569 BG II:** Recommended for cultivation in all cotton growing areas of Malawi. It has a yield potential of 4000 Kg/ha and matures in 170 to 180 days. Tolerant to sucking pests.
- **MAHYCO C 570 BGII:** Recommended for cultivation in all cotton growing areas of Malawi. It has a yield potential of 4000 Kg/ha and matures in 170 to 180 days.
- **MAHYCO C 571 BG II:** Recommended for cultivation in all cotton growing areas of Malawi. It has a yield potential of 4000 Kg/ha and matures in 170 to 180 days. Tolerant to sucking pests

AGRONOMIC PRACTICES

Land preparation: Prepare land soon after harvesting. Deep tillage or deep ploughing (15-25 cm) is ideal to give a better depth for root development. Alternate ridges should be tied at intervals of 3.7m every second ridge to retain water.

Time of planting: Early planting with first good rains normally when 50 mm of rain has moistened the soil to a depth of 15 cm.

Spacing and Seed rate: For conventional varieties, ridges should be spaced at 75 or 90 cm & plant spacing at 30 or 60 cm along the ridge depending on number of seeds per station. Plant 5-7 acid delinted seeds per station & later thin to 3 plants for 60 cm spacing and 1 plant for 30cm spacing. Seed should be sown at a depth of 2cm in wet soil and 2.5-3.2cm when dry planting.

For hybrid varieties, ridges should be spaced at 1m & plant spacing at 45 cm along the ridge. With good rainfall, plant 1 seed per station, otherwise, plant 2 seeds per station. Seed should be sown at a depth of 2 – 3 cm in wet soil.

Weeding: Use a hand hoe or apply herbicides. Early, effective & frequent hand weeding to keep cotton plants free of weeds is recommended.

Fertilizer application: Apply 23:10:5+6S+1Zn at the rate of 100kg/ha as basal dressing fertilizer three weeks after emergence. Apply 5g per planting station using metric cup No. 5 or teaspoonful or Coca-Cola bottle top without lining.