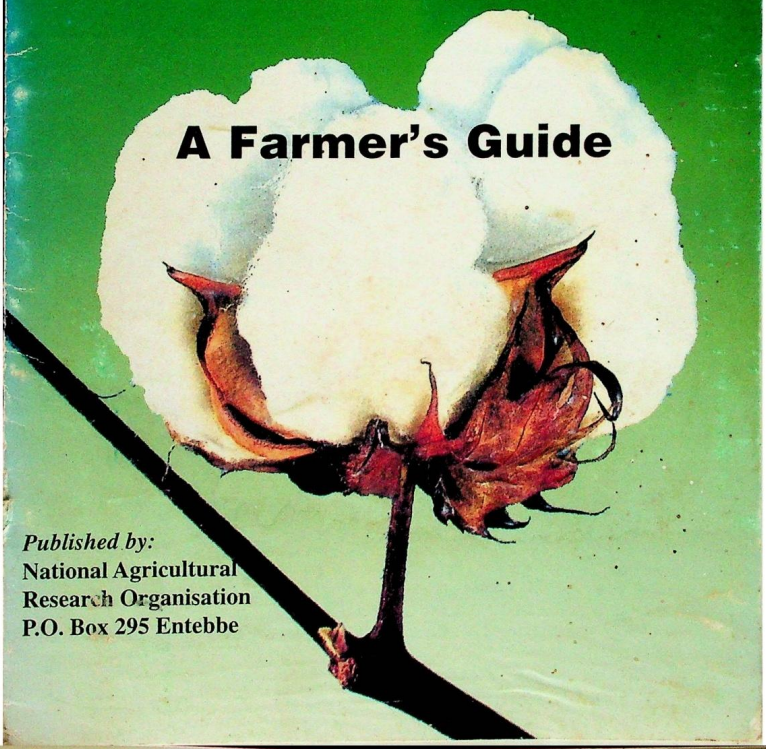
INCREASING YIELDS AND QUALITY OF COTTON

A Farmer's Guide



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1. Rotation for soil fertility

- Use land that has rested, preferably for 3 years or more.

2. Land preparation

- Clear jungles early and burn to facilitate land opening
- Plough (open land) 5 - 6 weeks before second ploughing
- Broadcast 250 kg/ha of SSP fertilizer during second ploughing (Optional)
- Plant immediately after second ploughing.

3. Seed procurement

- Uganda now produces only BPA cotton type. New improved varieties are released each year by NARO to the Cotton Development Organisation (CDO)
- Collect and use good dressed seed from a designated store or agent for CDO which supplies fresh cotton seed every year.
- Avoid old seed from the previous season which may be poorly stored and therefore with low germination capacity.

4. Date of planting

- Plant from mid-May to mid-June (Eastern, Northern, Central).
- Plant from mid-July to late August (Western).

5. Spacing

Eastern, Northern, Central:

- 75 cm (2.5 feet) between rows
- 30 cm (1 foot) within rows
- 3-5 seeds per hole at planting
- Later thin to 2 plants per hole.

Western:

- 90 cm (3 feet) between rows
- 30 cm (1 foot) within rows
- 3-5 seeds per hole at planting
- Later thin to 2 plants per hole

6. Seed rate

- 25 kg/ha or 10 kg/acre (Eastern, Northern, Central)
- 20 kg/ha or 8 kg/acre for Western.

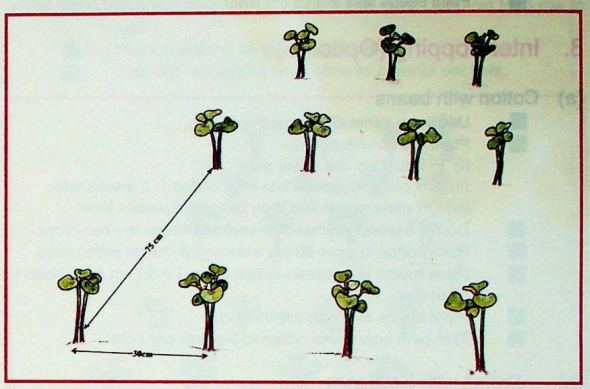


Figure 1.· Recommended spacing of cotton planted alone for eastern, northern and central regions

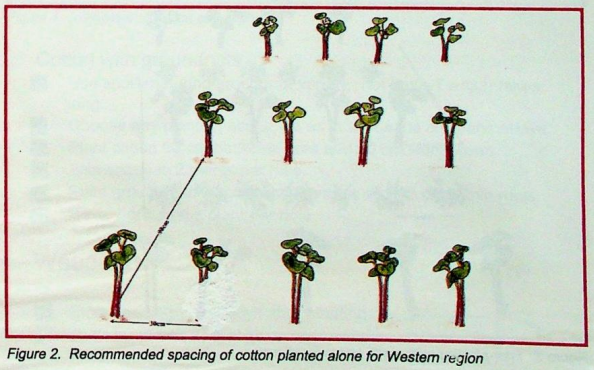


Figure 2. Recommended spacing of cotton planted alone for Western region

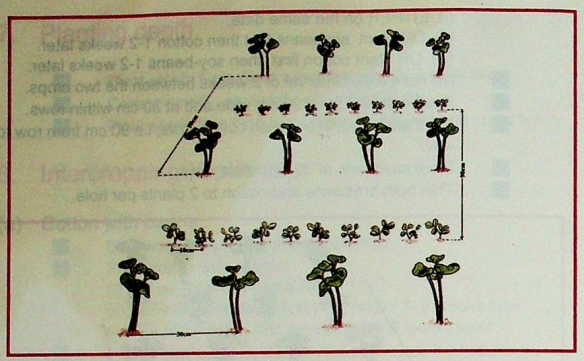


Figure 5. Inter-planting cotton with groundnuts

- Weed 3-4 times to get good profit from cotton.
- Weed when weeds appear.
- Weed more than 4 times if the aim is to prepare field for next crop.
- Use of a pre-emergence herbicide (e.g. stomp) immediately after planting would reduce the number of hand-weedings.

10. Thinning

- Always thin cotton.
- Thin after first weeding.
- Thin when plants are 15 cm (0.5 ft.) tall, or the size of a *bic* pen.

11. Gapfilling

- Use the same cotton variety planted to gap fill.
- Use the same in-row spacing at planting and during gapfilling.
- Gapfill only when necessary.

12. Pest control through Integrated Pest Management strategies

- Integrated Pest Management (IPM) means judicious use of single or combination of control measures to manage pests of crops (diseases and insects).

- Essential requirements for successful IPM in cotton are that:

(a) A farmer should be able to identify the following major pests

(i) Lygus bug which tatters young cotton leaves.
(ii) Bollworms which burrow into young squares, flowers and bolls causing them to fall off after their feeding.
(iii) Aphids which suck off plant sap and drop honey dew.
(iv) Mites which lead to crinkling of leaves.
(v) Cotton stainers which stain the lint to brown colour.

(b) A farmer should know natural enemies of cotton pests, eg

(i) Ladybird beetles (Coccinellids)
(ii) Spiders
(iii) Rove beetles
(iv) Syrphid larvae
(v) Black ants or *nginingini* in Luo
(vi) Lacewig
(vii) Pirate bug

- If not sure, consult Field Extension Worker (FEW).

(c) A farmer should be able to know scouting (monitoring) techniques for estimating the number of major pests and their enemies in the field.

- Scouting techniques (STs) enable farmers to establish the presence or absence of pests and natural enemies in the field. Visual counts on plants is one of the STs used in cotton fields. This technique is suitable for insects such as larvae of bollworms which do not move very fast.
- Sweepnet catches is another technique which can be used for insects such as lygus bug, which can move very fast (can fly off).
- **Use the following scouting guidelines**

(i) Start scouting 5 weeks after plant germination.
(ii) Scout once every two weeks.
(iii) Use a sweepnet if available or visual counts on the plants.

- **How to use a sweepnet**

(i) Walk down a single row of cotton and swing the sweepnet

- **When using Knapsack Sprayer:**

(i) At mixing half fill the tank with clean water.
(ii) Add recommended amount of chemical.
(iii) Fill tank with water to 15 or 20 litres.
(iv) At spraying use clean nozzle - the smaller the better.
(v) Spray one row per pass.
(vi) Cover whole plant with spray
(vii) Use 2 - 4 tanks per acre depending on height of the cotton. If less than 50 cm, use 2 tanks if 50 -75 cm, use 3 tanks. If greater than 75 cm, use 4 tanks.

- **When using Micron prayer:**

(i) At mixing, half fill the tank with cleanwater.
(ii) Add recommended amount of chemical
(iii) Fill tank with water to 5 litres
(iv) At spraying, use 5 batteries
(v) Spray 3 rows per pass
(vi) Use 1 tank per acre

Observe and adhere to proper time of application

- Avoid spraying between 12.00 p.m. and 3 .00 p.m.
- Avoid spraying when it is about to rain.
- Monitor for Lygus bug beginning 5th to 7th week. If ETL is reached spray with recommended chemical for your area.
- When first flowers appear at weeks 8 -9, monitor for bollworm larvae and when the number reaches 5-6, spray.
- Observe cultural practices such as planting date, proper weeding and keeping of closed season.
- Cut the stalks immediately after harvesting to deny such pests as the pink bollworm breeding sites.
- Cut stalks from or below soil surface to avoid regeneration.
- Use dry stalks for fuel if not burn them in the field. These serve to destroy pests which could move from the old crop into the new crop to be planted in the season.

13. Control of vegetative growth (mainly under high soil fertility)

- Attempt control only when plants are excessively vegetative otherwise not necessary.
- Break off tips of main stem and branches around 45-60 days after planting OR:

- Apply Pix at 1 litre/ha (25 mls into 20 litres of water) on cotton at 45-60 days after planting.

14 Picking

- Pick when some bolls break open; do not wait for all bolls to open.
- Pick when cotton is dry.
- Do not mix cotton with trash, especially dry leaves and capsules.
- Shake well the cotton that has fallen to the ground before mixing with the rest when picking.
- Dry all cotton on mats before storage.

15 Sorting and storage

- Sort out all stained cotton and trash.
- Keep the clean (safi) and staine (fifi) cotton separate.
- Keep cotton free from dampness, rain and fire.

16. Selling

- Bag cotton for sale in a cotton cloth or hesian squares not in nylon bags
- Sell *fifi* and *safi* separately.
- Sell during the current cotton marketing season; do not keep to next season.
- If you got input credit, sell according to credit agreement.
- Do not sell below CDO indicative price but negotiate for higher prices.
- Demand cash for cotton delivered and not promisary notes.

17. Day to day consultation and advice

In case of difficulty at any stage during the season, always consult any one of the following nearest to you:

(i) NARO staff at Serere or nearest research Centre
(ii) Agricultural Extension Workers in your rea
(iii) CDO Field Officer for your area
(iv) The Ginners' Association Field staff in your area

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